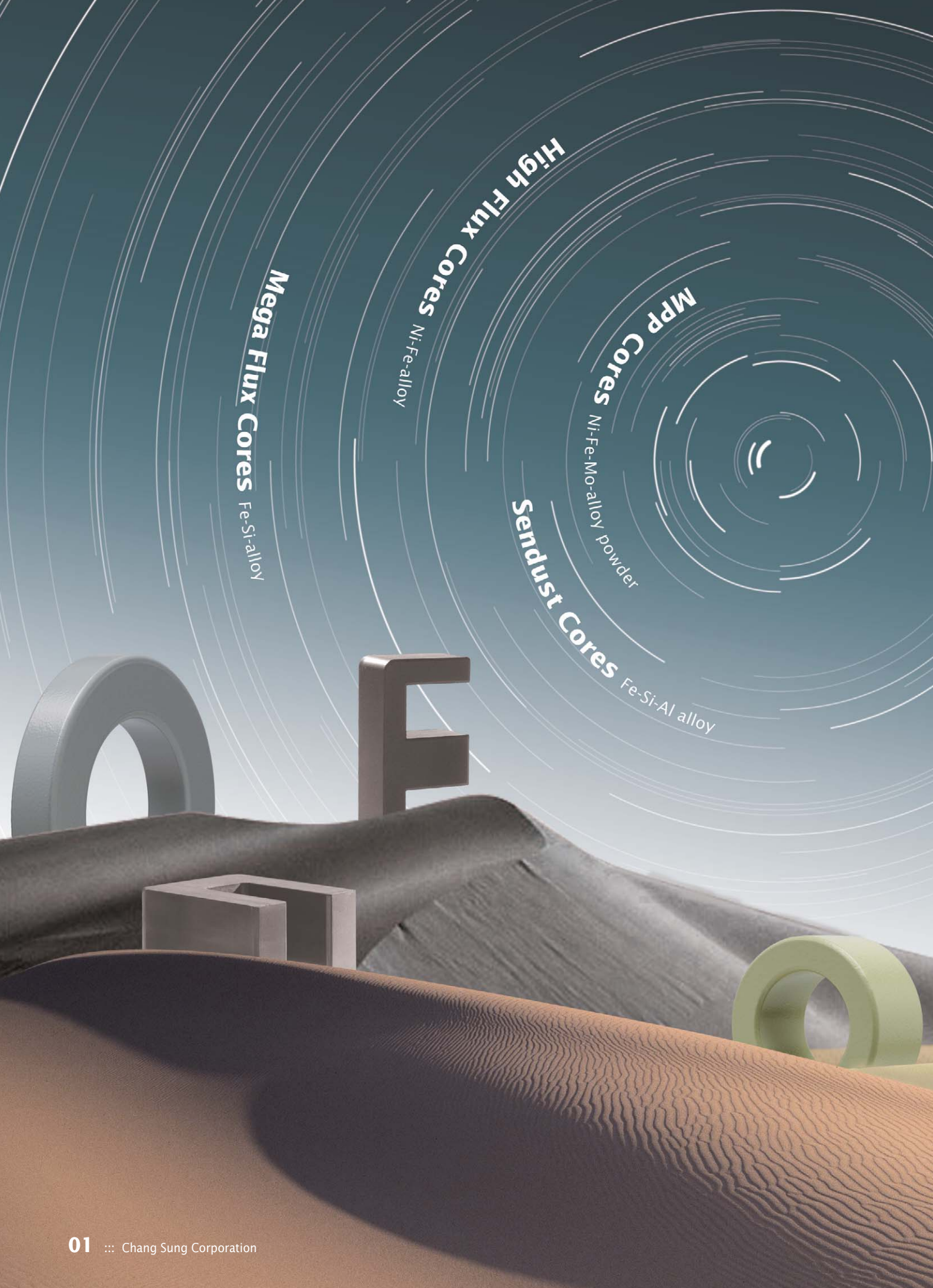




MAGNETIC POWDER CORES

Innovative Technological Advancements

Move forward with Chang Sung Corporation. We are one of the main suppliers of cutting edge products to all our customers at the forefront of the next generation in energy solutions.



Mega Flux Cores
Fe-Si-alloy

High Flux Cores
Ni-Fe-alloy

MPP Cores
Ni-Fe-Mo-alloy powder

Sendust Cores
Fe-Si-Al alloy

CSC soft magnetic powder cores are at the forefront of advanced industries

We deliver excellence in performance by always keeping our customers' specific needs in mind.

Chang Sung Corporation has been producing magnetic powder cores with sophisticated technological expertise in manufacturing metal powders since 1980. We have steadfastly made investments into our research and development program as well as our manufacturing facilities to increase our range of products and production capacity in line with the growing needs of our customers.

This has enabled Chang Sung Corporation to become a leading global player in producing soft magnetic powder cores. Today, we are well positioned to offer reliable product quality at competitive prices to meet the diverse requirements of all our clients.

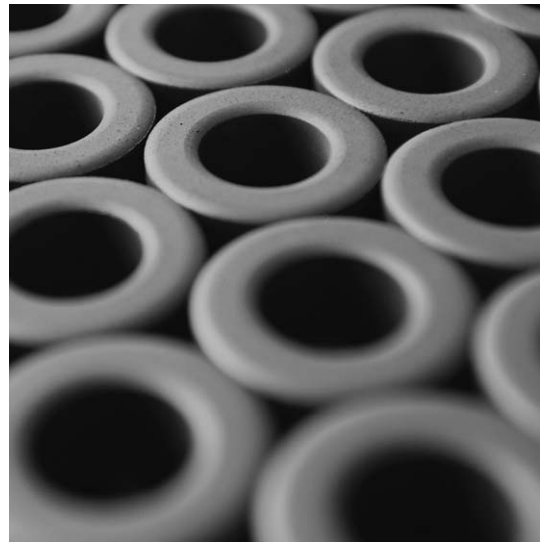
Moving forward with Chang Sung Corporation to the Next Generation in Energy Solutions.

What are Powder Cores?



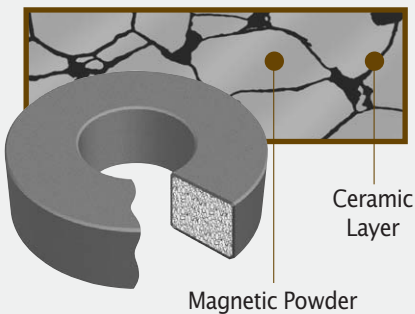
Chang Sung Corporation's advanced technology enables us to fulfill the diverse needs of our clients for soft magnetic powder cores.

Powder cores are distributed air gap cores made from ferrous alloy powders for low losses at high frequencies. Small air gaps distributed evenly throughout the cores increase the amount of Direct Current (DC) that can be passed through the winding before core saturation occurs. Molybdenum Permalloy Powder (MPP) cores are ideal for low loss inductors such as switching regulators and noise filters. High Flux, Sendust and Mega Flux® cores are the preferred choices for Power Factor Correction (PFC), switching regulator inductors, in-line noise filters, pulse and flyback transformers and many other applications requiring low losses at high frequencies.



▼ Product Summary

Cross Sectional View



Core Materials

- MPP Core : Ni-Fe-Mo alloy
- High Flux Core : Fe-Ni alloy
- Sendust Core : Fe-Si-Al alloy
- Mega Flux® Core : Fe-Si alloy

Core Shapes

- Toroids : From 3.5mm to 165mm OD
- Special : Ellipse, Block, Cylinder
Washer, ER, U, EE, EER, EQ

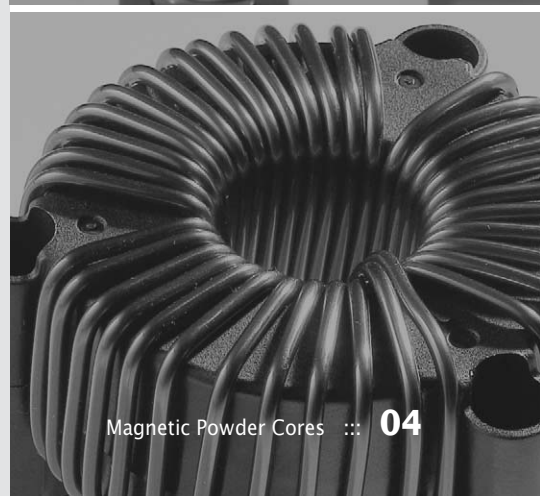
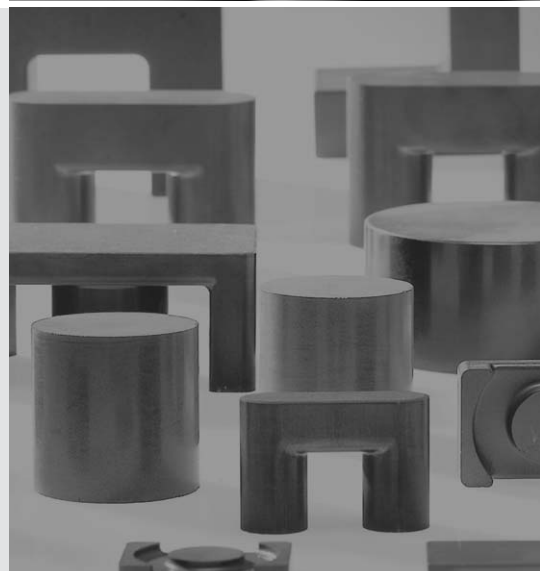
Permeability

- MPP : 26, 60, 125, 147, 160, 173, 200μ
- High Flux : 26, 60, 125, 147, 160μ
- Sendust : 26, 60, 75, 90, 125μ
- Mega Flux® : 26, 50, 60, 75, 90μ

Core Finishes

- Finish : Epoxy, Parylene-C, Plastic Case
- Color - MPP : Gray
 - High Flux : Khaki
 - Sendust : Black
 - Mega Flux® : Dark Brown

- Break-Down Voltage : 500V min.



Outstanding products begin with a standardized production line and a strict quality control process

Chang Sung Corporation manufactures four types of soft magnetic powder cores including the Molybdenum Permalloy (MPP), High Flux, Sendust and Mega Flux®, which are mainly used for inductors and transformers requiring low losses and inductance stability under high DC bias conditions. A fully standardized production management system under strict quality control of the raw materials (nickel, iron, molybdenum, aluminum and silicon) enables CSC to guarantee consistent quality and thus build greater confidence in our company's product line.



MPP

Ni-Fe-Mo alloy powder cores are made from alloy powders of nickel, iron and molybdenum.

MPP cores exhibit a highly sustainable stability in temperature and inductance under high DC magnetization or high DC Bias conditions. They offer the highest permeability among our materials and the lowest core loss compared to any other core material. MPP cores are also considered to be a premium material for direct current output inductors for SMPS including high Q filters, loading coils and EMI/RFI filters. Finished toroid cores are coated with a gray epoxy to provide dielectric protection and added physical strength.



HIGH FLUX

Ni-Fe alloy powder cores are made from alloy powders of nickel and iron.

The 15,000 Gauss saturation level of High Flux cores has a higher energy storage capability and more effective permeability when compared to the performance of gapped ferrite or powdered iron cores of a similar size. The excellent DC bias characteristics and low core losses of High Flux cores offer a reduction in size and the number of winding turns as well as superior magnetic properties. CSC High Flux cores are excellent choices for applications such as PFC reactors, switching regulator inductors, in-line noise filters, pulse transformers and flyback transformers. Finished High Flux cores are coated with a Khaki epoxy and come in a variety of shapes and sizes.



SENDUST

Fe-Si-Al alloy powder cores are made from alloy powders of iron, silicon and aluminum.

Near-zero magnetostriction makes Sendust cores ideal for eliminating audible noise in filter inductors. Core losses of Sendust cores are significantly lower than those of powdered iron cores. Especially Sendust E shapes provide a higher energy storage capability than gapped Ferrite E cores. Gap losses and eddy current losses are minimized with Sendust E cores compared to gapped ferrite E shapes. Sendust cores are a smart choice for PFC circuits. Other major applications include switching regulator inductors, In-line noise filters, pulse transformers and flyback transformers. Finished Sendust cores are coated in a black epoxy.



MEGA FLUX®

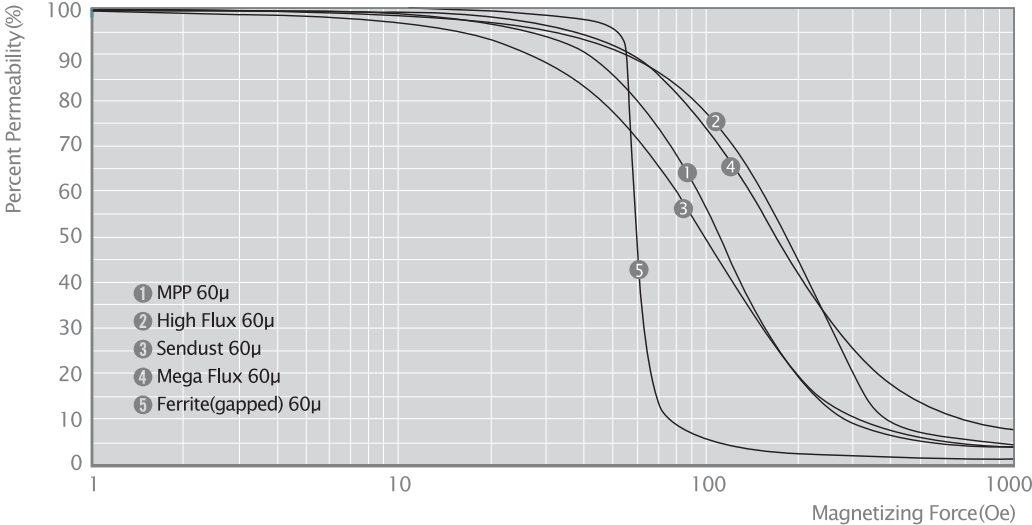
Fe-Si alloy powder cores are made from an alloy of iron and silicon.

CSC has developed new magnetic alloy powder cores for the first time in the world under the name of Mega Flux®. The innovative design of these unique cores includes a smaller size, higher current and higher energy storage capability. Mega Flux® cores have higher flux density than any other magnetic material, 16,000 Gauss compared to 15,000 Gauss for High Flux cores and 10,000 Gauss for Sendust cores. The extremely good DC bias characteristics provide the best solution for high end applications such as buck/boost inductors for high power supply systems, smoothing chokes for inverters and reactors for electric vehicles. Mega Flux® cores pressed with no organic binder have significantly lower core losses than powdered iron cores and Fe-Si strip cores. They also present excellent thermal properties with no thermal aging effects. Finished Mega Flux® cores are coated with a dark brown epoxy.

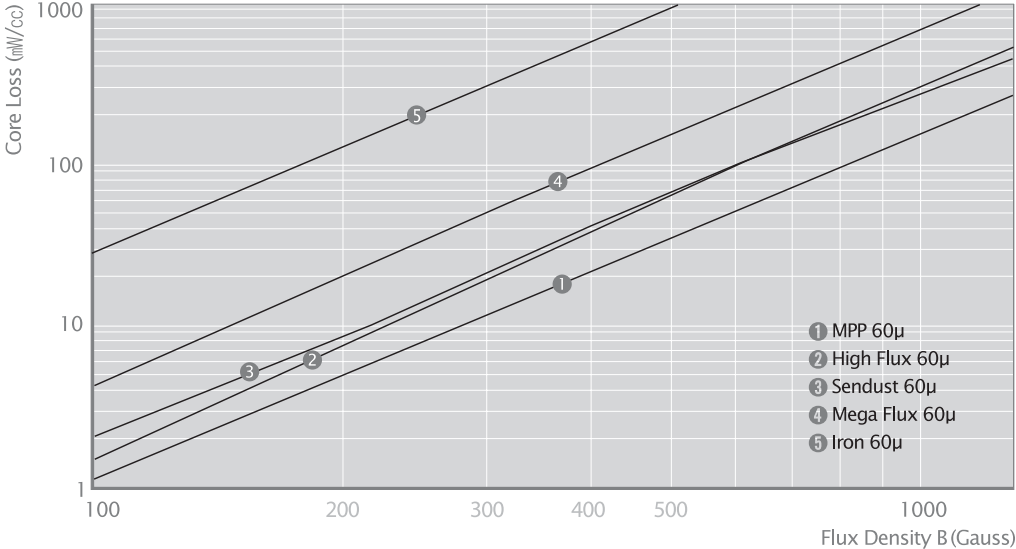
■ Comparison of Core materials

| Materials | | Perm. (μ) | Bs (G) | Core Loss | DC Bias | Relative Cost | Temp. Stability | Curie Temp ($^{\circ}$ C) |
|-----------|------------------------------|-----------------|--------|-----------|---------|---------------|-----------------|----------------------------|
| Powder | MPP | 14-200 | 7,000 | Lower | Better | High | Best | 450 |
| | High Flux | 26-160 | 15,000 | Low | Best | Medium | Better | 500 |
| | Sendust | 26-125 | 10,000 | Low | Good | Low | Good | 500 |
| | Mega Flux[®] | 26-90 | 16,000 | Medium | Best | Low | Better | 700 |
| | Iron | 10-100 | 10,000 | High | Poor | Lowest | Poor | 770 |
| Strip | Fe-si (Gapped) | | 18,000 | High | Best | Lowest | Good | 740 |
| | Amorphous (Gapped) | | 15,000 | Low | Better | Medium | Good | 400 |
| | Ferrite (Gapped) | | 4,500 | Lowest | Poor | Lowest | Poor | 100~300 |

■ Permeability vs DC Bias



■ Core Loss (at 50kHz)



■ CSC's Core Designation

Toroidal Core Designation

CM 270 125 E



| | |
|---------------------------|---|
| Epoxy coated | Core finish E: Epoxy, P: Parylene-C, C: Plastic Case |
| Permeability: 125μ | Available perm. 26, 50, 60, 75, 90, 125, 147, 160, 173, 200μ |
| OD size: 27.0mm | Available size 3.5mm ~ 165.0mm (OD) |
| MPP core | Core material CM: MPP, CH: High Flux, CS: Sendust, CK: Mega Flux [®] |

■ Nominal Inductance Table (AL Value)

| Permeability Part No. | (nH/N ²) | | | | | | | | |
|--------------------------|----------------------|------------|------------|------------|-------------|-------------|-------------|-------------|-------------|
| | 26μ 026 | 60μ 060 | 75μ 075 | 90μ 090 | 125μ 125 | 147μ 147 | 160μ 160 | 173μ 173 | 200μ 200 |
| CM035 | - | 13 | 16 | 19 | 26 | 31 | 33 | 36 | 42 |
| CM039 | - | 17 | 21 | 25 | 35 | 41 | 45 | 48 | 56 |
| CM046 | - | 20 | 25 | 30 | 42 | 49 | 53 | 57 | 67 |
| CM063 | 10 | 24 | 30 | 36 | 50 | 59 | 64 | 69 | 80 |
| CM066 | 11 | 26 | 32 | 39 | 54 | 64 | 69 | 75 | 86 |
| CM067 | 21 | 50 | 62 | 74 | 103 | 122 | 132 | 144 | 165 |
| CM068 | 14 | 33 | 42 | 50 | 70 | 81 | 89 | 95 | 112 |
| CM078 | 11 | 25 | 31 | 37 | 52 | 62 | 66 | 73 | 83 |
| CM096 | 11 | 25 | 32 | 38 | 53 | 63 | 68 | 74 | 84 |
| CM097 | 14 | 32 | 40 | 48 | 66 | 78 | 84 | 92 | 105 |
| CM102 | 14 | 32 | 40 | 48 | 66 | 78 | 84 | 92 | 105 |
| CM112 | 11 | 26 | 32 | 38 | 53 | 63 | 68 | 74 | 85 |
| CM127 | 12 | 27 | 34 | 40 | 56 | 67 | 72 | 79 | 90 |
| CM166 | 15 | 35 | 43 | 52 | 72 | 88 | 92 | 104 | 115 |
| CM172 | 19 | 43 | 53 | 64 | 89 | 105 | 114 | 123 | 142 |
| CM203 | 14 | 32 | 41 | 49 | 68 | 81 | 87 | 96 | 109 |
| CM229 | 19 | 43 | 54 | 65 | 90 | 106 | 115 | 124 | 144 |
| CM234 | 22 | 51 | 63 | 76 | 105 | 124 | 135 | 146 | 169 |
| CM270 | 32 | 75 | 94 | 113 | 157 | 185 | 201 | 217 | 251 |
| CM330 | 28 | 61 | 76 | 91 | 127 | 150 | 163 | 176 | - |
| CM343 | 16 | 38 | 47 | 57 | 79 | 93 | 101 | 109 | - |
| CM358 | 24 | 56 | 70 | 84 | 117 | 138 | 150 | 162 | - |
| CM400 | 35 | 81 | 101 | 121 | 168 | 198 | 215 | 233 | - |
| CM467 | 59 | 135 | 169 | 202 | 281 | 330 | 360 | - | - |
| CM468 | 37 | 86 | 107 | 128 | 178 | 210 | 228 | - | - |
| CM508 | 32 | 73 | 91 | 109 | 152 | 179 | 195 | - | - |
| CM571 | 60 | 138 | 172 | 206 | 287 | 306 | 333 | - | - |
| CM572 | 33 | 75 | 94 | 112 | 156 | 185 | 200 | - | - |
| CM610 | 83 | 192 | 240 | 288 | 400 | - | - | - | - |
| CM740 | 89 | 206 | 257 | 309 | 429 | - | - | - | - |
| CM777 | 30 | 68 | 85 | 102 | 142 | - | - | - | - |
| CM778 | 37 | 85 | 107 | 128 | 178 | - | - | - | - |
| CM888 | 24 | 57 | 71 | 85 | 119 | - | - | - | - |
| CM1016 | 47 | 112 | 137 | 164 | 228 | - | - | - | - |
| CM1325 | 67 | 156 | 195 | 234 | 325 | - | - | - | - |
| CM1625 | 80 | 184 | 230 | 276 | 384 | - | - | - | - |

※ example) AL value of CM270125 is 157(nH/N²)

■ Core Dimension Table (millimeters)

| Part Number | Magnetic Path Length ℓ(cm) | Cross Section A(cm ²) | Window Area (cm ²) | Surface Area(cm ²) | | Weight(gm) | | | | Dimensions(mm) OD(max) X ID(min) X HT(max) | | Package Unit (pcs/box) |
|---------------|-------------------------------|--------------------------------------|-----------------------------------|--------------------------------|--------------------|------------|------|------|------|---|-------------------|---------------------------|
| | | | | after finish | 40% winding factor | CM | CH | CS | CK | Before Finish | After Finish | |
| CI 0351 □□□□ | 0.817 | 0.0137 | 0.018 | 0.47 | 0.61 | 0.09 | 0.09 | 0.07 | 0.08 | 3.56×1.78×1.52 | 3.94×1.52×1.96 | 40k |
| CI 0391 □□□□ | 0.942 | 0.0211 | 0.0308 | 0.74 | 0.93 | 0.19 | 0.18 | 0.13 | 0.15 | 3.94×2.24×2.54 | 4.32×1.98×2.97 | 40k |
| CI 0461 □□□□ | 1.060 | 0.0285 | 0.0290 | 0.90 | 1.13 | 0.26 | 0.25 | 0.20 | 0.23 | 4.65×2.36×2.54 | 5.21×1.93×3.30 | 40k |
| CI 0631 □□□□ | 1.361 | 0.0470 | 0.0412 | 1.7 | 2.03 | 0.56 | 0.53 | 0.41 | 0.47 | 6.35×2.79×2.79 | 6.99×2.29×3.43 | 30k |
| CI 0661 □□□□ | 1.363 | 0.0476 | 0.0412 | 1.7 | 2.06 | 0.60 | 0.57 | 0.44 | 0.50 | 6.60×2.67×2.54 | 7.24×2.29×3.18 | 20k |
| CI 0671 □□□□ | 1.363 | 0.0920 | 0.0384 | 2.4 | 2.76 | 1.12 | 1.07 | 0.83 | 0.96 | 6.60×2.67×4.78 | 7.32×2.21×5.54 | 20k |
| CI 0681 □□□□ | 1.650 | 0.0725 | 0.0934 | 2.7 | 3.31 | 1.03 | 0.98 | 0.76 | 0.88 | 6.86×3.96×5.08 | 7.62×3.45×5.72 | 16k |
| CI 0781 □□□□ | 1.787 | 0.0615 | 0.0922 | 2.4 | 3.04 | 0.94 | 0.90 | 0.69 | 0.80 | 7.87×3.96×3.18 | 8.51×3.43×3.81 | 16k |
| CI 0961 □□□□ | 2.18 | 0.0752 | 0.1429 | 3.1 | 4.14 | 1.41 | 1.34 | 1.04 | 1.21 | 9.65×4.78×3.18 | 10.29×4.27×3.81 | 8k |
| CI 0971 □□□□ | 2.18 | 0.0945 | 0.1429 | 3.5 | 4.47 | 1.76 | 1.68 | 1.30 | 1.50 | 9.65×4.78×3.96 | 10.29×4.27×4.57 | 8k |
| CI 1021 □□□□ | 2.38 | 0.1000 | 0.164 | 3.7 | 4.85 | 2.09 | 2.00 | 1.55 | 1.79 | 10.16×5.08×3.96 | 10.80×4.57×4.57 | 8k |
| CI 1121 □□□□ | 2.69 | 0.0906 | 0.273 | 4.3 | 6.05 | 2.11 | 2.02 | 1.57 | 1.81 | 11.18×6.35×3.96 | 11.90×5.89×4.72 | 6k |
| CI 1271 □□□□ | 3.12 | 0.114 | 0.383 | 5.6 | 8.00 | 3.13 | 2.99 | 2.32 | 2.69 | 12.70×7.62×4.75 | 13.46×6.99×5.51 | 4K |
| CI 1661 □□□□ | 4.11 | 0.192 | 0.713 | 9.3 | 13.66 | 6.9 | 6.6 | 5.2 | 6.0 | 16.51×10.16×6.35 | 17.40×9.53×7.11 | 1,960 |
| CI 1721 □□□□ | 4.14 | 0.232 | 0.638 | 9.9 | 13.91 | 8.2 | 8.0 | 6.1 | 7.1 | 17.27×9.65×6.35 | 18.03×9.02×7.11 | 1,960 |
| CI 2031 □□□□ | 5.09 | 0.226 | 1.14 | 12.1 | 18.95 | 10.0 | 10.0 | 7.4 | 8.7 | 20.32×12.70×6.35 | 21.1×12.07×7.11 | 1,368 |
| CI 2291 □□□□ | 5.67 | 0.331 | 1.41 | 15.7 | 24.13 | 15.9 | 15.1 | 11.7 | 13.6 | 22.86×13.97×7.62 | 23.62×13.39×8.38 | 850 |
| CI 2341 □□□□ | 5.88 | 0.388 | 1.49 | 17.9 | 26.78 | 19.6 | 19 | 14.5 | 16.8 | 23.57×14.40×8.89 | 24.30×13.77×9.70 | 750 |
| CI 2701 □□□□ | 6.35 | 0.654 | 1.56 | 24.7 | 34.42 | 35.6 | 34.0 | 26.4 | 30.6 | 26.92×14.73×11.18 | 27.70×14.10×11.99 | 360 |
| CI 3301 □□□□ | 8.15 | 0.672 | 2.93 | 31.5 | 49.01 | 47.0 | 44.8 | 34.8 | 40.4 | 33.02×19.94×10.67 | 33.83×19.30×11.61 | 240 |
| CI 3431 □□□□ | 8.95 | 0.454 | 4.01 | 29.3 | 52.34 | 35.3 | 33.7 | 26.2 | 30.3 | 34.29×23.37×8.89 | 35.20×22.60×9.83 | 280 |
| CI 3581 □□□□ | 8.98 | 0.678 | 3.64 | 34.5 | 56.09 | 52 | 50 | 39 | 45 | 35.81×22.35×10.46 | 36.70×21.50×11.28 | 240 |
| CI 4001 □□□□ | 9.84 | 1.072 | 4.27 | 48.4 | 73.77 | 91 | 87 | 67 | 78 | 39.88×24.13×14.48 | 40.70×23.30×15.37 | 120 |
| CI 4671 □□□□ | 10.74 | 1.990 | 4.27 | 69.2 | 96.50 | 182 | 174 | 134 | 157 | 46.74×24.13×18.03 | 47.60×23.30×18.92 | 72 |
| CI 4681 □□□□ | 11.63 | 1.340 | 6.11 | 61.6 | 97.79 | 130 | 124 | 96 | 112 | 46.74×28.70×15.24 | 47.60×27.90×16.13 | 72 |
| CI 5081 □□□□ | 12.73 | 1.250 | 7.50 | 64.2 | 108.52 | 132 | 126 | 98 | 114 | 50.80×31.75×13.46 | 51.70×30.90×14.35 | 96 |
| CI 5711 □□□□ | 12.50 | 2.29 | 5.14 | 84.8 | 120.40 | 248 | 237 | 184 | 213 | 57.15×26.39×15.24 | 58.00×25.60×16.10 | 77 |
| CI 5721 □□□□ | 14.30 | 1.444 | 9.48 | 77.2 | 133.19 | 181 | 173 | 133 | 155 | 57.15×35.56×13.97 | 58.00×34.70×14.86 | 88 |
| CI 6101 □□□□ | 14.37 | 3.675 | 7.73 | 125.1 | 173.99 | 444 | 423 | 329 | 381 | 62.0×32.6×25.0 | 63.1×31.37×26.27 | 24 |
| CI 7401 □□□□ | 18.38 | 5.040 | 15.25 | 194.2 | 283.09 | 764 | 729 | 566 | 656 | 74.1×45.3×35.0 | 75.2×44.07×36.27 | 15 |
| CI 7771 □□□□ | 20.00 | 1.770 | 17.99 | 117.3 | 224.42 | 301 | 287 | 223 | 258 | 77.8×49.23×12.7 | 78.9×48.0×13.97 | 40 |
| CI 7781 □□□□ | 20.00 | 2.270 | 17.99 | 130.2 | 236.84 | 377 | 359 | 279 | 323 | 77.8×49.23×15.9 | 78.9×48.0×17.2 | 35 |
| CI 8881 □□□□ | 24.01 | 18.30 | 32.92 | 134.5 | 262.03 | 333 | 319 | 255 | 305 | 88.9×66.0×15.9 | 90.0×64.74×17.2 | 15 |
| CI 10161 □□□□ | 24.27 | 3.522 | 24.36 | 206.1 | 358.37 | 774 | 739 | 572 | 665 | 101.6×57.2×16.5 | 103.1×55.7×17.9 | 12 |
| CI 13251 □□□□ | 32.42 | 6.71 | 45.56 | 366.3 | 648.48 | 1863 | 1779 | 1376 | 1620 | 132.5×78.6×25.4 | 134.2×77.0×26.8 | 4 |
| CI 16251 □□□□ | 38.65 | 9.46 | 59.31 | 538.7 | 689.82 | 3267 | 3120 | 2413 | 2808 | 165.0×88.9×25.4 | 167.2×86.9×27.3 | 4 |

※ CM : MPP Core, CH : High Flux Core, CS : Sendust Core, CK : Mega Flux® Core

※ Window area : area of inner diameter.

※ In addition to the cores listed above, customized specifications are also available.

■ Magnetic Design Formulas

Inductance of a Wound Core

The inductance of a wound core at a given number of turns is calculated using the following formula.

$$L = \frac{0.4 \pi \mu N^2 A \times 10^{-2}}{\ell}$$

$$L_N = A_L \times N^2 \times 10^{-3}$$

- L = inductance (μH)
- μ = core permeability
- N = number of turns
- A = effective cross section area (cm²)
- ℓ = mean magnetic path length (cm)
- L_N = Inductance at N turns (μH)
- A_L = nominal Inductance (nH/N²)

Permeability - Flux Density - Magnetizing Force

Ampere's Law and Faraday's Law show the relations of permeability, flux density and magnetizing force of a wound core.

$$H = \frac{0.4 \pi N I}{\ell} \quad \text{----- Ampere's Law}$$

$$B_{\max} = \frac{E_{\text{rms}} \times 10^8}{4.44 f A N} \quad \text{----- Faraday's Law}$$

$$\mu = \frac{B}{H}$$

- H = magnetizing force (oersteds)
- N = number of turns
- I = peak magnetizing current (amperes)
- ℓ = mean magnetic path length (cm)
- B_{max} = maximum flux density (gausses)
- E_{rms} = voltage across coil (volts)
- f = frequency (hertz)

Inductance Calculation by Permeability vs DC Bias Curves

- Inductor specification
- Core : CM270125
 - Number of Windings : 22 Turns
 - Current : DC 10 Amperes

solution

a) Formula to calculate L at 0 Ampere

$$L_N = A_L \times N^2 \times 10^{-3}$$

The Nominal inductance table on page 7 shows the A_L value of CM270125 to be 157.

$$\text{Therefore, } L (@0A) = 157 \times 22^2 \times 0.001 = 76 \text{ (}\mu\text{H)}$$

b) Determine DC magnetizing force (H) by using Ampere's law to achieve the roll off.

$$H = 0.4 \pi N I / \ell$$

$$H = 0.4 \times 3.14 \times 22 \times 10 / 6.35 = 43.5 \text{ (Oe)}$$

The magnetizing force (dc bias) is 43.5 oersteds, yielding 64% of initial permeability. See on page 11.

The inductance at 10 Ampere will decrease the inductance by 64% compared with 0 Ampere.

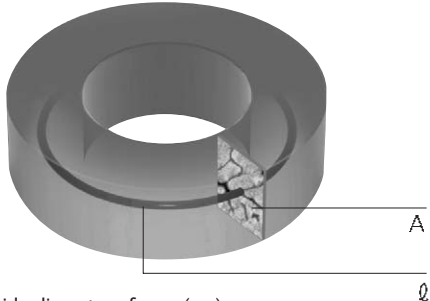
$$\begin{aligned} \text{Therefore, } L (@10A) &= 76 \times 0.64 \\ &= 48.6 \text{ (}\mu\text{H)} \end{aligned}$$

※ Inductance calculation by A_L vs NI Curve is also available on page 24.

Mean Magnetic Path Length

For toroidal powder cores, the effective area (A) is the same as the cross sectional area. By definition and Ampere’s Law, the effective magnetic path length is the ratio of ampere-turns (NI) to the average magnetizing force. Using Ampere’s Law and averaging the magnetizing force gives the formula for effective path length.

$$\ell = \frac{\pi(OD - ID)}{\ln\left(\frac{OD}{ID}\right)}$$



- OD = outside diameter of core (cm)
- ID = inside diameter of core (cm)
- A = core cross section (effective area)
- ℓ = mean magnetic path length (cm)

Q Factor

The Q factor is defined as the ratio of reactance to the effective resistance for an inductor and thus indicates its quality. The Q of wound core can be calculated using the following formula, when neglecting the effects of self-resonance caused by the distributed capacitance resulting from the differential voltage between adjacent turns.

$$Q = \frac{\omega L}{R_{dc} + R_{ac} + R_d}$$

- Q = quality factor
- ω = 2π frequency (hertz)
- L = inductance (henries)
- R_{dc} = DC winding resistance (ohms)
- R_{ac} = resistance due to core loss (ohms)
- R_d = resistance due to winding dielectric loss (ohms)

Core Loss

Powder cores have low hysteresis loss, minimizing signal distortion, and low residual loss. The total core loss at low flux densities is the sum of three frequency dependent losses of hysteresis loss, residual loss, and eddy current loss. The core loss is calculated from the following Legg’s equation.

$$\frac{R_{ac}}{\omega L} = aB_{max}f + cf + ef^2$$

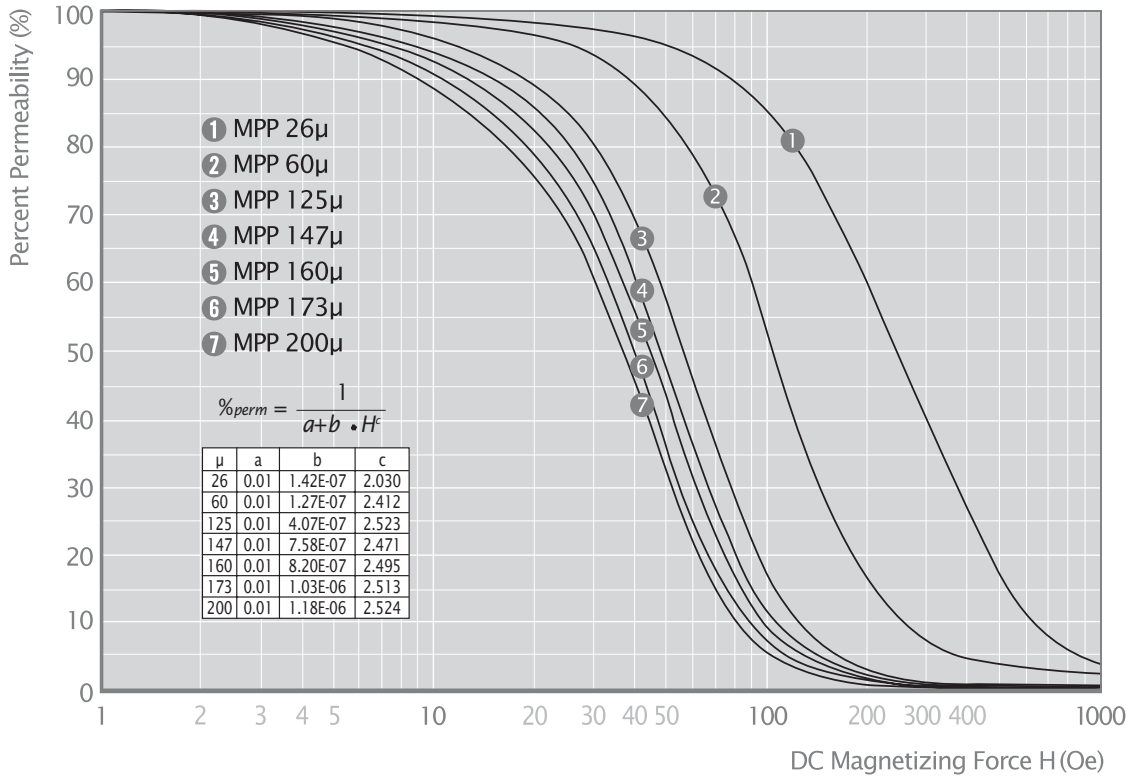
The diagram shows the equation $\frac{R_{ac}}{\omega L} = aB_{max}f + cf + ef^2$ with lines connecting the terms to their respective labels: $aB_{max}f$ is Hysteresis loss, cf is Residual loss, ef^2 is Eddy current loss, and the entire right-hand side is the Total loss factor.

- Where R_{ac} = core loss resistance (ohms)
- a = hysteresis loss coefficient
- c = residual loss coefficient
- e = eddy current loss coefficient
- ω, L, B_{max}, f = same as mentioned before

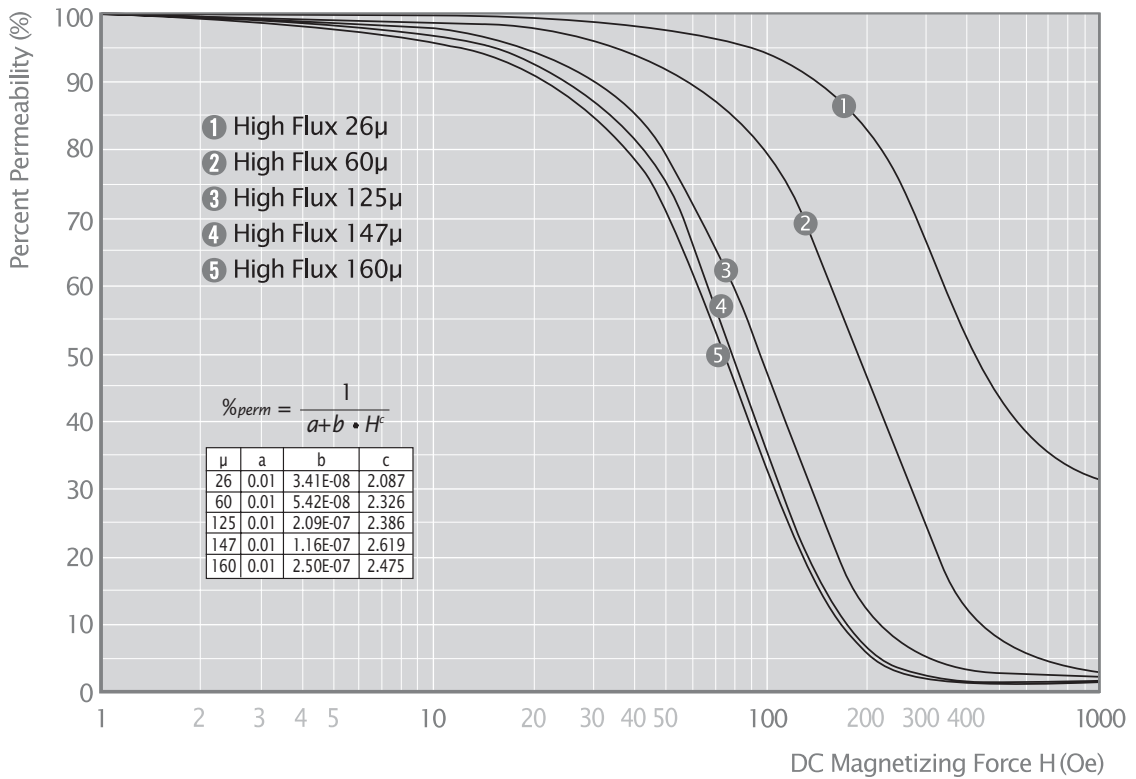
When a varying magnetic field passes through the core, eddy currents are induced in it. Joule heat loss by these currents is called eddy current loss. Hysteresis loss is due to the irreversible behavior in the hysteresis curve and equal to the enclosed area of the loop. The other core loss is called residual loss.

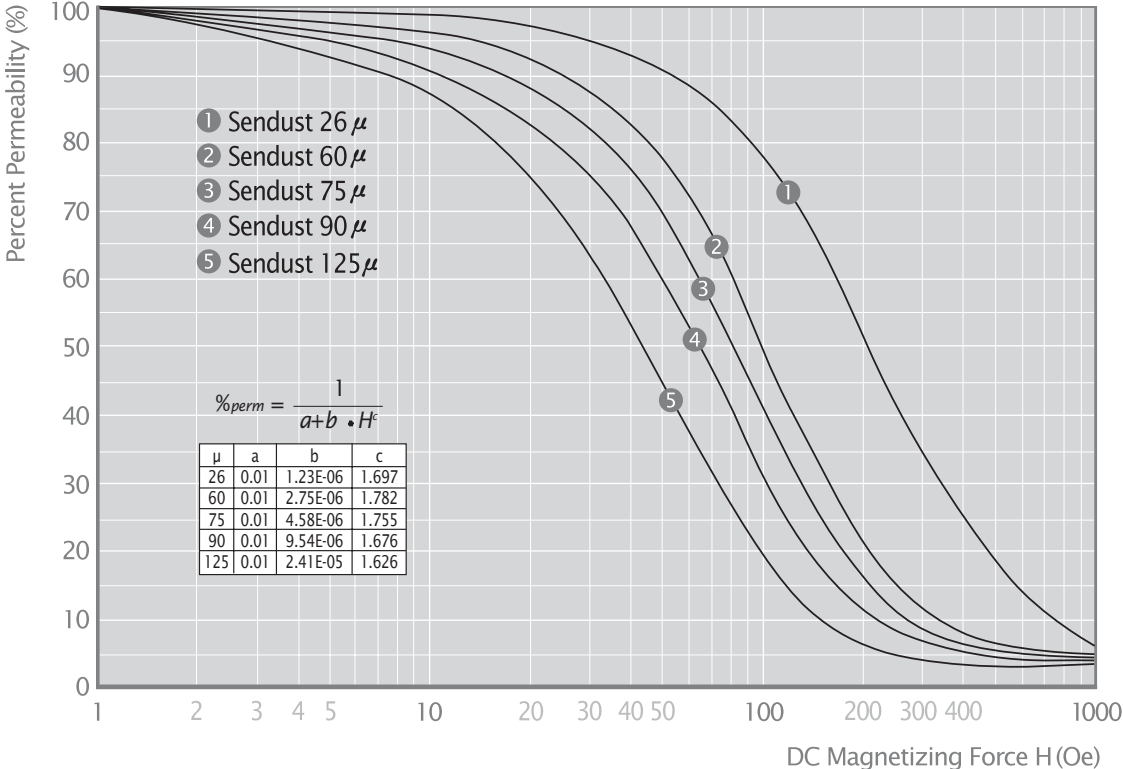
■ Permeability vs DC Bias Curves

MPP

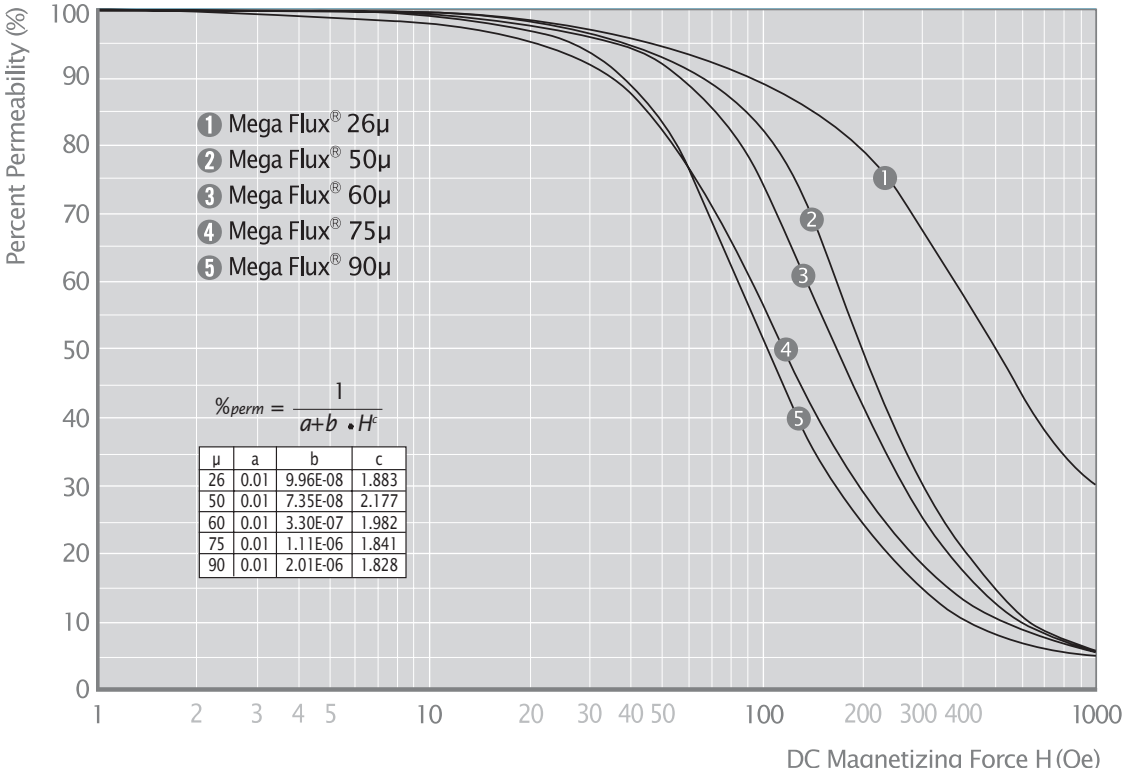


High Flux





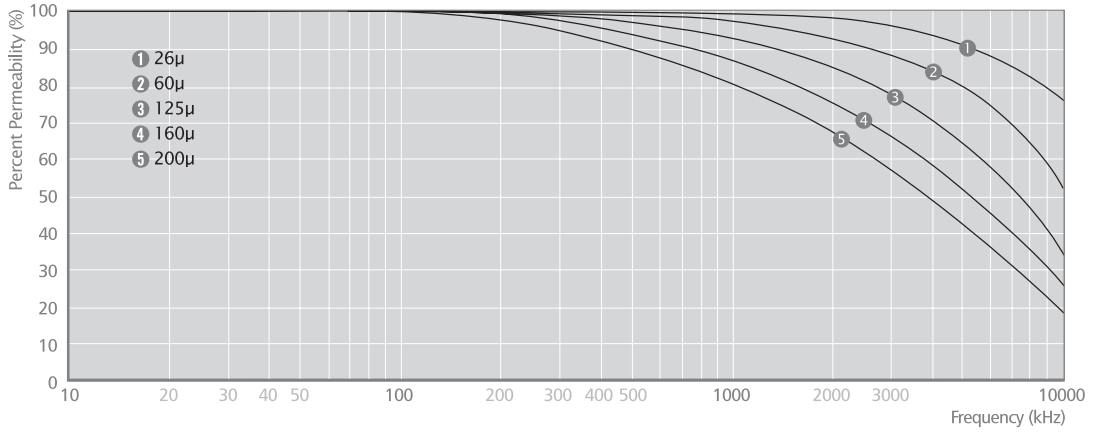
Sendust



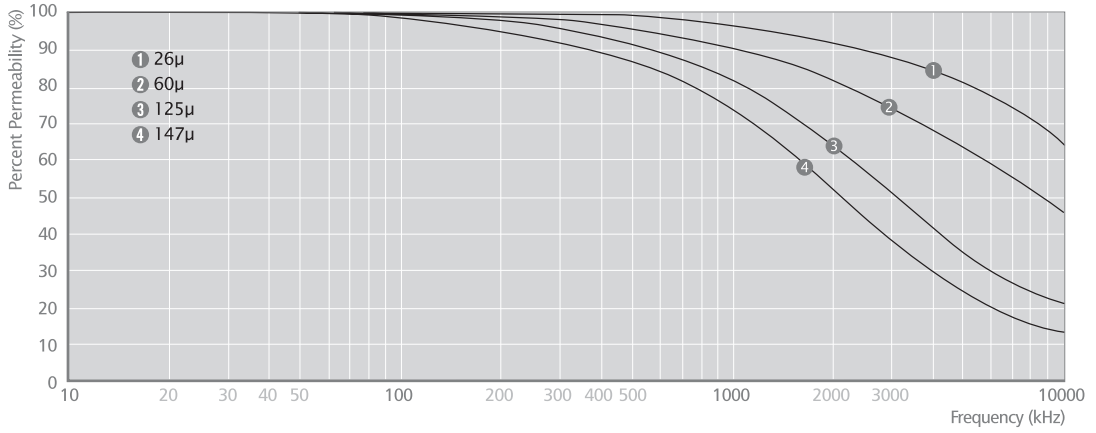
Mega Flux®

■ Permeability vs Frequency Curves

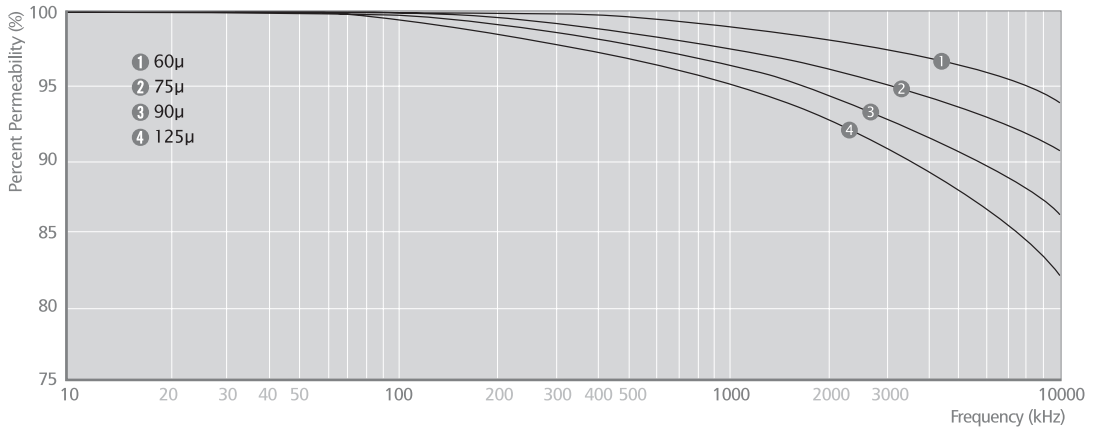
MPP



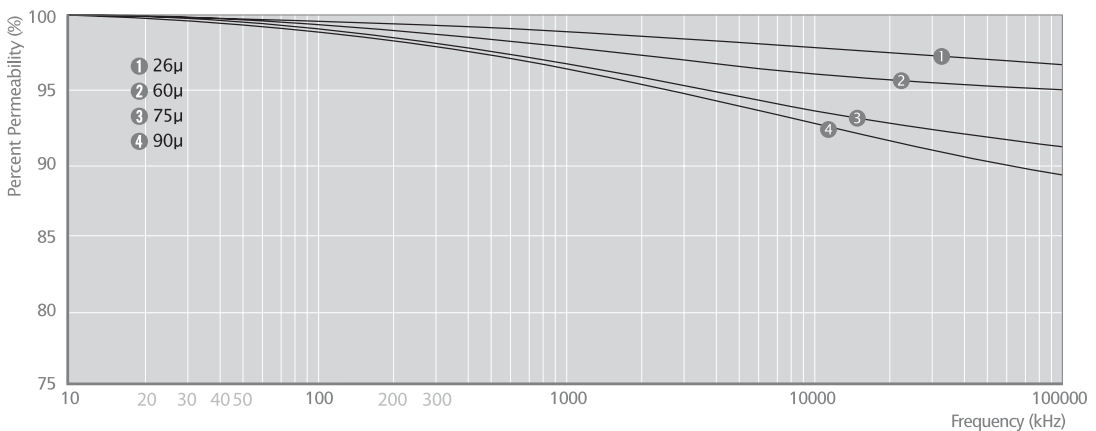
High Flux



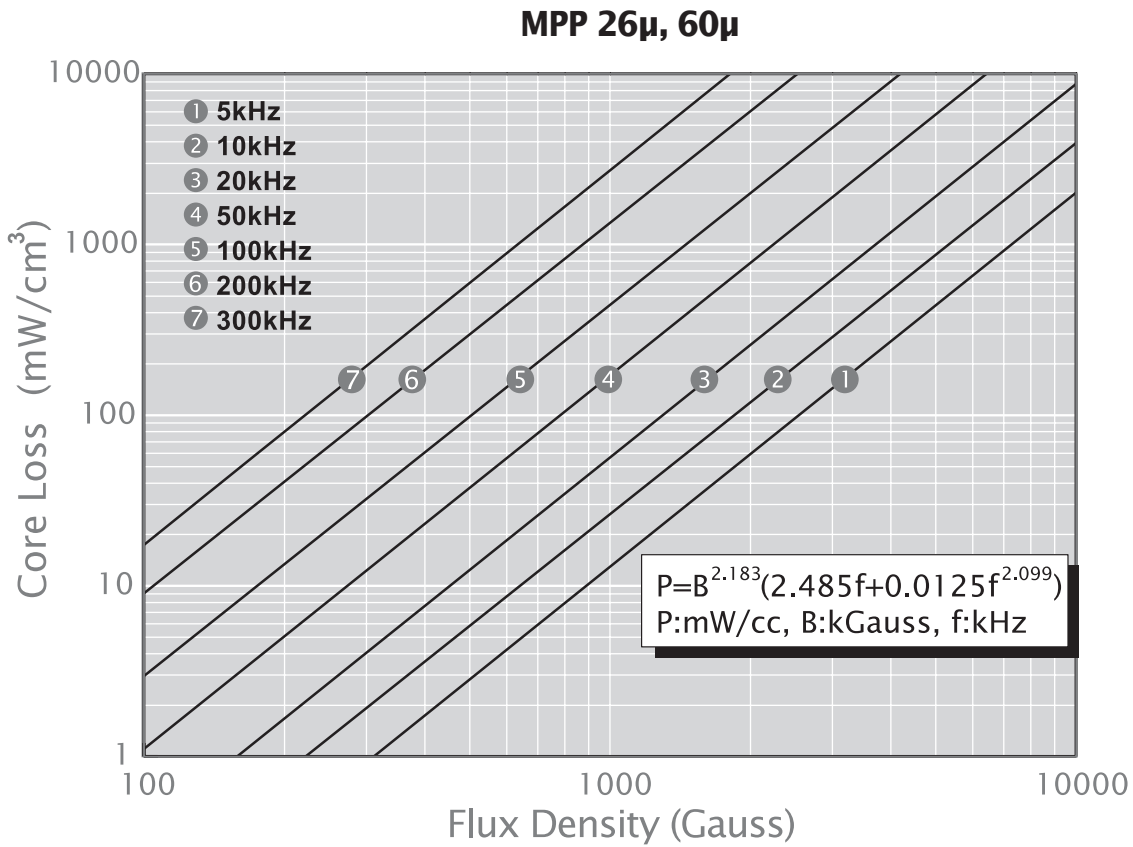
Sendust



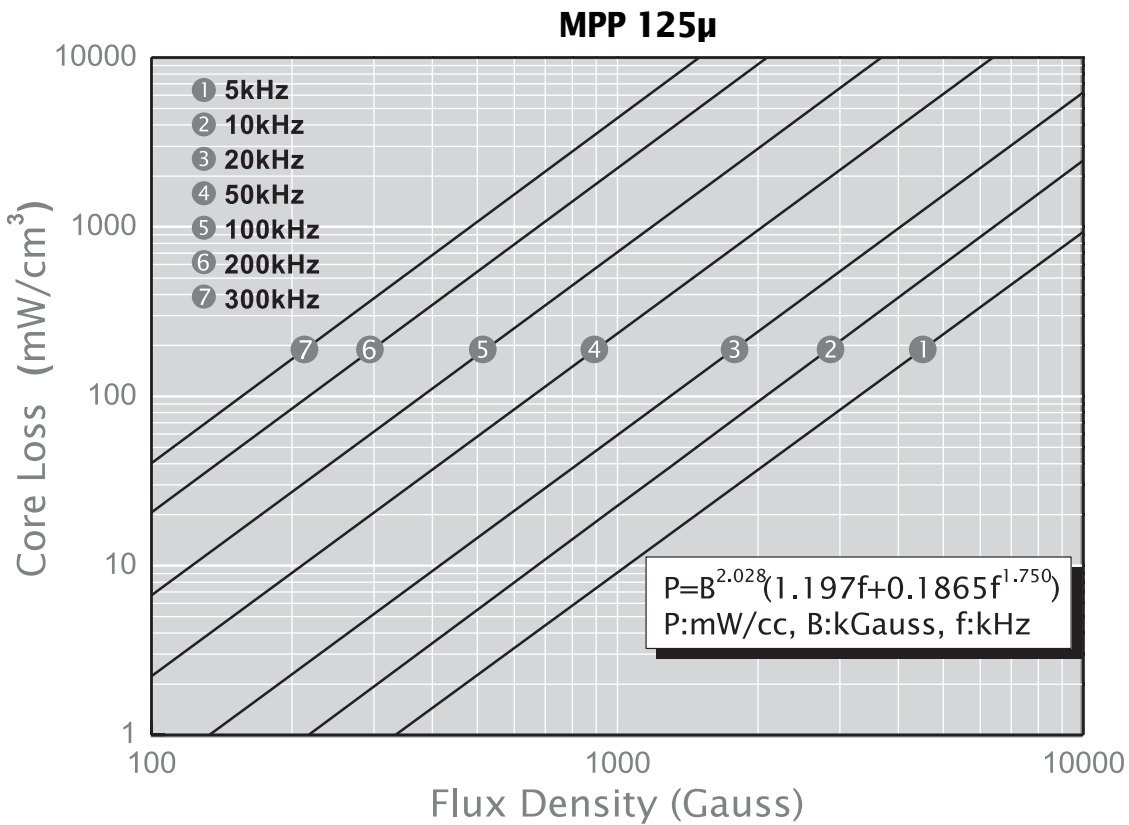
Mega Flux®



■ MPP Core Loss



MPP 26μ, 60μ

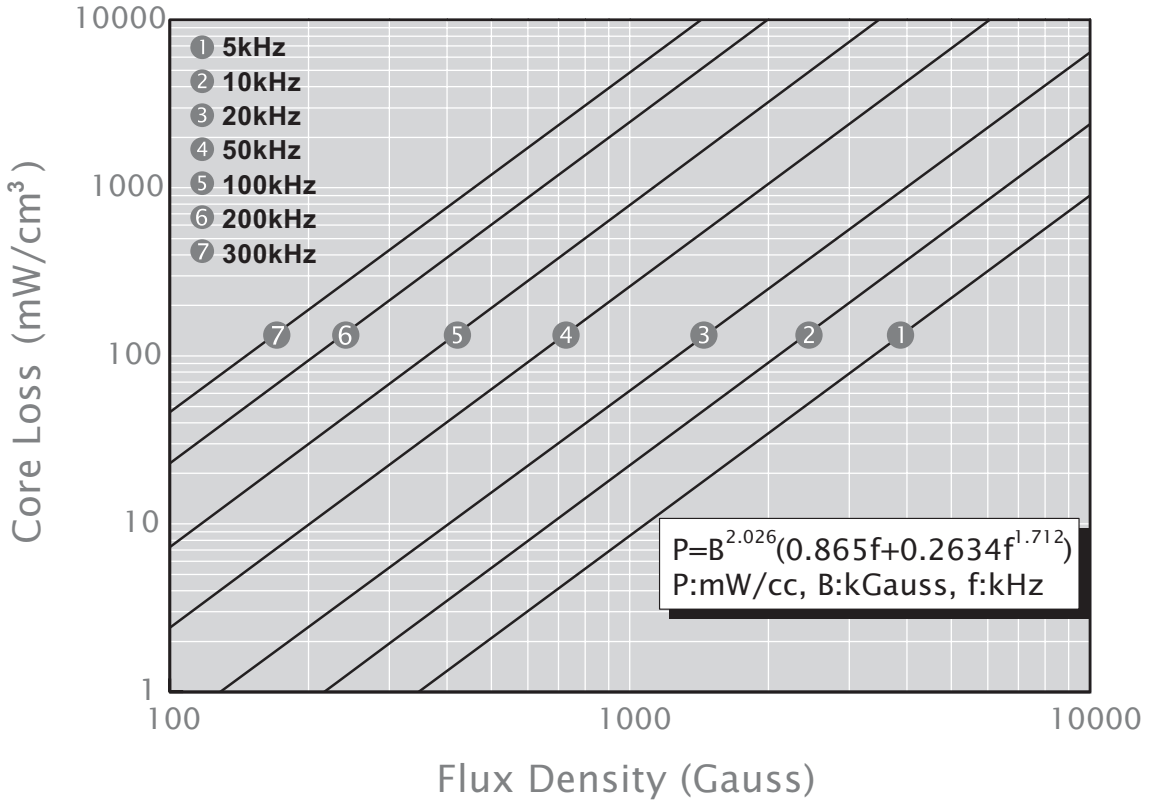


MPP 125μ

■ MPP Core Loss

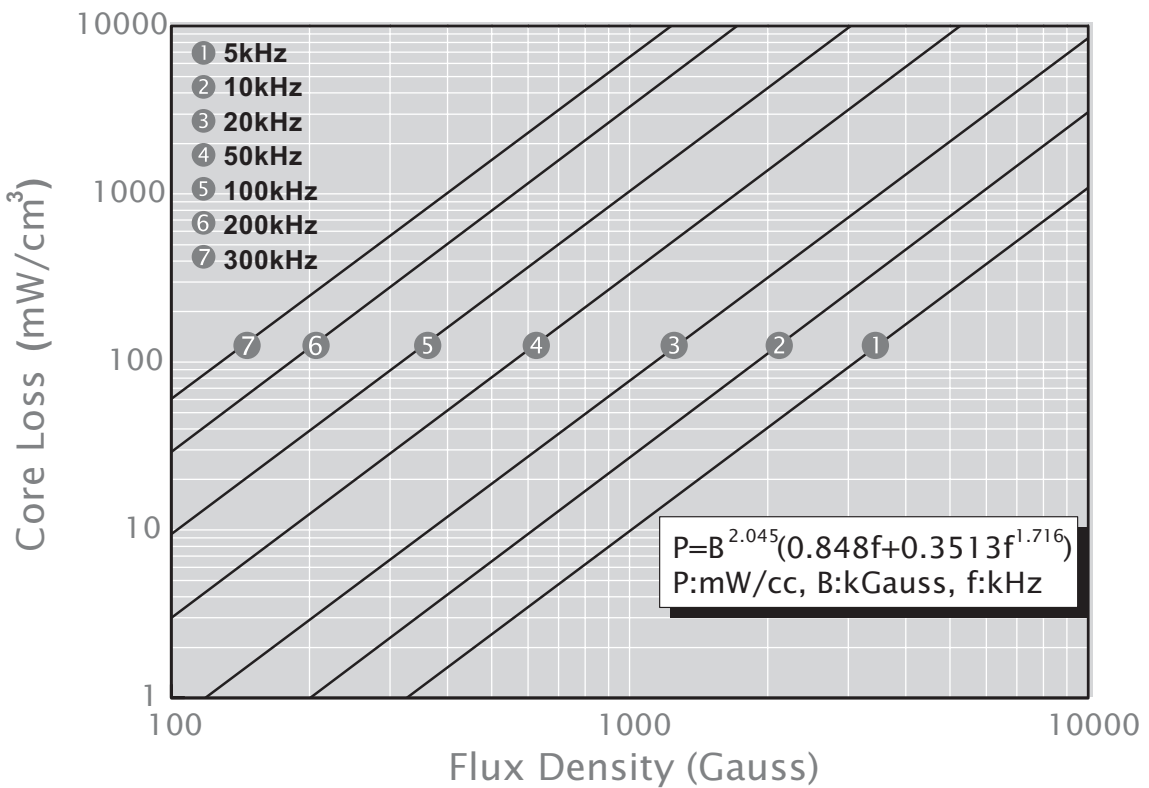
MPP 147μ, 160μ, 173μ

MPP 147μ, 160μ, 173μ

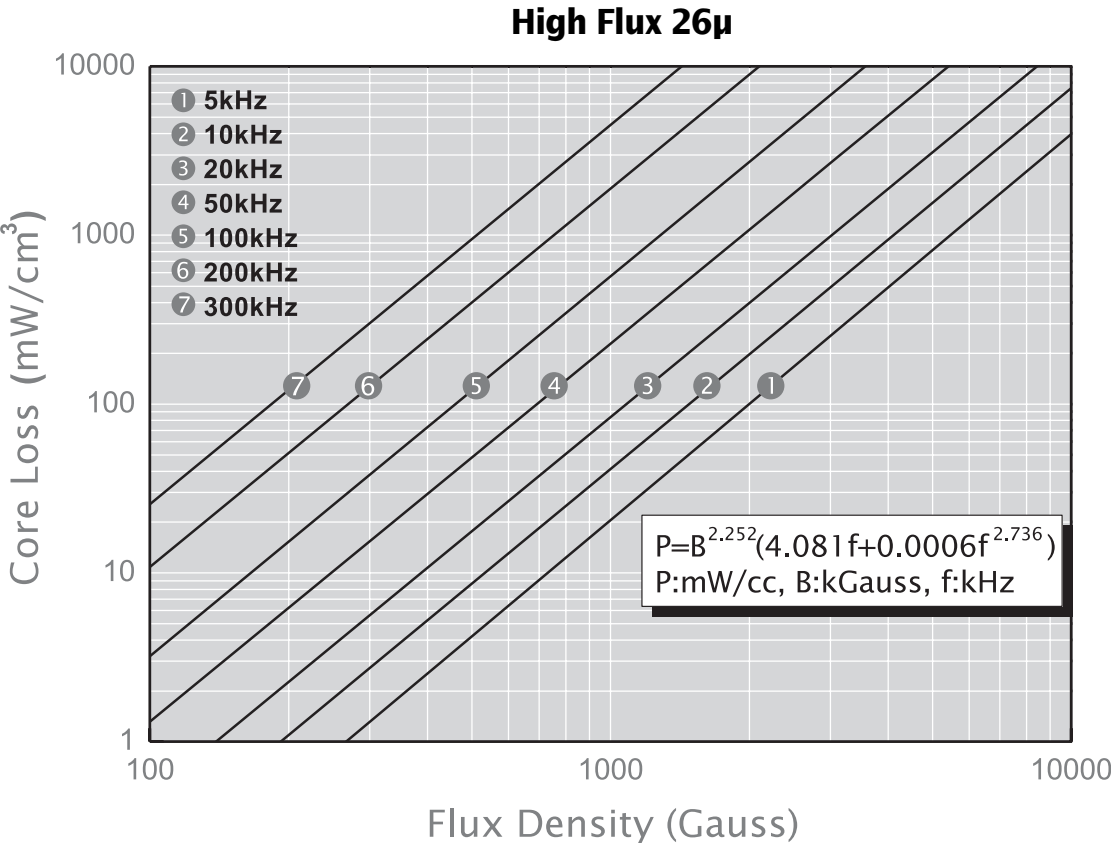


MPP 200μ

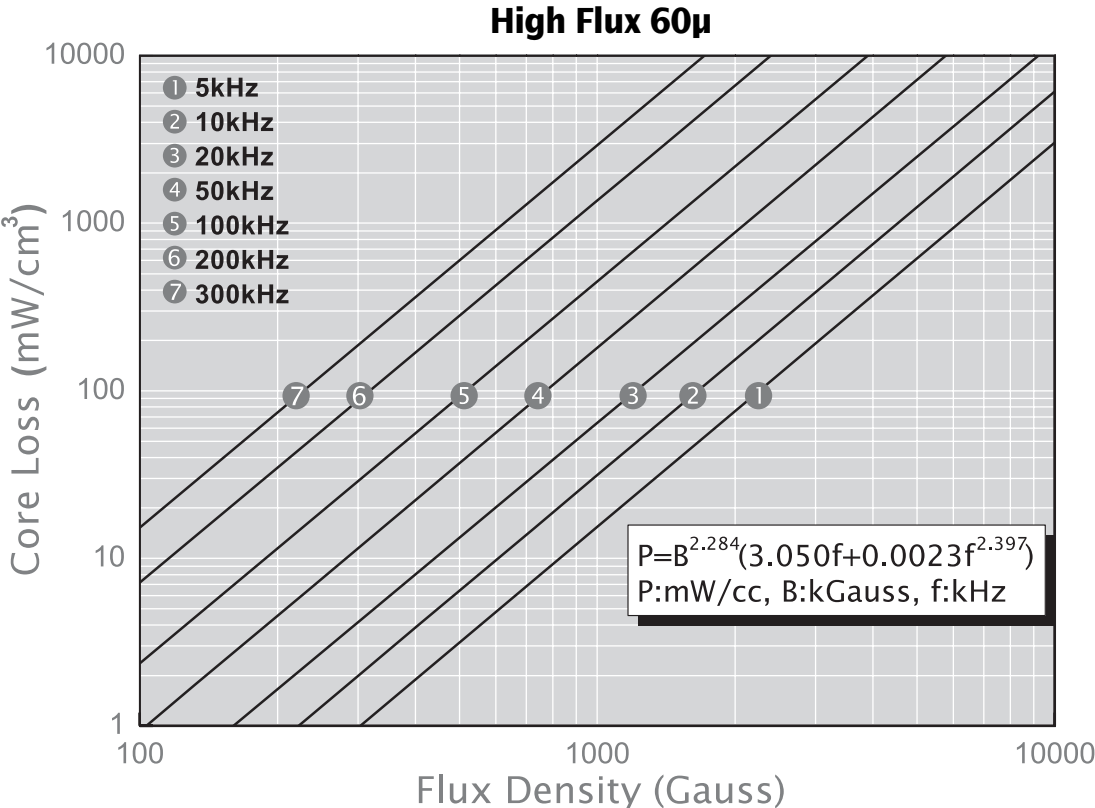
MPP 200μ



■ High Flux Core Loss



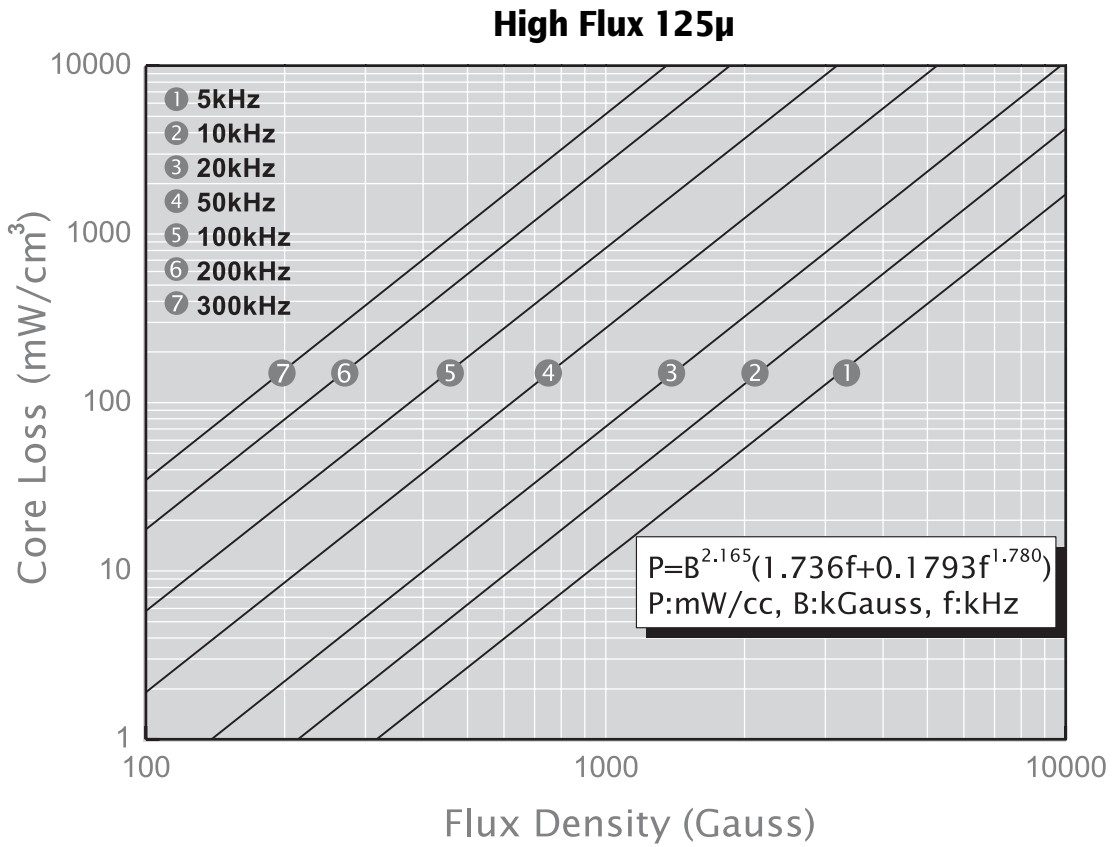
High Flux 26μ



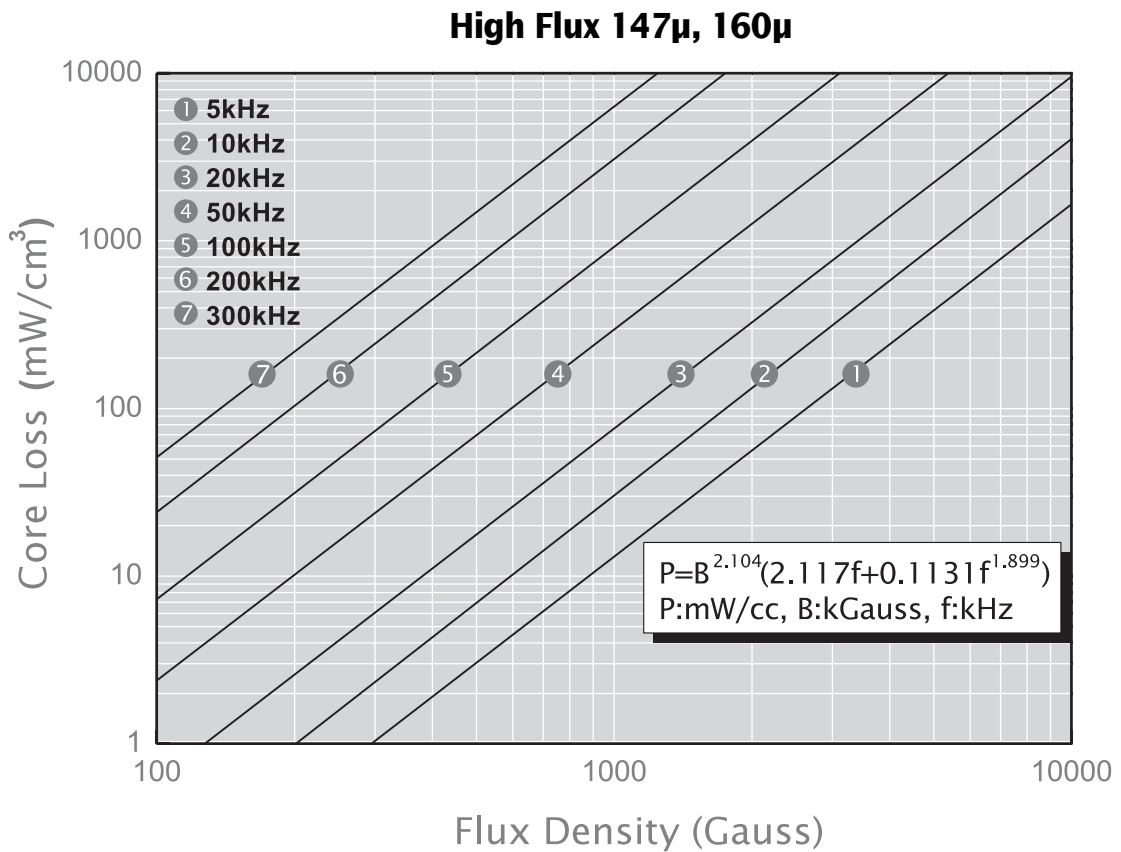
High Flux 60μ

High Flux Core Loss

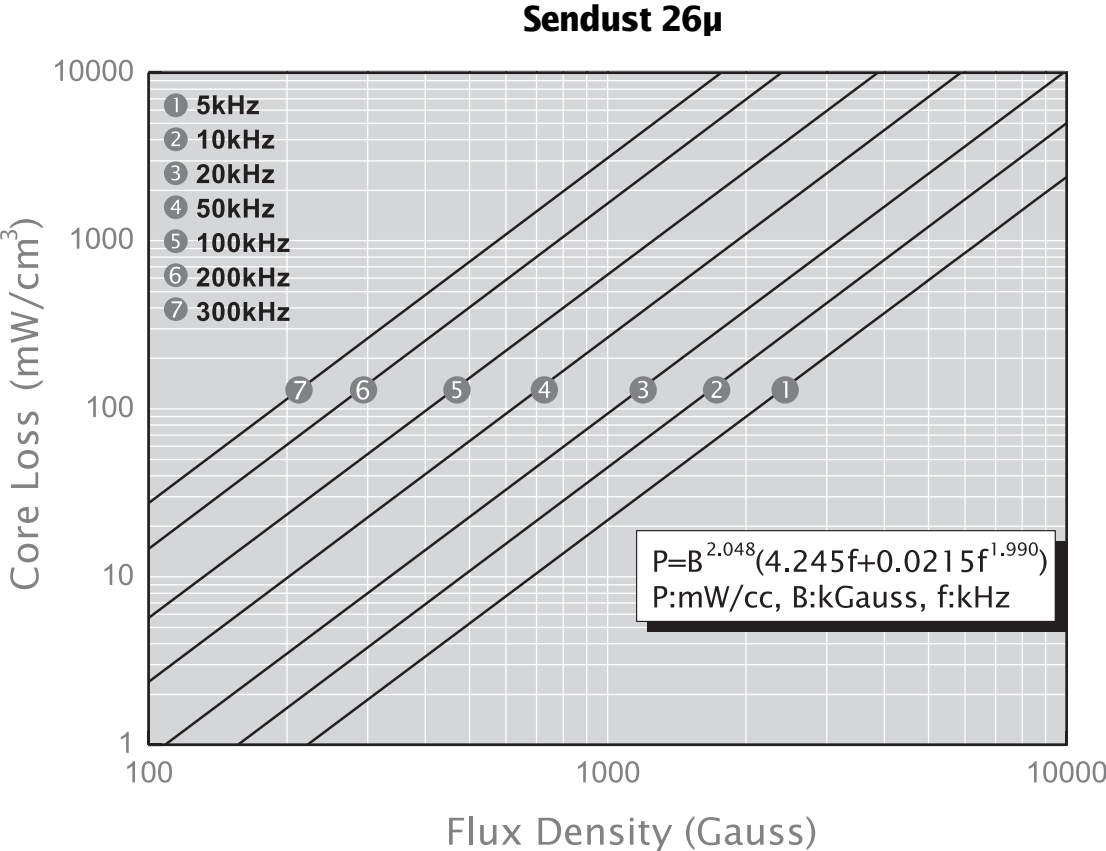
High Flux 125μ



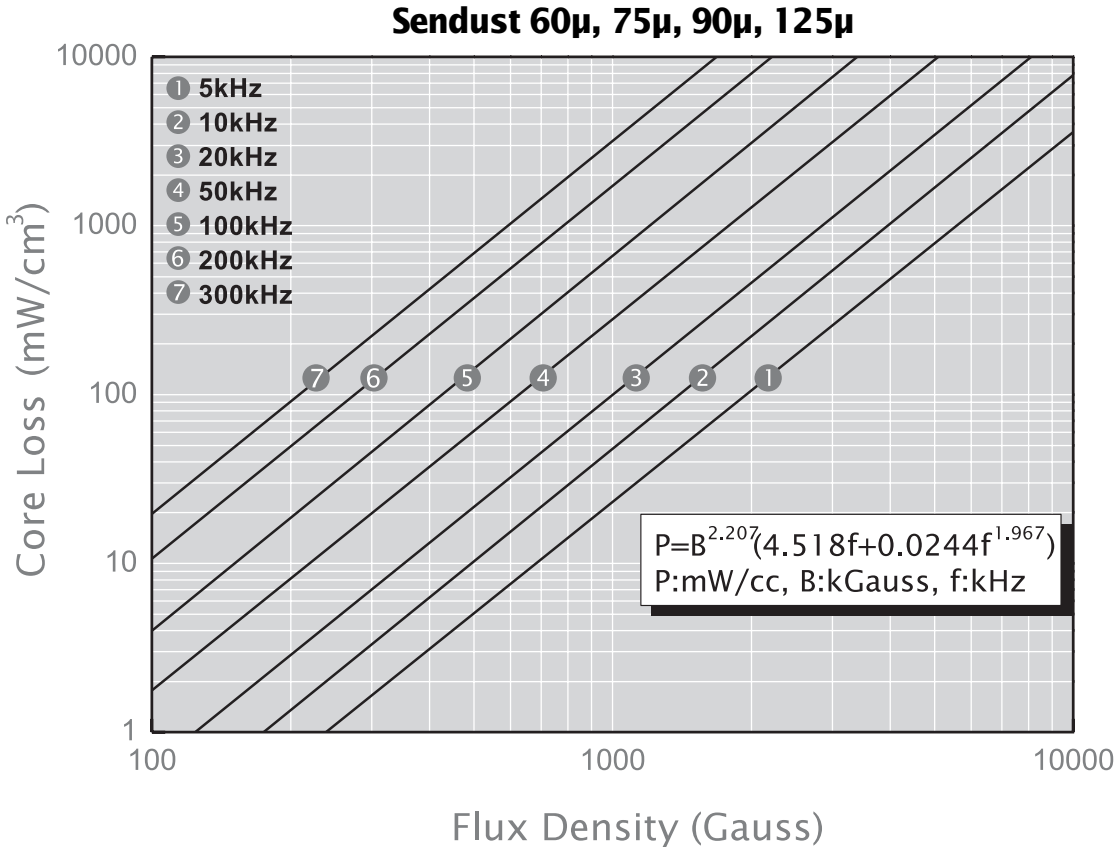
High Flux 147μ, 160μ



■ Sendust Core Loss

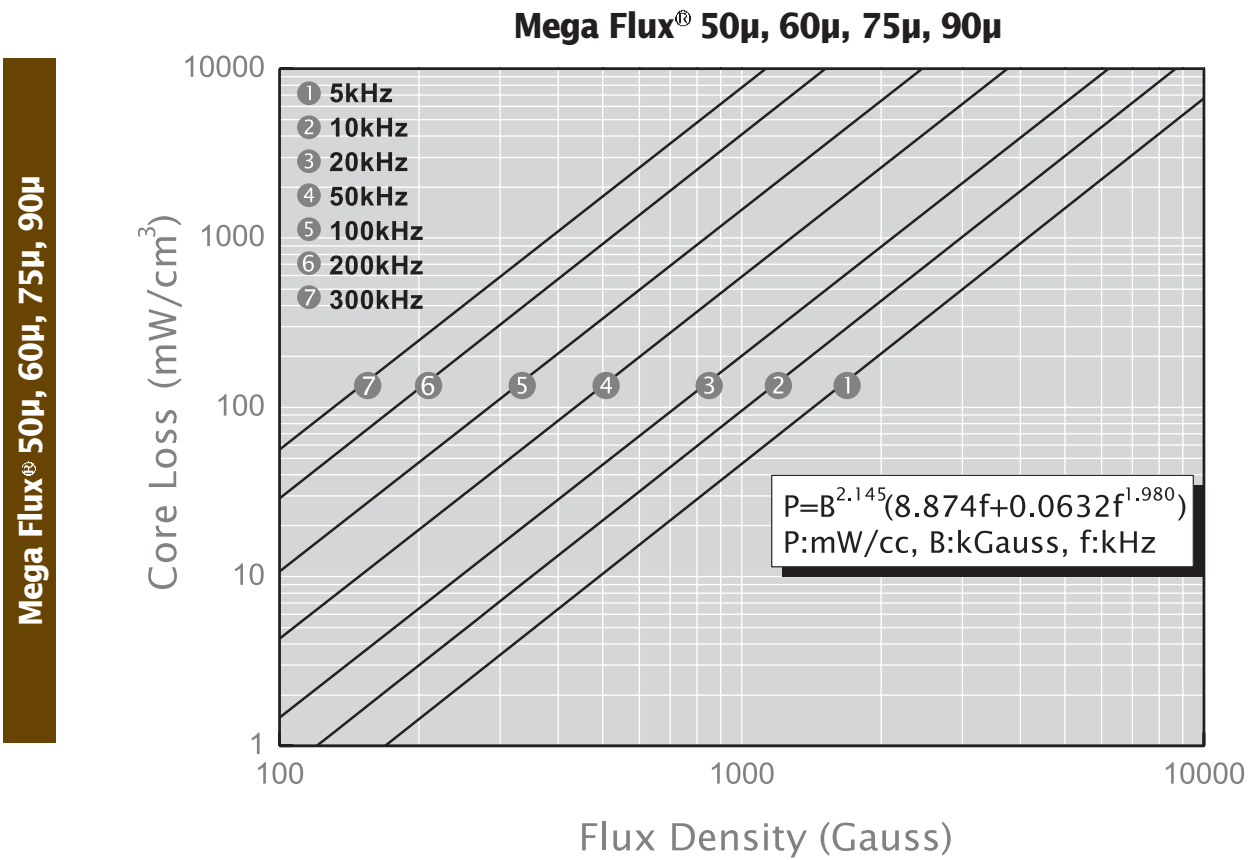
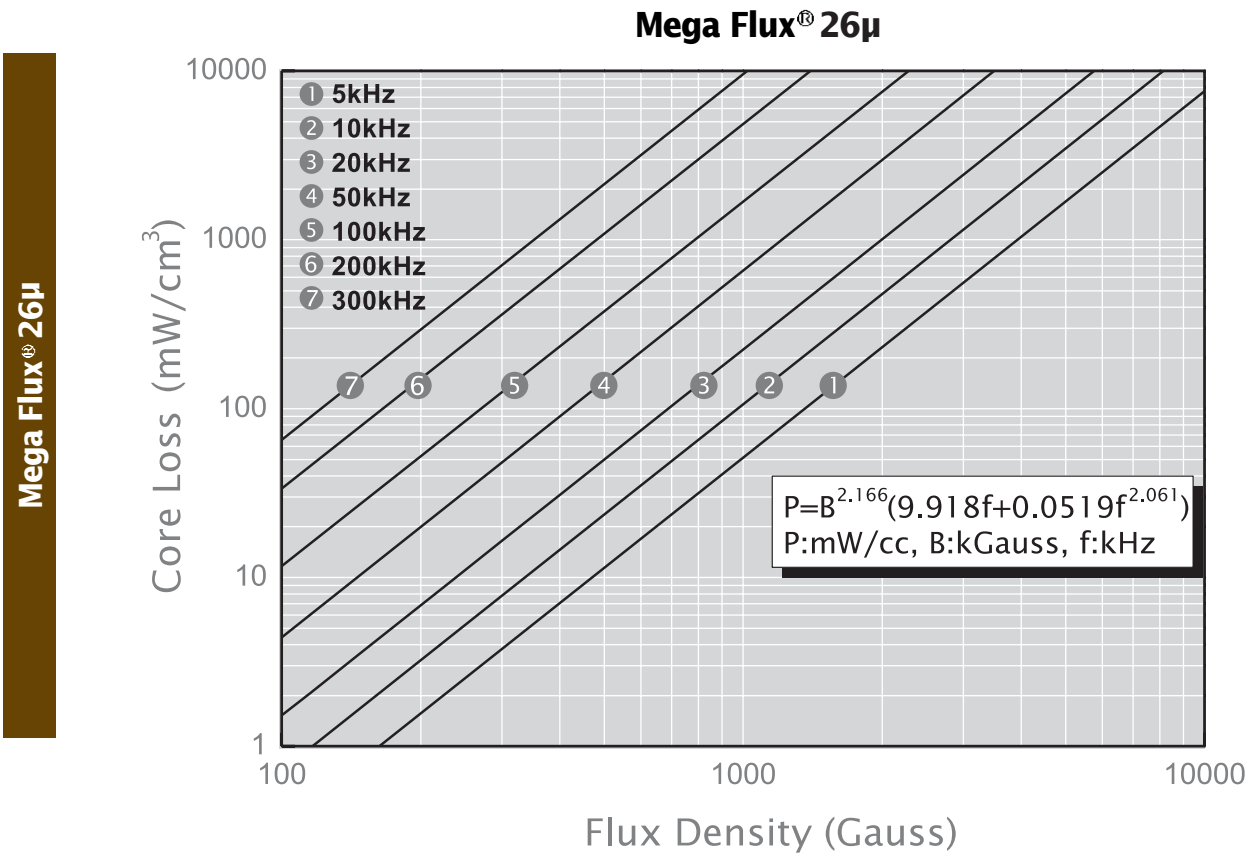


Sendust 26µ

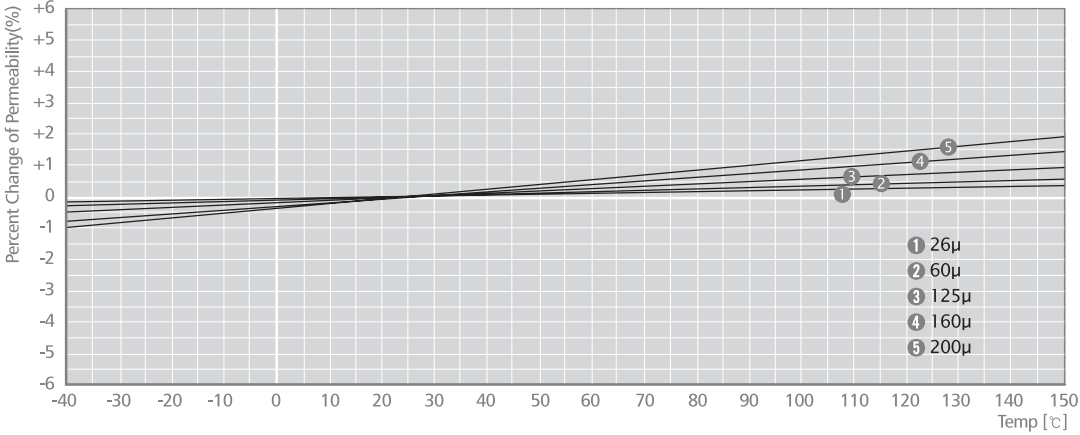


Sendust 60µ, 75µ, 90µ, 125µ

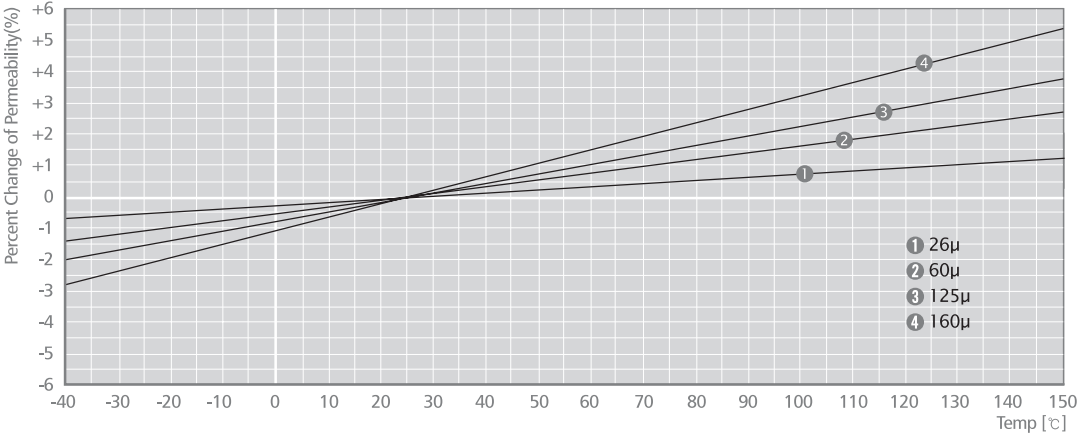
■ Mega Flux® Core Loss



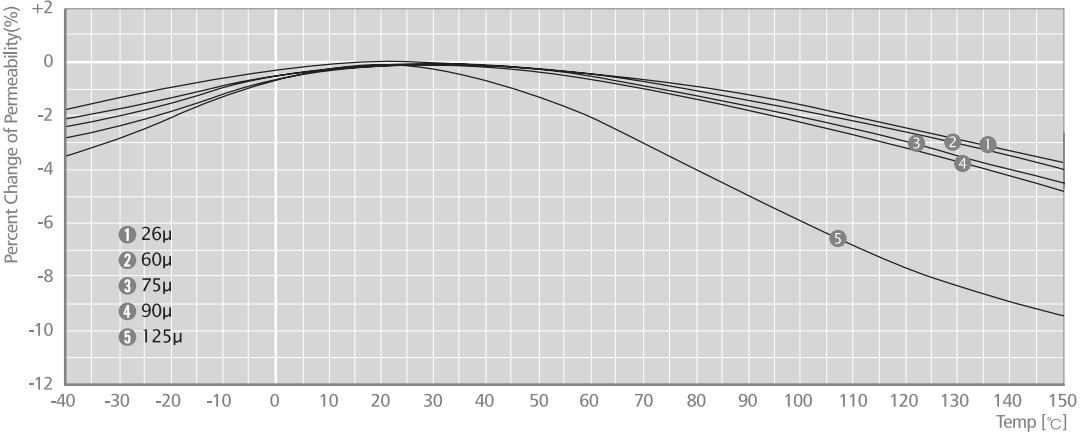
Temperature Stability



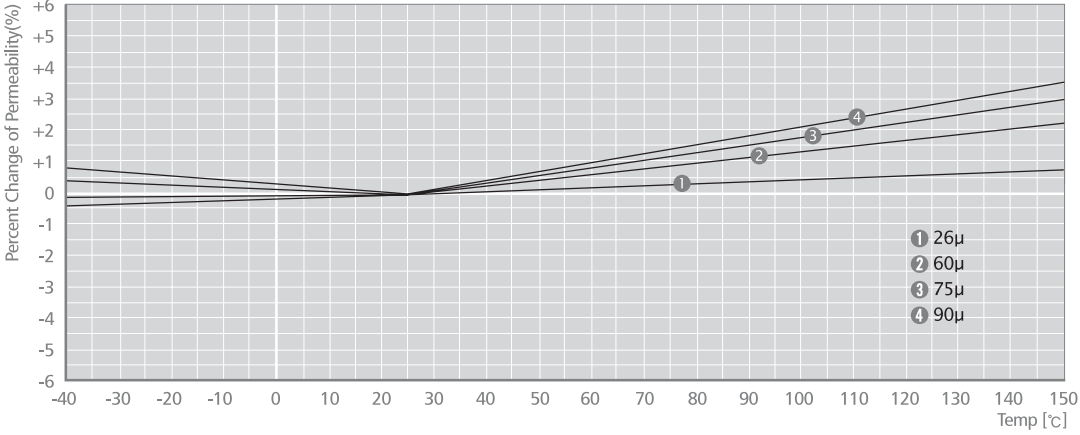
MPP



High Flux



Sendust



Mega Flux®

■ Wire Table

| AWG Wire No. | Bare Area | | Resistivity 10 ⁶ Ω cm at 20 °C | Heavy Synthetics | | | | | Current Capacity Amps (listed by columns of amps/cm ²) | | | |
|--------------|---|---------|--|--------------------------------------|---------|----------|--------|-----------------|---|---------|--------|--------|
| | cm ² (×10 ⁻³) | Cir-Mil | | Area | | Diameter | | Weight gm/cm | 200 | 400 | 600 | 800 |
| | | | | cm ² (×10 ⁻³) | Cir-Mil | cm | inch | | | | | |
| 10 | 53.61 | 10384 | 32.70 | 55.9 | 11046 | 0.267 | 0.1051 | 0.468 | 10.4 | 20.8 | 31.2 | 41.6 |
| 11 | 41.68 | 8226 | 41.37 | 44.5 | 8798 | 0.238 | 0.0938 | 0.3750 | 8.23 | 16.4 | 24.6 | 32.8 |
| 12 | 33.08 | 6529 | 52.09 | 35.64 | 7022 | 0.213 | 0.0838 | 0.2977 | 6.53 | 13.06 | 19.6 | 26.1 |
| 13 | 26.26 | 5184 | 65.64 | 28.36 | 5610 | 0.190 | 0.0749 | 0.2367 | 5.18 | 10.4 | 15.5 | 20.8 |
| 14 | 20.82 | 4109 | 82.80 | 22.95 | 4556 | 0.171 | 0.0675 | 0.1879 | 4.11 | 8.22 | 12.3 | 16.4 |
| 15 | 16.51 | 3260 | 104.3 | 18.37 | 3624 | 0.153 | 0.0602 | 0.1492 | 3.26 | 6.52 | 9.78 | 13.0 |
| 16 | 13.07 | 2581 | 131.8 | 14.73 | 2905 | 0.137 | 0.0539 | 0.1184 | 2.58 | 5.16 | 7.74 | 10.3 |
| 17 | 10.39 | 2052 | 165.8 | 11.68 | 2323 | 0.122 | 0.0482 | 0.0943 | 2.05 | 4.10 | 6.15 | 8.20 |
| 18 | 8.228 | 1624 | 209.5 | 9.326 | 1857 | 0.109 | 0.0431 | 0.07472 | 1.62 | 3.25 | 4.88 | 6.50 |
| 19 | 6.531 | 1289 | 263.9 | 7.539 | 1490 | 0.0980 | 0.0386 | 0.05940 | 1.29 | 2.58 | 3.87 | 5.16 |
| 20 | 5.188 | 1024 | 332.3 | 6.065 | 1197 | 0.0879 | 0.0346 | 0.04726 | 1.02 | 2.05 | 3.08 | 4.10 |
| 21 | 4.116 | 812.3 | 418.9 | 4.837 | 954.8 | 0.0785 | 0.0309 | 0.03757 | 0.812 | 1.63 | 2.44 | 3.25 |
| 22 | 3.243 | 640.1 | 531.4 | 3.857 | 761.7 | 0.0701 | 0.0276 | 0.02965 | 0.640 | 1.28 | 1.92 | 2.56 |
| 23 | 2.588 | 510.8 | 666.0 | 3.135 | 620.0 | 0.0632 | 0.0249 | 0.02372 | 0.511 | 1.02 | 1.53 | 2.04 |
| 24 | 2.047 | 404.0 | 842.1 | 2.514 | 497.3 | 0.0566 | 0.0223 | 0.01884 | 0.404 | 0.808 | 1.21 | 1.62 |
| 25 | 1.623 | 320.4 | 1062.0 | 2.002 | 396.0 | 0.0505 | 0.0199 | 0.01498 | 0.320 | 0.641 | 0.962 | 1.28 |
| 26 | 1.280 | 252.8 | 1345.0 | 1.603 | 316.8 | 0.0452 | 0.0178 | 0.01185 | 0.253 | 0.506 | 0.759 | 1.01 |
| 27 | 10.21 | 201.6 | 1687.6 | 1.313 | 259.2 | 0.0409 | 0.0161 | 0.00945 | 0.202 | 0.403 | 0.604 | 0.806 |
| 28 | 0.8046 | 158.8 | 2142.7 | 1.0515 | 207.3 | 0.0366 | 0.0144 | 0.00747 | 0.159 | 0.318 | 0.477 | 0.636 |
| 29 | 0.6470 | 127.7 | 2664.3 | 0.8548 | 169.0 | 0.0330 | 0.0130 | 0.00602 | 0.128 | 0.255 | 0.382 | 0.510 |
| 30 | 0.5067 | 100.0 | 3402.2 | 0.6785 | 134.5 | 0.0294 | 0.0116 | 0.00472 | 0.100 | 0.200 | 0.300 | 0.400 |
| 31 | 0.4013 | 79.21 | 4294.6 | 0.5595 | 110.2 | 0.0267 | 0.0105 | 0.00372 | 0.0792 | 0.158 | 0.237 | 0.316 |
| 32 | 0.3242 | 64.00 | 5314.9 | 0.4559 | 90.25 | 0.0241 | 0.0095 | 0.00305 | 0.0640 | 0.128 | 0.192 | 0.256 |
| 33 | 0.2554 | 50.41 | 6748.6 | 0.3662 | 72.25 | 0.0216 | 0.0085 | 0.00214 | 0.0504 | 0.101 | 0.152 | 0.202 |
| 34 | 0.2011 | 39.69 | 8572.8 | 0.2863 | 56.25 | 0.0191 | 0.0075 | 0.00189 | 0.0397 | 0.0794 | 0.119 | 0.159 |
| 35 | 0.1589 | 31.36 | 10849 | 0.2268 | 44.89 | 0.0170 | 0.0067 | 0.00150 | 0.0314 | 0.0627 | 0.0940 | 0.125 |
| 36 | 0.1266 | 25.00 | 13608 | 0.1813 | 36.00 | 0.0152 | 0.0060 | 0.00119 | 0.0250 | 0.0500 | 0.0750 | 0.100 |
| 37 | 0.1026 | 20.25 | 16801 | 0.1538 | 30.25 | 0.0140 | 0.0055 | 0.000977 | 0.0203 | 0.0405 | 0.0608 | 0.0810 |
| 38 | 0.08107 | 16.00 | 21266 | 0.1207 | 24.01 | 0.0124 | 0.0049 | 0.000773 | 0.0160 | 0.0320 | 0.0480 | 0.0640 |
| 39 | 0.06207 | 12.25 | 27775 | 0.0932 | 18.49 | 0.0109 | 0.0043 | 0.000593 | 0.0123 | 0.0245 | 0.0368 | 0.0490 |
| 40 | 0.04869 | 9.61 | 35400 | 0.0723 | 14.44 | 0.0096 | 0.0038 | 0.000464 | 0.00961 | 0.0192 | 0.0288 | 0.0384 |
| 41 | 0.03972 | 7.84 | 43405 | 0.0584 | 11.56 | 0.00863 | 0.0034 | 0.000379 | 0.00785 | 0.0157 | 0.0236 | 0.0314 |
| 42 | 0.03166 | 6.25 | 54429 | 0.04558 | 9.00 | 0.00762 | 0.0030 | 0.000299 | 0.00625 | 0.0125 | 0.0188 | 0.0250 |
| 43 | 0.02452 | 4.84 | 70308 | 0.03683 | 7.29 | 0.00685 | 0.0027 | 0.000233 | 0.00484 | 0.00968 | 0.0145 | 0.0194 |
| 44 | 0.0202 | 4.00 | 85072 | 0.03165 | 6.25 | 0.00635 | 0.0025 | 0.000195 | 0.00400 | 0.00800 | 0.0120 | 0.0160 |

■ Winding Data

| Core Size | Window Area ^a | | Wire Length / Turn | | | | Wound Dimension ^c OD × HT(Max) | |
|-----------|--------------------------|-----------------|--------------------------|-------|--------|-------|--|--------------|
| | Cir-Mils | cm ² | 100%(unity) ^b | | 0% | | inch | mm |
| | | | ft | cm | ft | cm | | |
| 035 | 3,600 | 0.018 | 0.0229 | 0.698 | 0.0195 | 0.594 | 0.195 × 0.108 | 4.95 × 2.74 |
| 039 | 6,080 | 0.0308 | 0.0344 | 1.049 | 0.0293 | 0.894 | 0.227 × 0.187 | 5.77 × 4.75 |
| 046 | 5,780 | 0.029 | 0.0375 | 1.143 | 0.0324 | 0.988 | 0.262 × 0.195 | 6.65 × 4.94 |
| 063 | 8,100 | 0.0412 | 0.0442 | 1.348 | 0.0379 | 1.156 | 0.347 × 0.212 | 8.81 × 5.38 |
| 066 | 8,100 | 0.0412 | 0.0435 | 1.327 | 0.0371 | 1.132 | 0.359 × 0.202 | 9.12 × 5.13 |
| 067 | 7,570 | 0.0384 | 0.0575 | 1.754 | 0.0531 | 1.620 | 0.361 × 0.292 | 9.17 × 7.42 |
| 068 | 18,500 | 0.0934 | 0.0586 | 1.786 | 0.0512 | 1.561 | 0.378 × 0.394 | 9.60 × 10.01 |
| 078 | 18,200 | 0.0922 | 0.0524 | 1.598 | 0.0417 | 1.272 | 0.433 × 0.265 | 11.0 × 6.73 |
| 096 | 28,200 | 0.1429 | 0.0588 | 1.793 | 0.0448 | 1.366 | 0.526 × 0.293 | 13.4 × 7.44 |
| 097 | 28,200 | 0.1429 | 0.0632 | 1.928 | 0.0498 | 1.519 | 0.526 × 0.323 | 13.4 × 8.20 |
| 102 | 32,400 | 0.164 | 0.0651 | 1.986 | 0.0504 | 1.537 | 0.554 × 0.333 | 14.1 × 8.46 |
| 112 | 53,800 | 0.273 | 0.0720 | 2.195 | 0.0507 | 1.545 | 0.618 × 0.353 | 15.7 × 9.0 |
| 127 | 75,600 | 0.383 | 0.0815 | 2.49 | 0.0574 | 1.751 | 0.717 × 0.451 | 18.2 × 11.5 |
| 166 | 140,600 | 0.713 | 0.1057 | 3.22 | 0.0721 | 2.20 | 0.932 × 0.599 | 23.7 × 15.2 |
| 172 | 126,000 | 0.638 | 0.1204 | 3.67 | 0.0763 | 2.33 | 0.980 × 0.641 | 24.9 × 16.3 |
| 203 | 225,600 | 1.14 | 0.1204 | 3.67 | 0.0763 | 2.33 | 1.148 × 0.684 | 29.2 × 17.4 |
| 229 | 277,700 | 1.41 | 0.1405 | 4.29 | 0.0886 | 2.70 | 1.283 × 0.778 | 32.6 × 19.8 |
| 234 | 293,800 | 1.49 | 0.1473 | 4.49 | 0.0982 | 3.00 | 1.319 × 0.843 | 33.5 × 21.4 |
| 270 | 308,000 | 1.56 | 0.1714 | 5.23 | 0.1233 | 3.76 | 1.468 × 0.944 | 37.3 × 24.0 |
| 330 | 577,600 | 2.93 | 0.1943 | 5.93 | 0.1238 | 3.78 | 1.840 × 1.103 | 46.7 × 28.0 |
| 343 | 788,500 | 4.01 | 0.1923 | 5.87 | 0.1059 | 3.23 | 1.974 × 1.142 | 50.1 × 29.0 |
| 358 | 719,100 | 3.64 | 0.204 | 6.22 | 0.1238 | 3.78 | 2.01 × 1.165 | 51.1 × 29.6 |
| 400 | 842,700 | 4.27 | 0.242 | 7.38 | 0.1578 | 4.81 | 2.22 × 1.385 | 56.4 × 35.2 |
| 467 | 842,700 | 4.27 | 0.284 | 8.66 | 0.204 | 6.22 | 2.51 × 1.525 | 63.8 × 38.7 |
| 468 | 1,206,000 | 6.11 | 0.273 | 8.34 | 0.1706 | 5.20 | 2.61 × 1.568 | 66.3 × 39.8 |
| 508 | 1,484,000 | 7.50 | 0.279 | 8.51 | 0.1623 | 4.95 | 2.85 × 1.600 | 72.4 × 40.6 |
| 571 | 1,014,049 | 5.14 | 0.296 | 9.02 | 0.212 | 6.46 | 2.98 × 1.34 | 75.7 × 34.0 |
| 572 | 1,871,000 | 9.48 | 0.306 | 9.33 | 0.1739 | 5.30 | 3.20 × 1.748 | 81.3 × 44.4 |
| 777 | 3,550,000 | 17.99 | 0.340 | 10.40 | 0.193 | 5.90 | 4.40 × 2.14 | 112.0 × 54.3 |

※ a : Window Area (= π/4 × ID²: Core inside diameter), b : Winding Factor (k= Usable window area/Total window area), c : 100% Winding Assumed

■ Single Layer Winding Capacity

| Core Size | 046 | 063 066 | 068 078 | 096 097 | 102 | 112 | 127 | 166 | 172 | 203 | 229 | 234 | 270 | 330 | 343 | 358 | 400 467 | 468 | 508 | 571 | 572 | 610 | 777 |
|-------------------|----------------------|------------|------------|------------|------|------|------|------|------|-------|-------|-------|-------|-------|-------|-------|------------|-------|-------|-------|-------|-------|-------|
| ID(mm) | 1.93 | 2.29 | 3.45 | 4.27 | 4.57 | 5.89 | 6.99 | 9.53 | 9.02 | 12.07 | 13.39 | 13.77 | 14.10 | 19.30 | 22.60 | 21.50 | 23.30 | 27.90 | 30.90 | 25.60 | 34.70 | 31.37 | 48.00 |
| Wire Wire No. Dia | Turns / Single Layer | | | | | | | | | | | | | | | | | | | | | | |
| 10 2.67 | | | | | | | | | | | | | | | | | | 26 | 30 | 26 | 37 | 35 | 53 |
| 11 2.38 | | | | | | | | | | | | | | | | | | 30 | 33 | 30 | 42 | 39 | 60 |
| 12 2.13 | | | | | | | | 10 | 9 | 13 | 15 | 15 | 16 | 23 | 27 | 25 | 22 | 34 | 38 | 34 | 48 | 44 | 67 |
| 13 1.90 | | | | | | | | 11 | 10 | 15 | 17 | 17 | 18 | 26 | 30 | 29 | 25 | 38 | 43 | 39 | 54 | 50 | 76 |
| 14 1.71 | | | | | | | | 13 | 12 | 17 | 19 | 20 | 20 | 29 | 34 | 32 | 28 | 43 | 48 | 43 | 60 | 56 | 84 |
| 15 1.53 | | | | | | 10 | | 15 | 14 | 19 | 22 | 22 | 23 | 32 | 38 | 37 | 31 | 48 | 54 | 49 | 68 | 63 | 95 |
| 16 1.37 | | | | | | 9 | 11 | 17 | 16 | 22 | 25 | 25 | 26 | 37 | 43 | 41 | 35 | 54 | 60 | 55 | 76 | 71 | 106 |
| 17 1.22 | | | | | | 11 | 13 | 19 | 18 | 25 | 28 | 29 | 29 | 41 | 49 | 46 | 40 | 61 | 68 | 62 | 85 | 80 | 119 |
| 18 1.09 | | | | | 9 | 12 | 15 | 21 | 20 | 28 | 31 | 32 | 33 | 46 | 55 | 52 | 45 | 68 | 76 | 70 | 96 | 90 | 134 |
| 19 0.98 | | | | 9 | 10 | 14 | 17 | 24 | 23 | 32 | 35 | 36 | 37 | 52 | 61 | 58 | 50 | 77 | 85 | 78 | 108 | 101 | 150 |
| 20 0.88 | | | | 11 | 12 | 16 | 19 | 27 | 26 | 35 | 40 | 41 | 42 | 58 | 69 | 65 | 57 | 86 | 95 | 88 | 120 | 113 | 168 |
| 22 0.70 | | | 11 | 14 | 15 | 21 | 25 | 35 | 33 | 45 | 50 | 52 | 53 | 74 | 87 | 82 | 71 | 108 | 120 | 111 | 152 | 143 | 211 |
| 24 0.56 | | 8 | 14 | 18 | 20 | 26 | 31 | 44 | 41 | 56 | 63 | 65 | 66 | 92 | 108 | 103 | 90 | 134 | 149 | 138 | 189 | | |
| 26 0.45 | 9 | 11 | 18 | 23 | 25 | 33 | 40 | 55 | 52 | 71 | 79 | 81 | 83 | 115 | 135 | 129 | 112 | 168 | 186 | 174 | 237 | | |
| 28 0.36 | 12 | 14 | 23 | 29 | 32 | 42 | 50 | 69 | 65 | 89 | 99 | 101 | 104 | 143 | 168 | 160 | 140 | | | | | | |
| 30 0.29 | 15 | 19 | 29 | 37 | 40 | 52 | 63 | | | | | | | | | | | | | | | | |
| 32 0.24 | 19 | 23 | 36 | 46 | 49 | 64 | 77 | | | | | | | | | | | | | | | | |
| 34 0.19 | 25 | 30 | 46 | 58 | 62 | | | | | | | | | | | | | | | | | | |
| 36 0.15 | 31 | 38 | 58 | 73 | | | | | | | | | | | | | | | | | | | |

A large gray rectangular area with horizontal white lines, serving as a template for notes. The lines are evenly spaced and extend across the width of the page, providing a guide for writing.

TOROIDAL MAGNETIC POWDER CORES

Tolerance of A_L value

| Core Size | Sendust | MPP | High Flux | Mega Flux TM |
|----------------|---------|------|-----------|-------------------------|
| OD 035~OD 046 | ±15% | ±12% | ±12% | NA |
| OD 063~OD 112 | ±12% | ±8% | ±8% | ±8% |
| OD 127~OD 1625 | ±8% | ±8% | ±8% | ±8% |

Inductance Calculation by A_L vs NI Curves;

Inductor specification

- Core : CM270125
- Number of Winding : 22Turns
- Current : DC 10Amperes

Solution

- Calculate NI (Ampere · Turns) NI = 22Turns X 10Ampere = 220
- Read the A_L value of CM270125 using the A_L vs NI curve on page 43.
 A_L value of CM270125 yields 100.4 when NI is 220.
- Calculate L at 10Ampere by using formula; $LN = A_L \times N^2 \times 10^{-3}(\mu H)$
Therefore,

$$L(@10A) = 100.4 \times 22^2 \times 0.001 \\ = 48.6(\mu H)$$

※ Inductance calculation by Permeability vs DC Bias Curve is also available on Page 11.

OD035

OD 3.56mm / 0.140inch



ID 1.78mm
HT 1.52mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-------------------------------|--------|---------|---------|---------|
| Before coating | (mm) | 3.56 | 1.78 | 1.52 |
| | (inch) | 0.140 | 0.070 | 0.060 |
| After coating (parlyene-C) | (mm) | 3.76 | 1.58 | 1.72 |
| | (inch) | 0.148 | 0.062 | 0.068 |

Magnetic Dimensions

| Cross Section (A) | Path Length (l) | Window Area (Wa) | Volume (V) |
|-----------------------|--------------------|----------------------|-------------------------|
| 0.0137cm ² | 0.817cm | 0.018cm ² | 0.010746cm ³ |
| 0.002in ² | 0.317in | 3,600cmil | 0.000656in ³ |

Available Cores

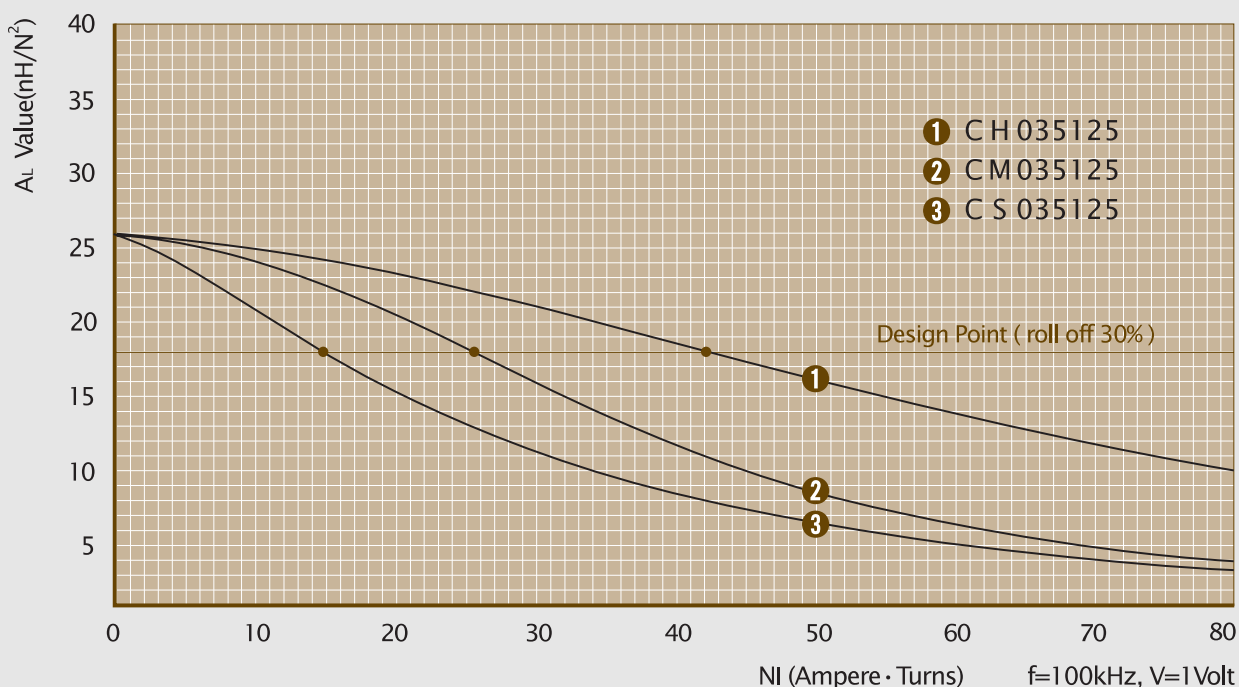
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|----------------------------|--------------|
| | High Flux | Sendust | Mega Flux® | | |
| - | - | - | - | - | 26 |
| CM035060 | CH035060 | CS035060 | CK035060 | 13 | 60 |
| - | - | CS035075 | CK035075 | 16 | 75 |
| - | - | CS035090 | CK035090 | 19 | 90 |
| CM035125 | CH035125 | CS035125 | - | 26 | 125 |
| CM035147 | - | - | - | 31 | 147 |
| CM035160 | - | - | - | 33 | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

Winding Information

| AWG Wire No. | Dia(cm) | Single Layer | | AWG Wire No. | Dia(cm) | Single Layer | |
|-----------------|---------|--------------|--------|-----------------|---------|--------------|-------|
| | | Turn | Rdc,Ω | | | Turn | Rdc,Ω |
| 28 | 0.0366 | 9 | 0.0237 | 37 | 0.0140 | 27 | 0.363 |
| 29 | 0.0330 | 10 | 0.0314 | 38 | 0.0124 | 30 | 0.503 |
| 30 | 0.0294 | 11 | 0.0431 | 39 | 0.0199 | 35 | 0.727 |
| 31 | 0.0267 | 13 | 0.0581 | 40 | 0.0096 | 40 | 1.02 |
| 32 | 0.0241 | 14 | 0.0768 | 41 | 0.00863 | 44 | 1.37 |
| 33 | 0.0216 | 16 | 0.105 | 42 | 0.00762 | 50 | 1.90 |
| 34 | 0.0191 | 19 | 0.146 | 43 | 0.00685 | 56 | 2.67 |
| 35 | 0.0170 | 21 | 0.200 | 44 | 0.00635 | 60 | 3.45 |
| 36 | 0.0152 | 24 | 0.272 | | | | |

Single layer winding with 1 inch leads

AL vs NI Curve (125μ)



OD039

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-------------------------------|--------|---------|---------|---------|
| Before coating | (mm) | 3.94 | 2.24 | 2.54 |
| | (inch) | 0.155 | 0.088 | 0.100 |
| After coating (Parylene-C) | (mm) | 4.14 | 2.04 | 2.74 |
| | (inch) | 0.163 | 0.080 | 0.108 |

Magnetic Dimensions

| Cross Section (A) | Path Length (\varnothing) | Window Area (W_a) | Volume (V) |
|-------------------------|----------------------------------|--------------------------|-------------------------|
| 0.0211cm ² | 0.942cm | 0.0308cm ² | 0.019670cm ³ |
| 0.003245in ² | 0.370inch | 6,080cmil | 0.001200in ³ |

OD 3.94mm / 0.155inch

ID 2.24mm
HT 2.54mm



Winding Information

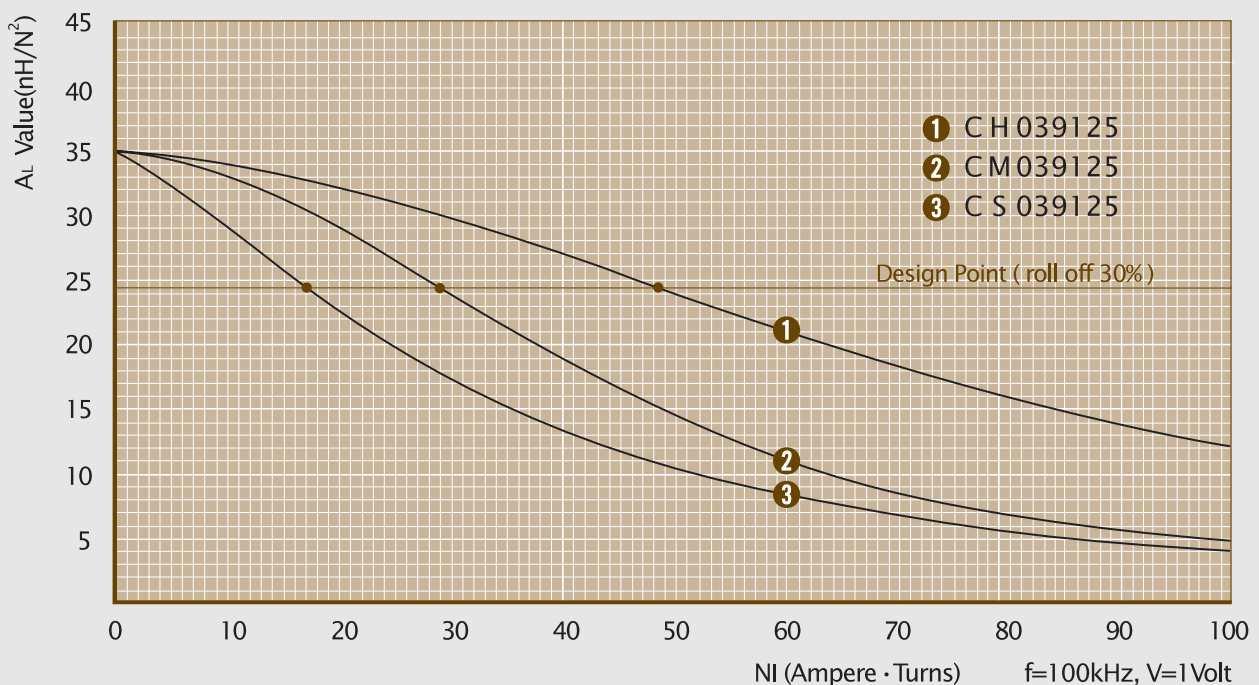
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|-----------------|-------------------------|------|---------------|-----------------|-------------------------|------|---------------|
| 27 | 0.0409 | 11 | 0.0248 | 36 | 0.0152 | 33 | 0.430 |
| 28 | 0.0366 | 12 | 0.0342 | 37 | 0.0140 | 36 | 0.579 |
| 29 | 0.0330 | 14 | 0.0458 | 38 | 0.0124 | 41 | 0.807 |
| 30 | 0.0294 | 16 | 0.0638 | 39 | 0.0109 | 47 | 1.18 |
| 31 | 0.0267 | 18 | 0.0869 | 40 | 0.0096 | 53 | 1.67 |
| 32 | 0.0241 | 20 | 0.116 | 41 | 0.00863 | 59 | 2.25 |
| 33 | 0.0216 | 23 | 0.161 | 42 | 0.00762 | 67 | 3.15 |
| 34 | 0.0191 | 26 | 0.226 | 43 | 0.00685 | 74 | 4.45 |
| 35 | 0.0170 | 29 | 0.313 | 44 | 0.00635 | 80 | 5.76 |

Single layer winding with 1 inch leads

Available Cores

| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------------------|----------------------------|--------------------|
| | High Flux | Sendust | Mega Flux [®] | | |
| - | - | - | - | - | 26 |
| CM039060 | CH039060 | CS039060 | CK039060 | 17 | 60 |
| - | - | CS039075 | CK039075 | 21 | 75 |
| - | - | CS039090 | CK039090 | 25 | 90 |
| CM039125 | CH039125 | CS039125 | - | 35 | 125 |
| CM039147 | - | - | - | 41 | 147 |
| CM039160 | - | - | - | 45 | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

AL vs NI Curve (125 μ)



OD046

OD 4.65mm / 0.183inch



ID 2.36mm
HT 2.54mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-------------------------------|--------|---------|---------|---------|
| Before coating | (mm) | 4.65 | 2.36 | 2.54 |
| | (inch) | 0.183 | 0.093 | 0.100 |
| After coating (parylene-C) | (mm) | 4.85 | 2.16 | 2.74 |
| | (inch) | 0.191 | 0.085 | 0.108 |

Magnetic Dimensions

| Cross Section (A) | Path Length (l) | Window Area (Wa) | Volume (V) |
|------------------------|--------------------|----------------------|-------------------------|
| 0.0285cm ² | 1.060cm | 0.029cm ² | 0.0302cm ³ |
| 0.00442in ² | 0.418in | 5,780cmil | 0.001837in ³ |

Available Cores

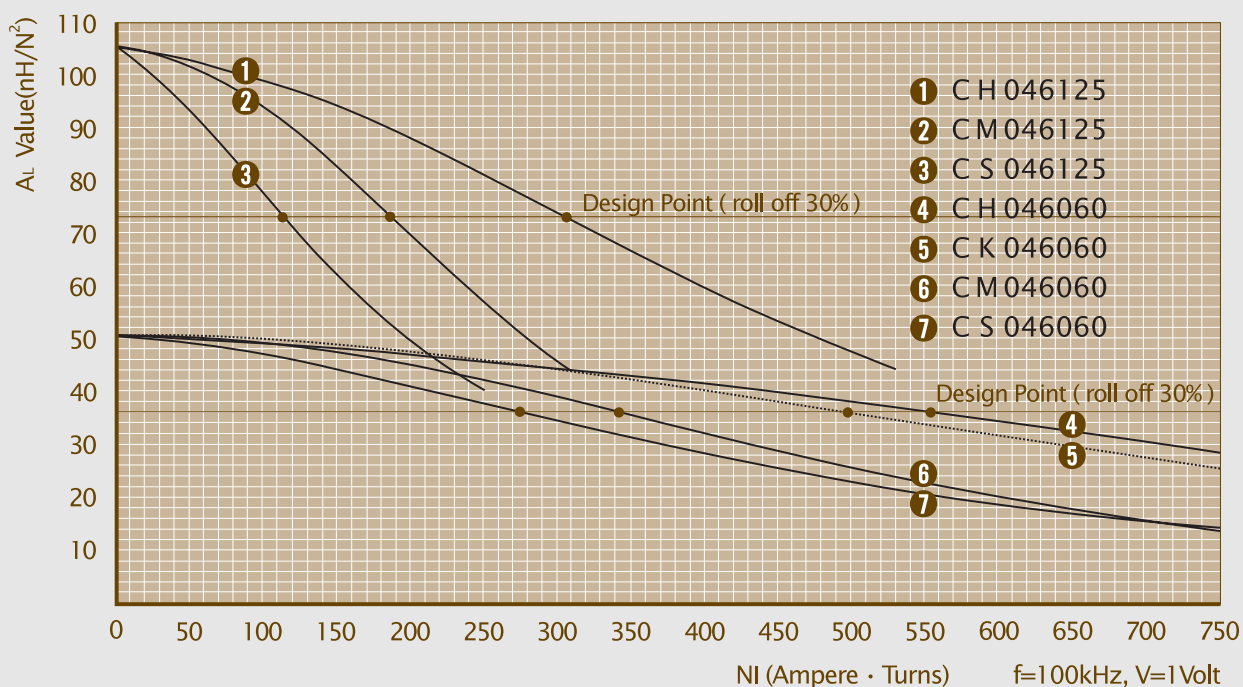
| MPP | Part No. | | | AL (mH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------------------|----------------------------|--------------|
| | High Flux | Sendust | Mega Flux [®] | | |
| - | - | - | - | - | 26 |
| CM046060 | CH046060 | CS046060 | CK046060 | 20 | 60 |
| - | - | CS046075 | CK046075 | 25 | 75 |
| - | - | CS046090 | CK046090 | 30 | 90 |
| CM046125 | CH046125 | CS046125 | - | 42 | 125 |
| CM046147 | - | - | - | 49 | 147 |
| CM046160 | - | - | - | 53 | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

Winding Information

| AWG Wire No. | Dia(cm) | Single Layer | | AWG Wire No. | Dia(cm) | Single Layer | |
|-----------------|---------|--------------|--------|-----------------|---------|--------------|-------|
| | | Turn | Rdc,Ω | | | Turn | Rdc,Ω |
| 26 | 0.0452 | 9 | 0.0205 | 35 | 0.0170 | 28 | 0.371 |
| 27 | 0.0409 | 10 | 0.0280 | 36 | 0.0152 | 31 | 0.511 |
| 28 | 0.0366 | 12 | 0.0388 | 37 | 0.0140 | 35 | 0.691 |
| 29 | 0.0330 | 13 | 0.0524 | 38 | 0.0124 | 39 | 0.968 |
| 30 | 0.0294 | 15 | 0.0734 | 39 | 0.0109 | 45 | 1.42 |
| 31 | 0.0267 | 17 | 0.101 | 40 | 0.0096 | 51 | 2.02 |
| 32 | 0.0241 | 19 | 0.135 | 41 | 0.00863 | 57 | 2.73 |
| 33 | 0.0216 | 22 | 0.188 | 42 | 0.00762 | 64 | 3.83 |
| 34 | 0.0191 | 25 | 0.266 | 43 | 0.00685 | 71 | 5.42 |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD063

Core Dimensions

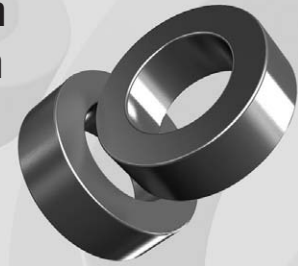
| | | OD(max) | ID(min) | HT(max) |
|-------------------------------|--------|---------|---------|---------|
| Before coating | (mm) | 6.35 | 2.79 | 2.79 |
| | (inch) | 0.250 | 0.110 | 0.110 |
| After coating (parylene-C) | (mm) | 6.99 | 2.29 | 3.43 |
| | (inch) | 0.275 | 0.090 | 0.135 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ϕ) | Window Area (W_a) | Volume (V) |
|------------------------|---------------------------|--------------------------|-------------------------|
| 0.0470cm ² | 1.361cm | 0.0412cm ² | 0.064219cm ³ |
| 0.00729in ² | 0.536in | 8,100cmil | 0.003919in ³ |

OD 6.35mm / 0.250inch

ID 2.79mm
HT 2.79mm



Winding Information

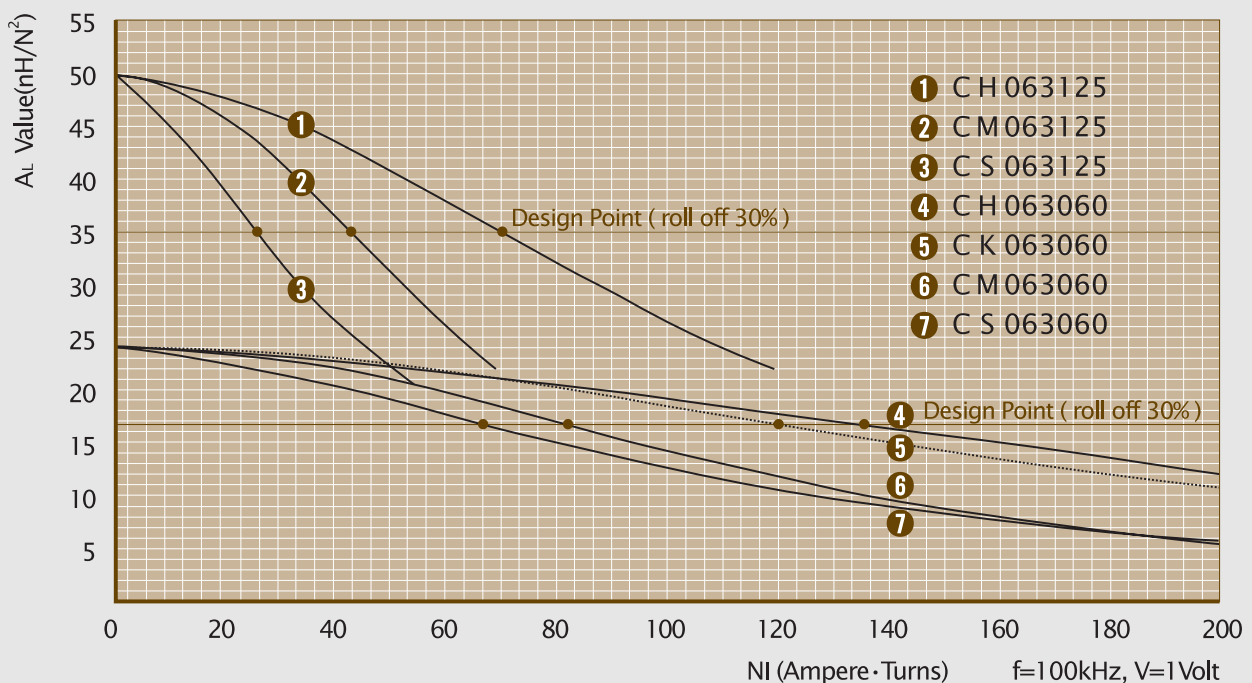
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|-----------------|-------------------------|------|---------------|-----------------|-------------------------|------|---------------|
| 24 | 0.0566 | 8 | 0.0132 | 33 | 0.0216 | 26 | 0.238 |
| 25 | 0.0505 | 10 | 0.0183 | 34 | 0.0191 | 30 | 0.337 |
| 26 | 0.0452 | 11 | 0.0253 | 35 | 0.0170 | 34 | 0.470 |
| 27 | 0.0409 | 13 | 0.0346 | 36 | 0.0152 | 38 | 0.650 |
| 28 | 0.0366 | 14 | 0.0482 | 37 | 0.0140 | 42 | 0.880 |
| 29 | 0.0330 | 16 | 0.0653 | 38 | 0.0124 | 47 | 1.24 |
| 30 | 0.0294 | 19 | 0.0918 | 39 | 0.0109 | 54 | 1.82 |
| 31 | 0.0267 | 21 | 0.126 | 40 | 0.0096 | 61 | 2.59 |
| 32 | 0.0241 | 23 | 0.170 | 41 | 0.00863 | 68 | 3.50 |

Single layer winding with 1 inch leads

Available Cores

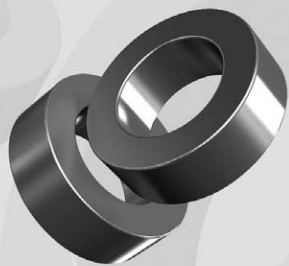
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------------------|----------------------------|--------------------|
| | High Flux | Sendust | Mega Flux [®] | | |
| - | - | - | - | - | 26 |
| CM063060 | CH063060 | CS063060 | CK063060 | 24 | 60 |
| - | - | CS063075 | CK063075 | 30 | 75 |
| - | - | CS063090 | CK063090 | 36 | 90 |
| CM063125 | CH063125 | CS063125 | - | 50 | 125 |
| CM063147 | CH063147 | - | - | 59 | 147 |
| CM063160 | CH063160 | - | - | 64 | 160 |
| CM063173 | - | - | - | 69 | 173 |
| CM063200 | - | - | - | 80 | 200 |

AL vs NI Curve (60 μ , 125 μ)



OD066

OD 6.6mm / 0.260inch



ID 2.67mm
HT 2.54mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 6.6 | 2.67 | 2.54 |
| | (inch) | 0.260 | 0.105 | 0.100 |
| After coating (Epoxy) | (mm) | 7.24 | 2.29 | 3.18 |
| | (inch) | 0.285 | 0.090 | 0.125 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|-----------------------|-------------------------|
| 0.0476cm ² | 1.363cm | 0.0412cm ² | 0.063971cm ³ |
| 0.00738in ² | 0.537in | 8,100cmil | 0.003904in ³ |

Available Cores

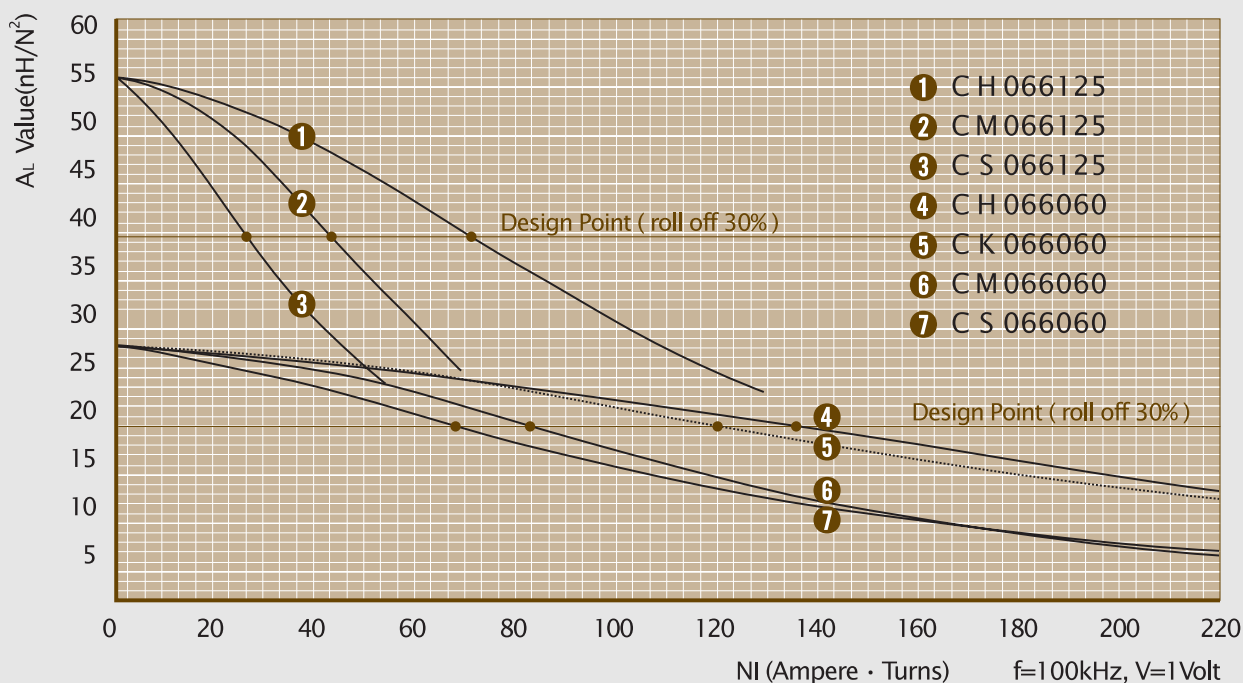
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM066026 | CH066026 | - | - | 11 | 26 |
| CM066060 | CH066060 | CS066060 | CK066060 | 26 | 60 |
| - | - | CS066075 | CK066075 | 32 | 75 |
| - | - | CS066090 | CK066090 | 39 | 90 |
| CM066125 | CH066125 | CS066125 | - | 54 | 125 |
| CM066147 | CH066147 | - | - | 64 | 147 |
| CM066160 | CH066160 | - | - | 69 | 160 |
| CM066173 | - | - | - | 75 | 173 |
| CM066200 | - | - | - | 86 | 200 |

Winding Information

| AWG Wire No. | Dia(cm) | Single Layer | | AWG Wire No. | Dia(cm) | Single Layer | |
|--------------|---------|--------------|--------|--------------|---------|--------------|--------|
| | | Turn | Rdc, Ω | | | Turn | Rdc, Ω |
| 25 | 0.0505 | 10 | 0.0180 | 34 | 0.0191 | 30 | 0.330 |
| 26 | 0.0452 | 11 | 0.0249 | 35 | 0.0170 | 34 | 0.461 |
| 27 | 0.0409 | 13 | 0.0341 | 36 | 0.0152 | 38 | 0.637 |
| 28 | 0.0366 | 14 | 0.0474 | 37 | 0.0140 | 42 | 0.862 |
| 29 | 0.0330 | 16 | 0.0642 | 38 | 0.0124 | 47 | 1.21 |
| 30 | 0.0294 | 19 | 0.0902 | 39 | 0.0109 | 54 | 1.78 |
| 31 | 0.0267 | 21 | 0.124 | 40 | 0.0096 | 61 | 2.53 |
| 32 | 0.0241 | 23 | 0.167 | 41 | 0.00863 | 68 | 3.43 |
| 33 | 0.0216 | 26 | 0.233 | 42 | 0.00762 | 77 | 4.81 |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD067

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 6.6 | 2.67 | 4.78 |
| | (inch) | 0.260 | 0.105 | 0.188 |
| After coating (Epoxy) | (mm) | 7.32 | 2.21 | 5.54 |
| | (inch) | 0.288 | 0.087 | 0.218 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|-----------------------|-------------------------|
| 0.0920cm ² | 1.363cm | 0.0384cm ² | 0.1254cm ³ |
| 0.01426in ² | 0.537in | 7,570cmil | 0.007443in ³ |

OD 6.6mm / 0.260inch

ID 2.67mm
HT 4.78mm



Winding Information

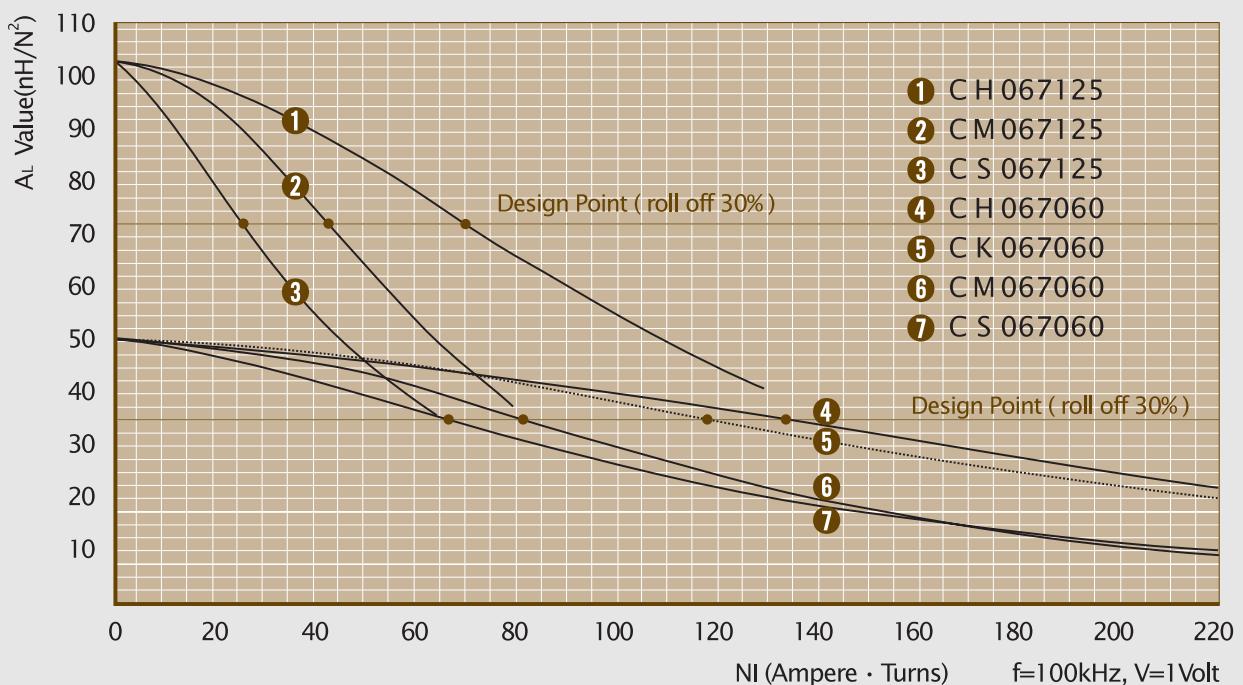
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|--------|--------------|----------------------|------|--------|
| 25 | 0.0505 | 9 | 0.0223 | 34 | 0.0191 | 29 | 0.440 |
| 26 | 0.0452 | 11 | 0.0312 | 35 | 0.0170 | 32 | 0.617 |
| 27 | 0.0409 | 12 | 0.0431 | 36 | 0.0152 | 36 | 0.857 |
| 28 | 0.0366 | 14 | 0.0605 | 37 | 0.0140 | 40 | 1.17 |
| 29 | 0.0330 | 16 | 0.0826 | 38 | 0.0124 | 45 | 1.64 |
| 30 | 0.0294 | 18 | 0.117 | 39 | 0.0109 | 52 | 2.42 |
| 31 | 0.0267 | 20 | 0.162 | 40 | 0.0096 | 59 | 3.46 |
| 32 | 0.0241 | 22 | 0.220 | 41 | 0.00863 | 66 | 4.70 |
| 33 | 0.0216 | 25 | 0.309 | 42 | 0.00762 | 74 | 6.62 |

Single layer winding with 1 inch leads

Available Cores

| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM067026 | CH067026 | - | - | 21 | 26 |
| CM067060 | CH067060 | CS067060 | CK067060 | 50 | 60 |
| - | - | CS067075 | CK067075 | 62 | 75 |
| - | - | CS067090 | CK067090 | 74 | 90 |
| CM067125 | CH067125 | CS067125 | - | 103 | 125 |
| CM067147 | CH067147 | - | - | 122 | 147 |
| CM067160 | CH067160 | - | - | 132 | 160 |
| CM067173 | - | - | - | 144 | 173 |
| CM067200 | - | - | - | 165 | 200 |

AL vs NI Curve (60μ, 125μ)



OD068

OD 6.86mm / 0.270inch



ID 3.96mm
HT 5.08mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 6.86 | 3.96 | 5.08 |
| | (inch) | 0.270 | 0.156 | 0.200 |
| After coating (Epoxy) | (mm) | 7.62 | 3.45 | 5.72 |
| | (inch) | 0.300 | 0.136 | 0.225 |

Magnetic Dimensions

| Cross Section (A) | Path Length (l) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|-----------------------|-------------------------|
| 0.0725cm ² | 1.65cm | 0.0934cm ² | 0.126009cm ³ |
| 0.01124in ² | 0.650in | 18,500cmil | 0.007693in ³ |

Available Cores

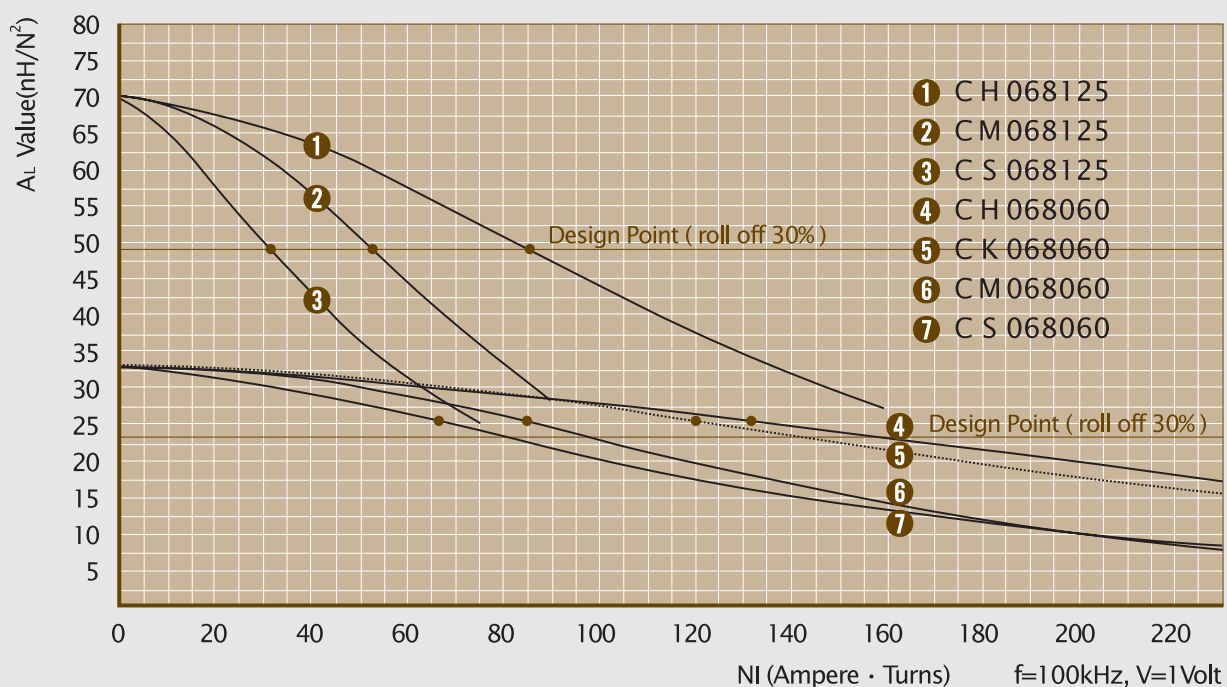
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM068026 | CH068026 | - | - | 14 | 26 |
| CM068060 | - | CS068060 | CK068060 | 33 | 60 |
| | | CS068075 | CK068075 | 42 | 75 |
| | | CS068090 | CK068090 | 50 | 90 |
| CM068125 | CH068125 | CS068125 | - | 70 | 125 |
| CM068147 | CH068147 | - | - | 81 | 147 |
| CM068160 | CH068160 | - | - | 89 | 160 |
| CM068173 | - | - | - | 95 | 173 |
| CM068200 | - | - | - | 112 | 200 |

Winding Information

| AWG Wire | | Single Layer | | AWG Wire | | Single Layer | |
|----------|---------|--------------|---------|----------|---------|--------------|-------|
| No. | Dia(cm) | Turn | Rdc,Ω | No. | Dia(cm) | Turn | Rdc,Ω |
| 21 | 0.0785 | 9 | 0.00902 | 30 | 0.0294 | 29 | 0.177 |
| 22 | 0.0701 | 11 | 0.0126 | 31 | 0.0267 | 33 | 0.244 |
| 23 | 0.0632 | 12 | 0.0174 | 32 | 0.0241 | 36 | 0.331 |
| 24 | 0.0566 | 14 | 0.0242 | 33 | 0.0216 | 41 | 0.466 |
| 25 | 0.0505 | 16 | 0.0338 | 34 | 0.0191 | 46 | 0.664 |
| 26 | 0.0452 | 18 | 0.0472 | 35 | 0.0170 | 52 | 0.932 |
| 27 | 0.0409 | 21 | 0.0651 | 36 | 0.0152 | 58 | 1.29 |
| 28 | 0.0366 | 23 | 0.0915 | 37 | 0.0140 | 65 | 1.76 |
| 29 | 0.0330 | 26 | 0.125 | 38 | 0.0124 | 73 | 2.48 |

Single layer winding with 1 inch leads

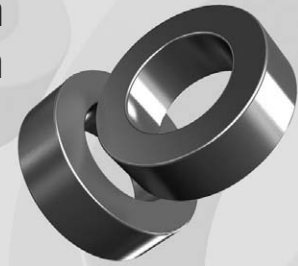
AL vs NI Curve (60μ, 125μ)



OD078

OD 7.87mm / 0.310inch

**ID 3.96mm
HT 3.18mm**



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 7.87 | 3.96 | 3.18 |
| | (inch) | 0.310 | 0.156 | 0.125 |
| After coating (Epoxy) | (mm) | 8.51 | 3.43 | 3.81 |
| | (inch) | 0.335 | 0.135 | 0.150 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|-----------------------|-----------------------|
| 0.0615cm ² | 1.787cm | 0.0922cm ² | 0.1099cm ³ |
| 0.00953in ² | 0.704in | 18,200cmil | 0.0067in ³ |

Winding Information

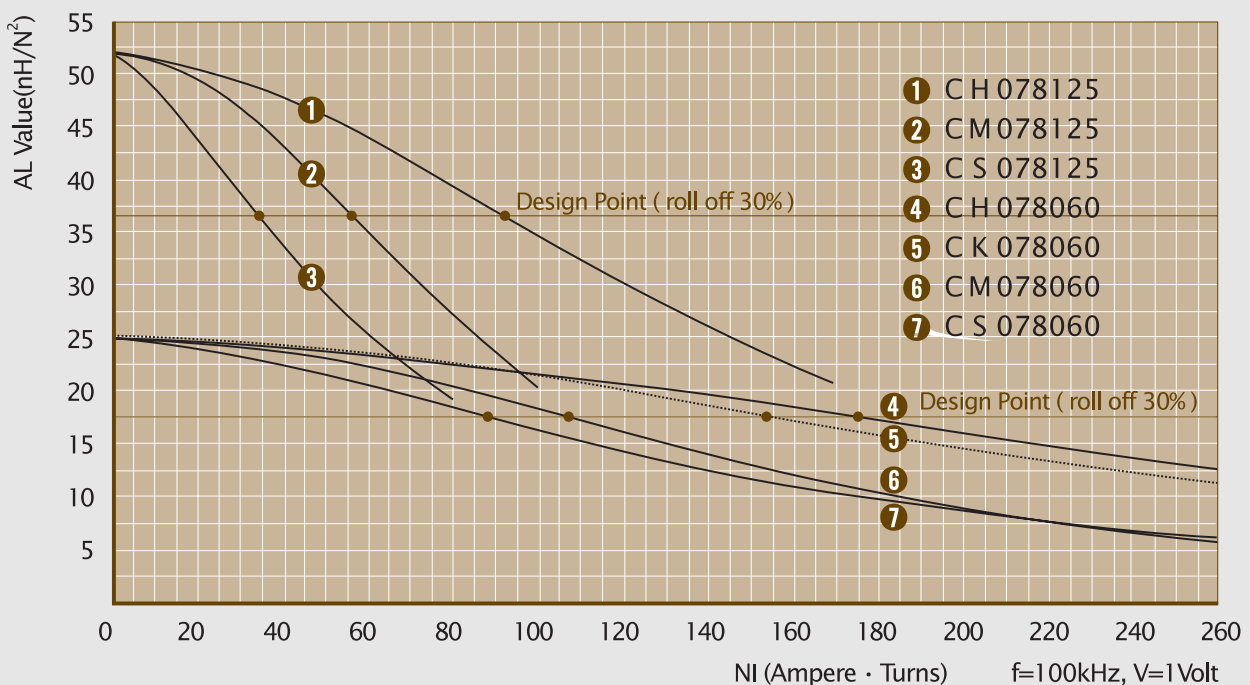
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|--------|--------------|----------------------|------|--------|
| 21 | 0.0785 | 9 | 0.0078 | 30 | 0.0294 | 29 | 0.146 |
| 22 | 0.0701 | 11 | 0.0108 | 31 | 0.0267 | 33 | 0.201 |
| 23 | 0.0632 | 12 | 0.0148 | 32 | 0.0241 | 36 | 0.272 |
| 24 | 0.0566 | 14 | 0.0206 | 33 | 0.0216 | 41 | 0.382 |
| 25 | 0.0505 | 16 | 0.0285 | 34 | 0.0191 | 46 | 0.543 |
| 26 | 0.0452 | 18 | 0.0397 | 35 | 0.0170 | 52 | 0.760 |
| 27 | 0.0409 | 20 | 0.0545 | 36 | 0.0152 | 58 | 1.05 |
| 28 | 0.0366 | 23 | 0.0762 | 37 | 0.0140 | 64 | 1.43 |
| 29 | 0.0330 | 26 | 0.104 | 38 | 0.0124 | 72 | 2.01 |

Single layer winding with 1 inch leads

Available Cores

| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM078026 | CH078026 | - | - | 11 | 26 |
| CM078060 | CH078060 | CS078060 | CK078060 | 25 | 60 |
| - | - | CS078075 | CK078075 | 31 | 75 |
| - | - | CS078090 | CK078090 | 37 | 90 |
| CM078125 | CH078125 | CS078125 | - | 52 | 125 |
| CM078147 | CH078147 | - | - | 62 | 147 |
| CM078160 | CH078160 | - | - | 66 | 160 |
| CM078173 | - | - | - | 73 | 173 |
| CM078200 | - | - | - | 83 | 200 |

AL vs NI Curve (60μ, 125μ)



OD096

OD 9.65mm / 0.380inch



ID 4.78mm
HT 3.18mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 9.65 | 4.78 | 3.18 |
| | (inch) | 0.380 | 0.188 | 0.125 |
| After coating (Epoxy) | (mm) | 10.29 | 4.27 | 3.81 |
| | (inch) | 0.405 | 0.168 | 0.150 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|-----------------------|-----------------------|
| 0.0752cm ² | 2.18cm | 0.1429cm ² | 0.1639cm ³ |
| 0.01166in ² | 0.859in | 28,200cmil | 0.0100in ³ |

Available Cores

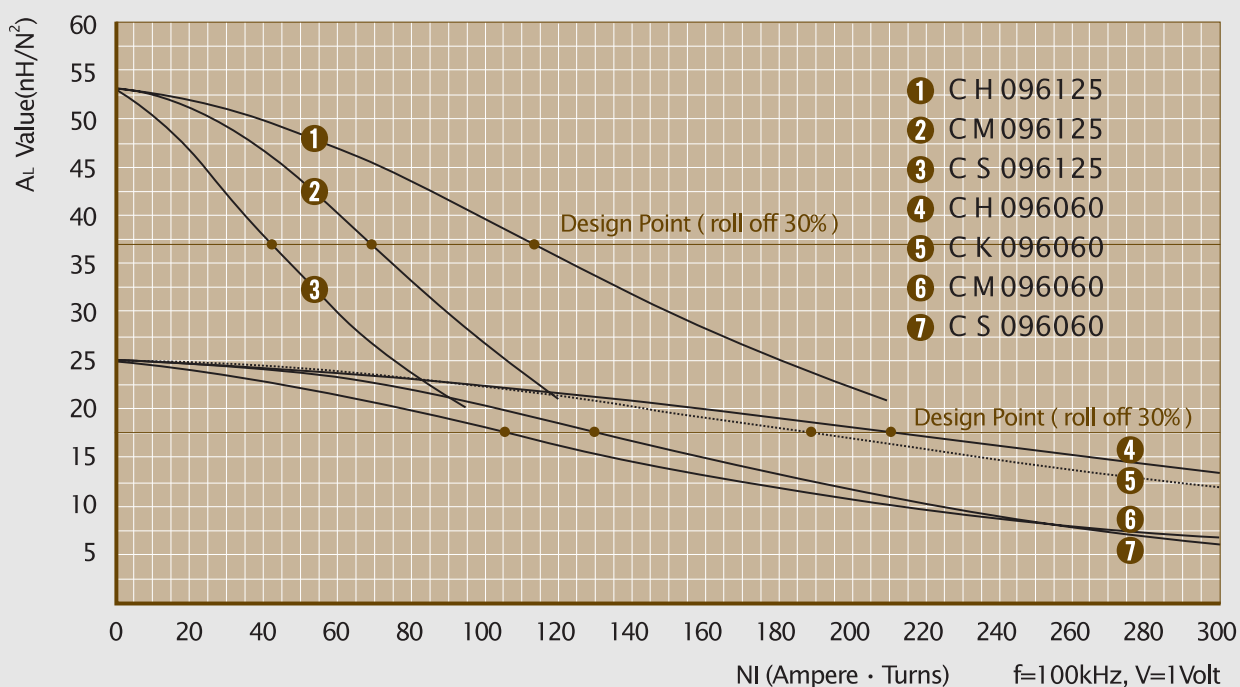
| MPP | Part No. | | | A _L (mH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM096026 | CH096026 | - | - | 11 | 26 |
| CM096060 | CH096060 | CS096060 | CK096060 | 25 | 60 |
| - | - | CS096075 | CK096075 | 32 | 75 |
| - | - | CS096090 | CK096090 | 38 | 90 |
| CM096125 | CH096125 | CS096125 | - | 53 | 125 |
| CM096147 | CH096147 | - | - | 63 | 147 |
| CM096160 | CH096160 | - | - | 68 | 160 |
| CM096173 | - | - | - | 74 | 173 |
| CM096200 | - | - | - | 84 | 200 |

Winding Information

| AWG Wire No. | Dia(cm) | Single Layer | | AWG Wire No. | Dia(cm) | Single Layer | |
|--------------|---------|--------------|--------|--------------|---------|--------------|--------|
| | | Turn | Rdc, Ω | | | Turn | Rdc, Ω |
| 19 | 0.0980 | 9 | 0.0053 | 28 | 0.0366 | 29 | 0.100 |
| 20 | 0.0879 | 11 | 0.0073 | 29 | 0.0330 | 33 | 0.136 |
| 21 | 0.0785 | 12 | 0.0101 | 30 | 0.0294 | 37 | 0.193 |
| 22 | 0.0701 | 14 | 0.0141 | 31 | 0.0267 | 41 | 0.266 |
| 23 | 0.0632 | 16 | 0.0193 | 32 | 0.0241 | 46 | 0.360 |
| 24 | 0.0566 | 18 | 0.0268 | 33 | 0.0216 | 51 | 0.505 |
| 25 | 0.0505 | 21 | 0.0372 | 34 | 0.0191 | 58 | 0.719 |
| 26 | 0.0452 | 23 | 0.0519 | 35 | 0.0170 | 65 | 1.01 |
| 27 | 0.0409 | 26 | 0.0714 | 36 | 0.0152 | 73 | 1.40 |

Single layer winding with 1 inch leads

■ AL vs NI Curve (60μ, 125μ)



OD097

OD 9.65mm / 0.380inch

ID 4.78mm
HT 3.96mm



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 9.65 | 4.78 | 3.96 |
| | (inch) | 0.380 | 0.188 | 0.156 |
| After coating (Epoxy) | (mm) | 10.29 | 4.27 | 4.57 |
| | (inch) | 0.405 | 0.168 | 0.180 |

Magnetic Dimensions

| Cross Section (A) | Path Length (l) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|-----------------------|------------------------|
| 0.0945cm ² | 2.18cm | 0.1429cm ² | 0.2060cm ³ |
| 0.01465in ² | 0.859in | 28,200cmil | 0.01258in ³ |

Winding Information

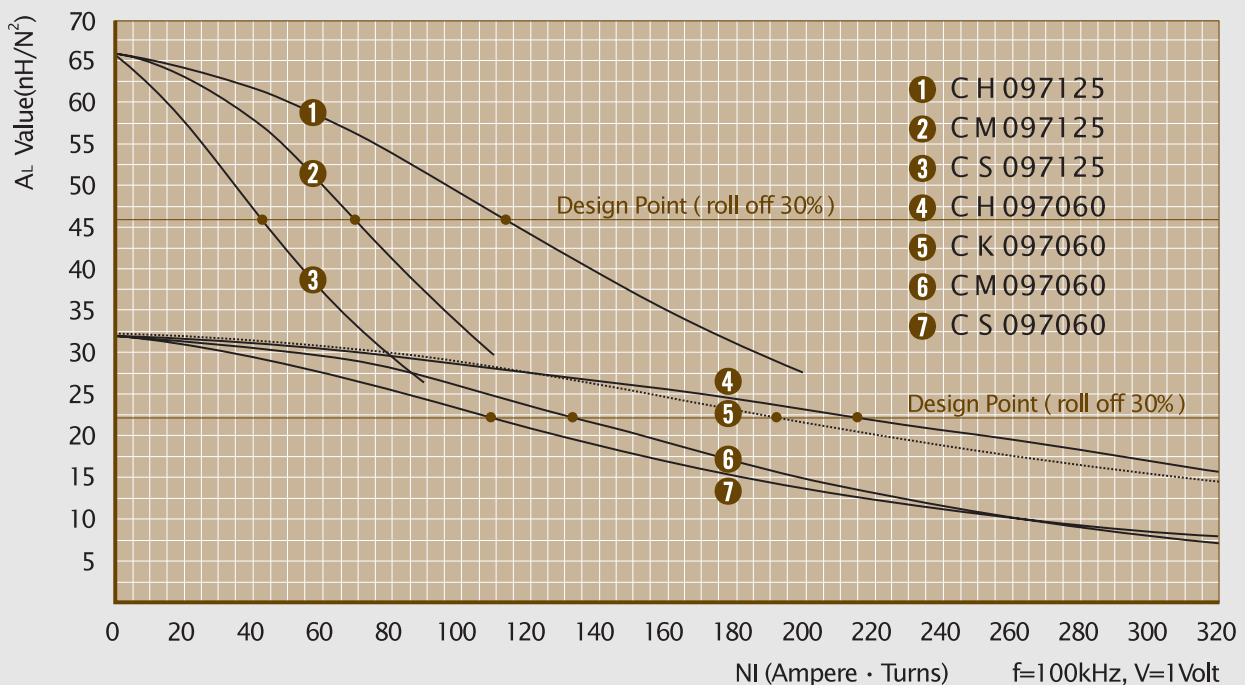
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 19 | 0.0980 | 9 | 0.00567 | 28 | 0.0366 | 29 | 0.110 |
| 20 | 0.0879 | 11 | 0.00783 | 29 | 0.0330 | 33 | 0.150 |
| 21 | 0.0785 | 12 | 0.0109 | 30 | 0.0294 | 37 | 0.212 |
| 22 | 0.0701 | 14 | 0.0152 | 31 | 0.0267 | 41 | 0.293 |
| 23 | 0.0632 | 16 | 0.0209 | 32 | 0.0241 | 46 | 0.397 |
| 24 | 0.0566 | 18 | 0.0291 | 33 | 0.0216 | 51 | 0.558 |
| 25 | 0.0505 | 21 | 0.0405 | 34 | 0.0191 | 58 | 0.795 |
| 26 | 0.0452 | 23 | 0.0567 | 35 | 0.0170 | 65 | 1.12 |
| 27 | 0.0409 | 26 | 0.0782 | 36 | 0.0152 | 73 | 1.55 |

Single layer winding with 1 inch leads

Available Cores

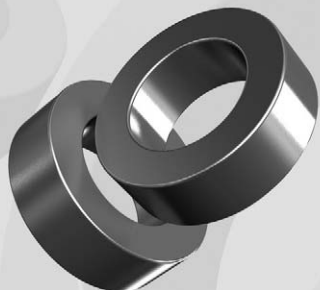
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM097026 | CH097026 | - | - | 14 | 26 |
| CM097060 | CH097060 | CS097060 | CK097060 | 32 | 60 |
| - | - | CS097075 | CK097075 | 40 | 75 |
| - | - | CS097090 | CK097090 | 48 | 90 |
| CM097125 | CH097125 | CS097125 | - | 66 | 125 |
| CM097147 | CH097147 | - | - | 78 | 147 |
| CM097160 | CH097160 | - | - | 84 | 160 |
| CM097173 | - | - | - | 92 | 173 |
| CM097200 | - | - | - | 105 | 200 |

AL vs NI Curve (60μ, 125μ)



OD 102

OD 10.16mm / 0.400inch



ID 5.08mm
HT 3.96mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 10.16 | 5.08 | 3.96 |
| | (inch) | 0.400 | 0.200 | 0.156 |
| After coating (Epoxy) | (mm) | 10.80 | 4.57 | 4.57 |
| | (inch) | 0.425 | 0.180 | 0.180 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|----------------------|-----------------------|
| 0.1000cm ² | 2.38cm | 0.164cm ² | 0.2380cm ³ |
| 0.01550in ² | 0.906in | 32,400cmil | 0.0140in ³ |

Available Cores

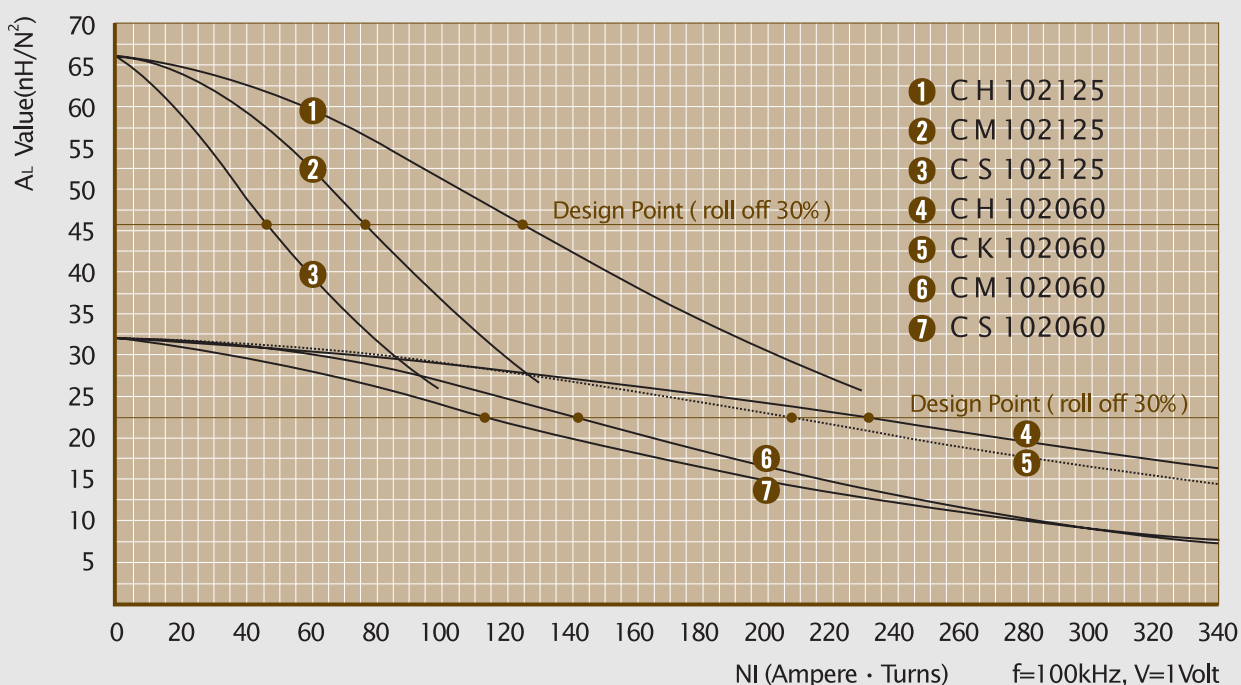
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM102026 | CH102026 | - | - | 14 | 26 |
| CM102060 | CH102060 | CS102060 | CK102060 | 32 | 60 |
| - | - | CS102075 | CK102075 | 40 | 75 |
| - | - | CS102090 | CK102090 | 48 | 90 |
| CM102125 | CH102125 | CS102125 | - | 66 | 125 |
| CM102147 | CH102147 | - | - | 78 | 147 |
| CM102160 | CH102160 | - | - | 84 | 160 |
| CM102173 | - | - | - | 92 | 173 |
| CM102200 | - | - | - | 105 | 200 |

Winding Information

| AWG Wire No. | Dia(cm) | Single Layer | | AWG Wire No. | Dia(cm) | Single Layer | |
|--------------|---------|--------------|---------|--------------|---------|--------------|--------|
| | | Turn | Rdc, Ω | | | Turn | Rdc, Ω |
| 18 | 0.109 | 9 | 0.00442 | 27 | 0.0409 | 28 | 0.0846 |
| 19 | 0.0980 | 10 | 0.00613 | 28 | 0.0366 | 32 | 0.119 |
| 20 | 0.0879 | 12 | 0.00847 | 29 | 0.0330 | 35 | 0.162 |
| 21 | 0.0785 | 13 | 0.0118 | 30 | 0.0294 | 40 | 0.230 |
| 22 | 0.0701 | 15 | 0.0164 | 31 | 0.0267 | 44 | 0.317 |
| 23 | 0.0632 | 17 | 0.0226 | 32 | 0.0241 | 49 | 0.430 |
| 24 | 0.0566 | 20 | 0.0315 | 33 | 0.0216 | 55 | 0.605 |
| 25 | 0.0505 | 22 | 0.0439 | 34 | 0.0191 | 62 | 0.862 |
| 26 | 0.0452 | 25 | 0.0614 | 35 | 0.0170 | 70 | 1.21 |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD 112

Core Dimensions

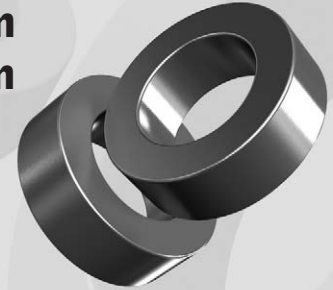
| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 11.18 | 6.35 | 3.96 |
| | (inch) | 0.440 | 0.250 | 0.156 |
| After coating (Epoxy) | (mm) | 11.90 | 5.89 | 4.72 |
| | (inch) | 0.468 | 0.232 | 0.186 |

Magnetic Dimensions

| Cross Section (A) | Path Length (l) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|----------------------|------------------------|
| 0.0906cm ² | 2.69cm | 0.273cm ² | 0.2437cm ³ |
| 0.01403in ² | 1.08in | 53,800cmil | 0.01515in ³ |

OD 11.18mm / 0.440inch

ID 6.35mm
HT 3.96mm



Winding Information

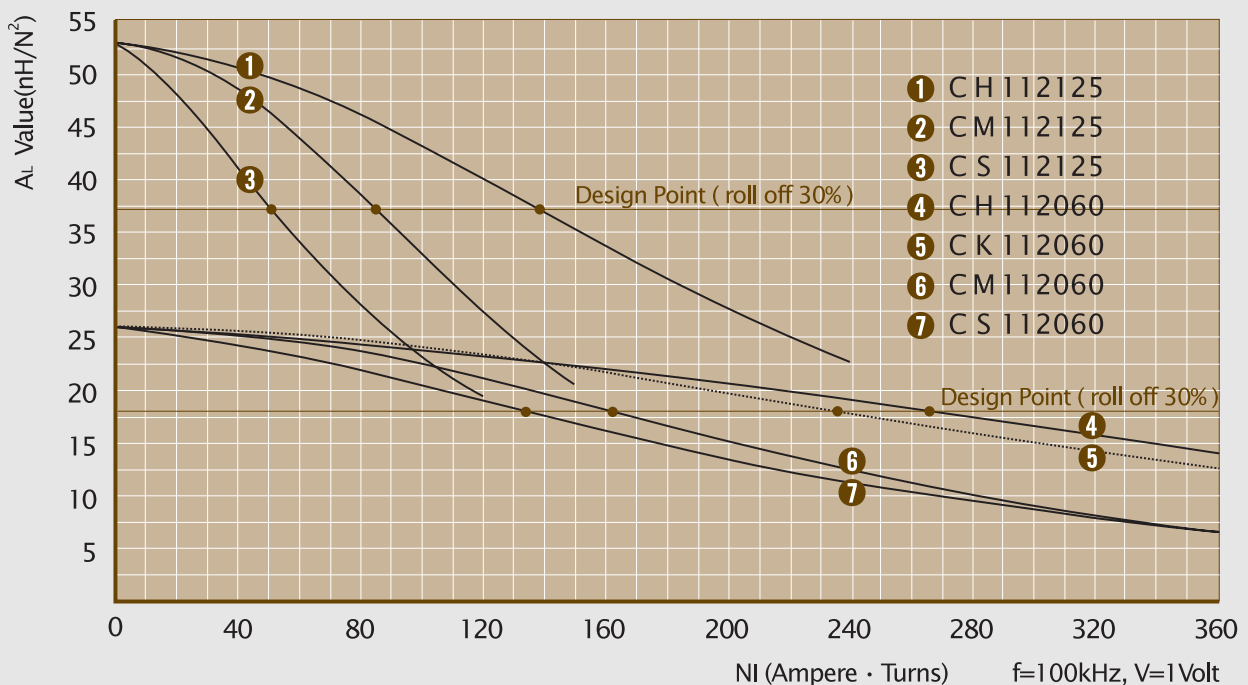
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 16 | 0.137 | 9 | 0.00299 | 25 | 0.0505 | 29 | 0.0566 |
| 17 | 0.122 | 11 | 0.00412 | 26 | 0.0452 | 33 | 0.0792 |
| 18 | 0.109 | 12 | 0.00572 | 27 | 0.0409 | 37 | 0.109 |
| 19 | 0.0980 | 14 | 0.00792 | 28 | 0.0366 | 42 | 0.153 |
| 20 | 0.0879 | 16 | 0.0109 | 29 | 0.0330 | 46 | 0.209 |
| 21 | 0.0785 | 18 | 0.0152 | 30 | 0.0294 | 52 | 0.297 |
| 22 | 0.0701 | 21 | 0.0212 | 31 | 0.0267 | 58 | 0.410 |
| 23 | 0.0632 | 23 | 0.0292 | 32 | 0.0241 | 64 | 0.556 |
| 24 | 0.0566 | 26 | 0.0406 | 33 | 0.0216 | 72 | 0.782 |

Single layer winding with 1 inch leads

Available Cores

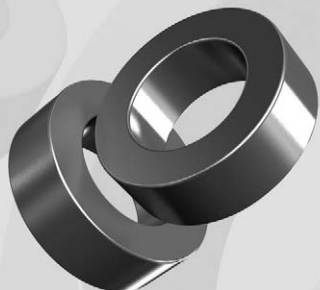
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM112026 | CH112026 | CS112026 | CK112026 | 11 | 26 |
| CM112060 | CH112060 | CS112060 | CK112060 | 26 | 60 |
| - | - | CS112075 | CK112075 | 32 | 75 |
| - | - | CS112090 | CK112090 | 38 | 90 |
| CM112125 | CH112125 | CS112125 | - | 53 | 125 |
| CM112147 | CH112147 | - | - | 63 | 147 |
| CM112160 | CH112160 | - | - | 68 | 160 |
| CM112173 | - | - | - | 74 | 173 |
| CM112200 | - | - | - | 85 | 200 |

AL vs NI Curve (60μ, 125μ)



OD 127

OD 12.70mm / 0.500inch



ID 7.62mm
HT 4.75mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 12.70 | 7.62 | 4.75 |
| | (inch) | 0.500 | 0.300 | 0.187 |
| After coating (Epoxy) | (mm) | 13.46 | 6.99 | 5.51 |
| | (inch) | 0.530 | 0.275 | 0.217 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|----------------------|-------------------------|
| 0.114cm ² | 3.12cm | 0.383cm ² | 0.35568cm ³ |
| 0.01767in ² | 1.229in | 75,600cmil | 0.002172in ³ |

Available Cores

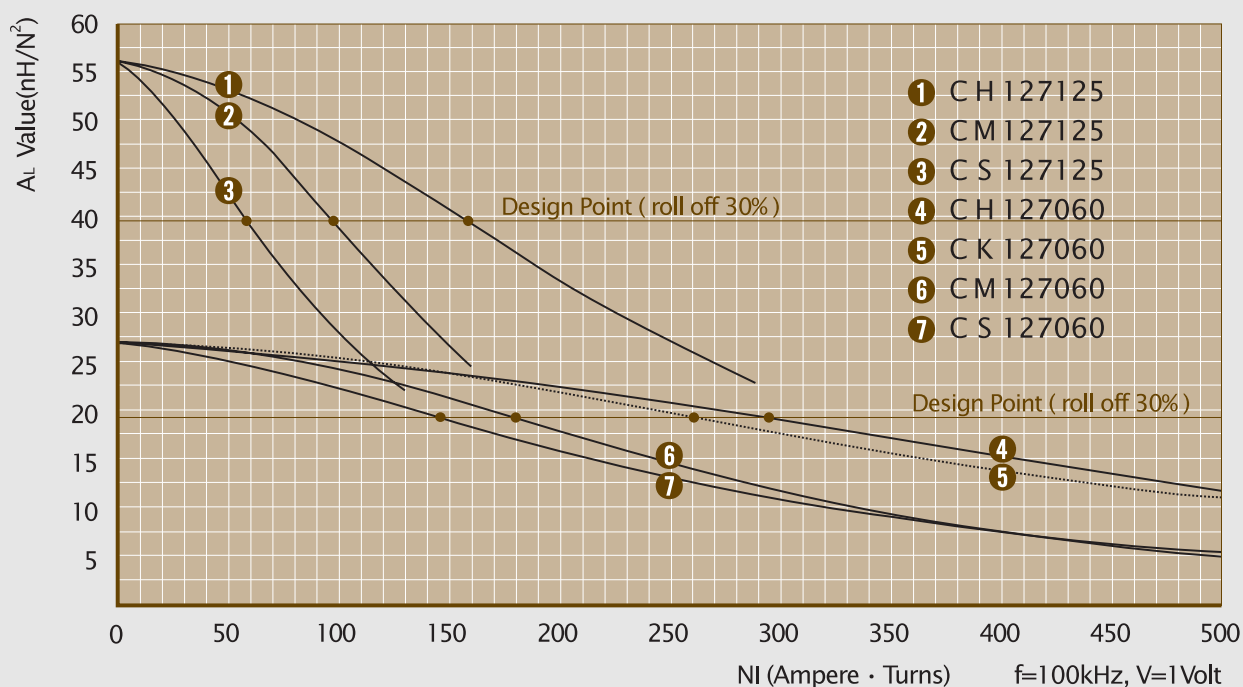
| MPP | Part No. | | | AL (mH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM127026 | CH127026 | CS127026 | CK127026 | 12 | 26 |
| CM127060 | CH127060 | CS127060 | CK127060 | 27 | 60 |
| - | - | CS127075 | CK127075 | 34 | 75 |
| - | - | CS127090 | CK127090 | 40 | 90 |
| CM127125 | CH127125 | CS127125 | - | 56 | 125 |
| CM127147 | CH127147 | - | - | 67 | 147 |
| CM127160 | CH127160 | - | - | 72 | 160 |
| CM127173 | - | - | - | 79 | 173 |
| CM127200 | - | - | - | 90 | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 15 | 0.153 | 10 | 0.00271 | 24 | 0.0566 | 31 | 0.0518 |
| 16 | 0.137 | 11 | 0.00376 | 25 | 0.0505 | 35 | 0.0723 |
| 17 | 0.122 | 13 | 0.00520 | 26 | 0.0452 | 40 | 0.101 |
| 18 | 0.109 | 15 | 0.00722 | 27 | 0.0409 | 45 | 0.140 |
| 19 | 0.0980 | 17 | 0.0100 | 28 | 0.0366 | 50 | 0.197 |
| 20 | 0.0879 | 19 | 0.0139 | 29 | 0.0330 | 56 | 0.269 |
| 21 | 0.0785 | 22 | 0.0193 | 30 | 0.0294 | 63 | 0.381 |
| 22 | 0.0701 | 25 | 0.0270 | 31 | 0.0267 | 69 | 0.527 |
| 23 | 0.0632 | 28 | 0.0371 | 32 | 0.0241 | 77 | 0.716 |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD 166

OD 16.51 mm / 0.650 inch

ID 10.16 mm
HT 6.35 mm



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 16.51 | 10.16 | 6.35 |
| | (inch) | 0.650 | 0.400 | 0.250 |
| After coating (Epoxy) | (mm) | 17.40 | 9.53 | 7.11 |
| | (inch) | 0.680 | 0.375 | 0.280 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|-----------------------|-----------------|----------------------|-----------------------|
| 0.1920cm ² | 4.11cm | 0.713cm ² | 0.7891cm ³ |
| 0.0298in ² | 1.619in | 140,600cmil | 0.0438in ³ |

Winding Information

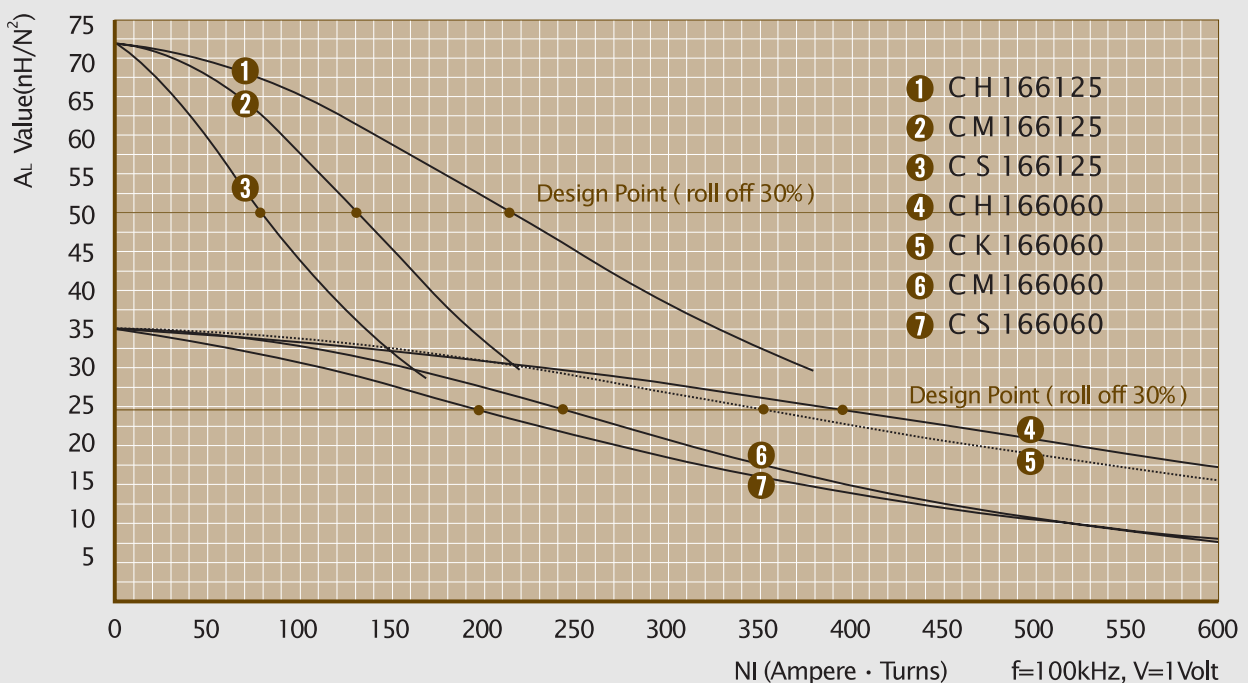
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 12 | 0.213 | 10 | 0.00165 | 21 | 0.0785 | 31 | 0.0323 |
| 13 | 0.190 | 11 | 0.00230 | 22 | 0.0701 | 35 | 0.0453 |
| 14 | 0.171 | 13 | 0.00318 | 23 | 0.0632 | 39 | 0.0626 |
| 15 | 0.153 | 15 | 0.00443 | 24 | 0.0566 | 44 | 0.0876 |
| 16 | 0.137 | 17 | 0.00617 | 25 | 0.0505 | 49 | 0.123 |
| 17 | 0.122 | 19 | 0.00856 | 26 | 0.0452 | 55 | 0.172 |
| 18 | 0.109 | 21 | 0.0119 | 27 | 0.0409 | 62 | 0.239 |
| 19 | 0.0980 | 24 | 0.0166 | 28 | 0.0366 | 69 | 0.336 |
| 20 | 0.0879 | 27 | 0.0231 | 29 | 0.0330 | 77 | 0.460 |

Single layer winding with 1 inch leads

Available Cores

| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM166026 | CH166026 | CS166026 | CK166026 | 15 | 26 |
| CM166060 | CH166060 | CS166060 | CK166060 | 35 | 60 |
| - | - | CS166075 | CK166075 | 43 | 75 |
| - | - | CS166090 | CK166090 | 52 | 90 |
| CM166125 | CH166125 | CS166125 | - | 72 | 125 |
| CM166147 | CH166147 | - | - | 88 | 147 |
| CM166160 | CH166160 | - | - | 92 | 160 |
| CM166173 | - | - | - | 104 | 173 |
| CM166200 | - | - | - | 115 | 200 |

AL vs NI Curve (60μ, 125μ)



OD 172

OD 17.27mm / 0.680inch



ID 9.65mm
HT 6.35mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 17.27 | 9.65 | 6.35 |
| | (inch) | 0.680 | 0.380 | 0.250 |
| After coating (Epoxy) | (mm) | 18.03 | 9.02 | 7.11 |
| | (inch) | 0.710 | 0.355 | 0.280 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|-----------------------|-----------------|----------------------|------------------------|
| 0.232cm ² | 4.14cm | 0.683cm ² | 0.9605cm ³ |
| 0.0360in ² | 1.63in | 126,000cmil | 0.05868in ³ |

Available Cores

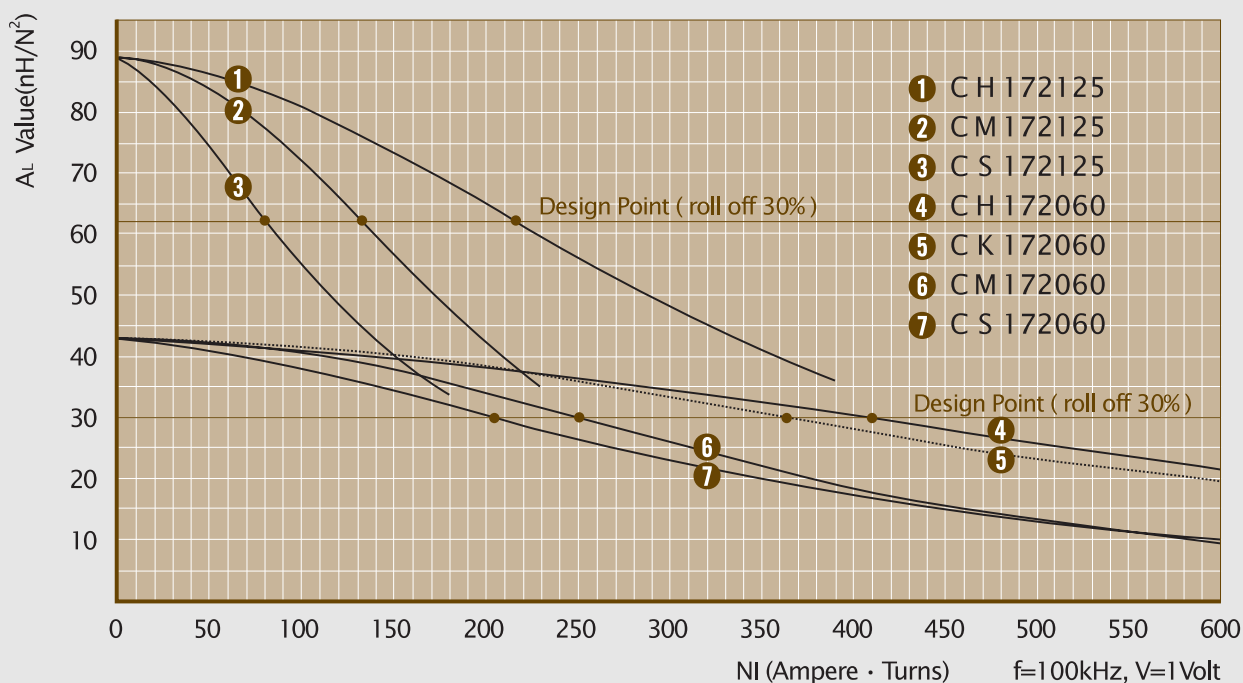
| MPP | Part No. | | | AL (mH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM172026 | CH172026 | CS172026 | CK172026 | 19 | 26 |
| CM172060 | CH172060 | CS172060 | CK172060 | 43 | 60 |
| - | - | CS172075 | CK172075 | 53 | 75 |
| - | - | CS172090 | CK172090 | 64 | 90 |
| CM172125 | CH172125 | CS172125 | - | 89 | 125 |
| CM172147 | CH172147 | - | - | 105 | 147 |
| CM172160 | CH172160 | - | - | 114 | 160 |
| CM172173 | - | - | - | 123 | 173 |
| CM172200 | - | - | - | 142 | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc,Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc,Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 12 | 0.213 | 9 | 0.00161 | 21 | 0.0785 | 29 | 0.0319 |
| 13 | 0.190 | 10 | 0.00225 | 22 | 0.0701 | 33 | 0.0449 |
| 14 | 0.171 | 12 | 0.00311 | 23 | 0.0632 | 37 | 0.0621 |
| 15 | 0.153 | 14 | 0.00434 | 24 | 0.0566 | 41 | 0.0869 |
| 16 | 0.137 | 16 | 0.00606 | 25 | 0.0505 | 47 | 0.122 |
| 17 | 0.122 | 18 | 0.00843 | 26 | 0.0452 | 52 | 0.171 |
| 18 | 0.109 | 20 | 0.0118 | 27 | 0.0409 | 58 | 0.237 |
| 19 | 0.0980 | 23 | 0.0164 | 28 | 0.0366 | 65 | 0.334 |
| 20 | 0.0879 | 26 | 0.0228 | 29 | 0.0330 | 73 | 0.458 |

Single layer winding with 1 inch leads

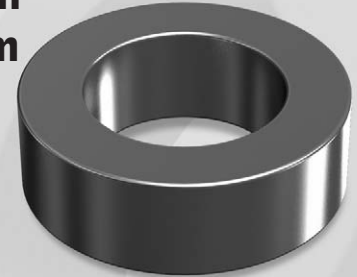
AL vs NI Curve (60μ, 125μ)



OD203

OD 20.32mm / 0.800inch

ID 12.70mm
HT 6.35mm



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 20.32 | 12.70 | 6.35 |
| | (inch) | 0.800 | 0.500 | 0.250 |
| After coating (Epoxy) | (mm) | 21.1 | 12.07 | 7.11 |
| | (inch) | 0.830 | 0.475 | 0.280 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|---------------------|------------------------|
| 0.226cm ² | 5.09cm | 1.14cm ² | 1.1510cm ³ |
| 0.035in ² | 2.01in | 225,600cmil | 0.07035in ³ |

Winding Information

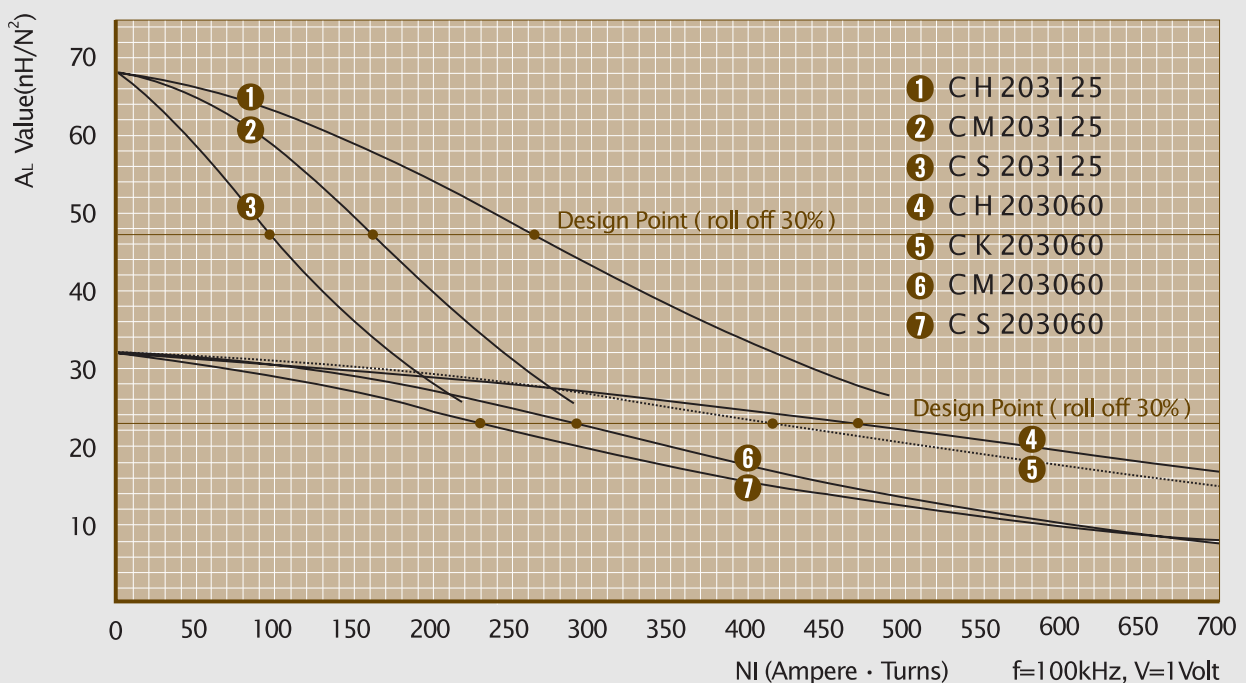
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 12 | 0.213 | 13 | 0.00221 | 21 | 0.0785 | 40 | 0.0430 |
| 13 | 0.190 | 15 | 0.00307 | 22 | 0.0701 | 45 | 0.0604 |
| 14 | 0.171 | 17 | 0.00424 | 23 | 0.0632 | 50 | 0.0834 |
| 15 | 0.153 | 19 | 0.00590 | 24 | 0.0566 | 56 | 0.117 |
| 16 | 0.137 | 22 | 0.00822 | 25 | 0.0505 | 63 | 0.164 |
| 17 | 0.122 | 25 | 0.0114 | 26 | 0.0452 | 71 | 0.230 |
| 18 | 0.109 | 28 | 0.0159 | 27 | 0.0409 | 79 | 0.318 |
| 19 | 0.0980 | 32 | 0.0222 | 28 | 0.0366 | 89 | 0.448 |
| 20 | 0.0879 | 35 | 0.0308 | 29 | 0.0330 | 98 | 0.614 |

Single layer winding with 1 inch leads

Available Cores

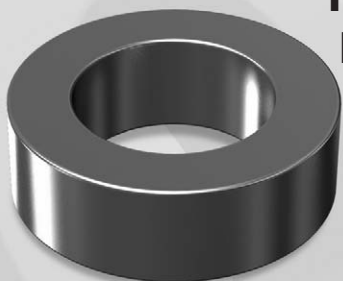
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM203026 | CH203026 | CS203026 | CK203026 | 14 | 26 |
| CM203060 | CH203060 | CS203060 | CK203060 | 32 | 60 |
| - | - | CS203075 | CK203075 | 41 | 75 |
| - | - | CS203090 | CK203090 | 49 | 90 |
| CM203125 | CH203125 | CS203125 | - | 68 | 125 |
| CM203147 | CH203147 | - | - | 81 | 147 |
| CM203160 | CH203160 | - | - | 87 | 160 |
| CM203173 | - | - | - | 96 | 173 |
| CM203200 | - | - | - | 109 | 200 |

AL vs NI Curve (60μ, 125μ)



OD229

OD 22.86mm / 0.900inch



ID 13.97mm
HT 7.62mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 22.86 | 13.97 | 7.62 |
| | (inch) | 0.900 | 0.550 | 0.300 |
| After coating (Epoxy) | (mm) | 23.62 | 13.39 | 8.38 |
| | (inch) | 0.930 | 0.527 | 0.330 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|------------------------|-----------------|---------------------|------------------------|
| 0.331cm ² | 5.67cm | 1.41cm ² | 1.8771cm ³ |
| 00.0513in ² | 2.23in | 277,700cmil | 0.11455in ³ |

Available Cores

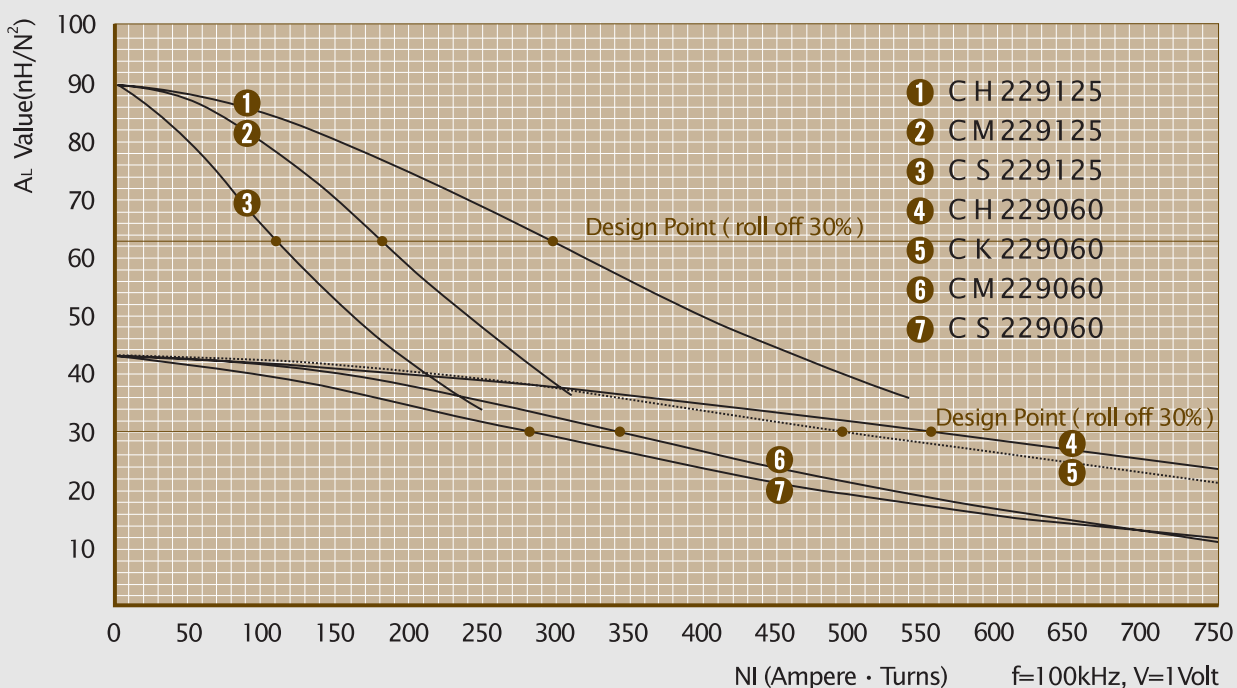
| MPP | Part No. | | | AL (mH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM229026 | CH229026 | CS229026 | CK229026 | 19 | 26 |
| CM229060 | CH229060 | CS229060 | CK229060 | 43 | 60 |
| - | - | CS229075 | CK229075 | 54 | 75 |
| - | - | CS229090 | CK229090 | 65 | 90 |
| CM229125 | CH229125 | CS229125 | - | 90 | 125 |
| CM229147 | CH229147 | - | - | 106 | 147 |
| CM229160 | CH229160 | - | - | 115 | 160 |
| CM229173 | - | - | - | 124 | 173 |
| CM229200 | - | - | - | 144 | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 12 | 0.213 | 15 | 0.00276 | 21 | 0.0785 | 45 | 0.0548 |
| 13 | 0.190 | 17 | 0.00384 | 22 | 0.0701 | 50 | 0.0771 |
| 14 | 0.171 | 19 | 0.00532 | 23 | 0.0632 | 56 | 0.107 |
| 15 | 0.153 | 22 | 0.00742 | 24 | 0.0566 | 63 | 0.150 |
| 16 | 0.137 | 25 | 0.0104 | 25 | 0.0505 | 71 | 0.210 |
| 17 | 0.122 | 28 | 0.0144 | 26 | 0.0452 | 79 | 0.295 |
| 18 | 0.109 | 31 | 0.0202 | 27 | 0.0409 | 88 | 0.409 |
| 19 | 0.0980 | 35 | 0.0281 | 28 | 0.0366 | 99 | 0.577 |
| 20 | 0.0879 | 40 | 0.0392 | 29 | 0.0330 | 109 | 0.791 |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD234

Core Dimensions

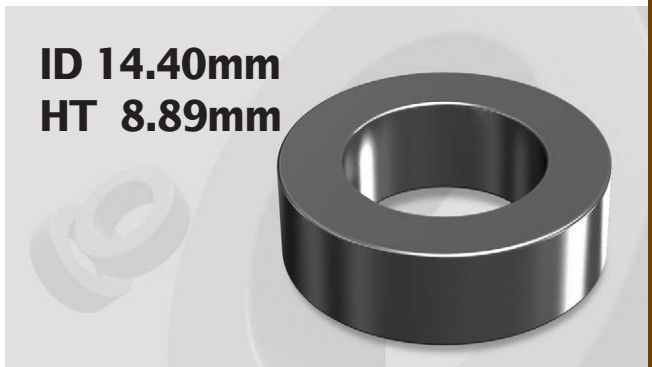
| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 23.57 | 14.40 | 8.89 |
| | (inch) | 0.928 | 0.567 | 0.350 |
| After coating (Epoxy) | (mm) | 24.30 | 13.77 | 9.70 |
| | (inch) | 0.956 | 0.542 | 0.382 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|---------------------|-----------------------|
| 0.388cm ² | 5.88cm | 1.49cm ² | 2.2814cm ³ |
| 0.061in ² | 2.32in | 293,800cmil | 0.1415in ³ |

OD 23.57mm / 0.928inch

ID 14.40mm
HT 8.89mm



Winding Information

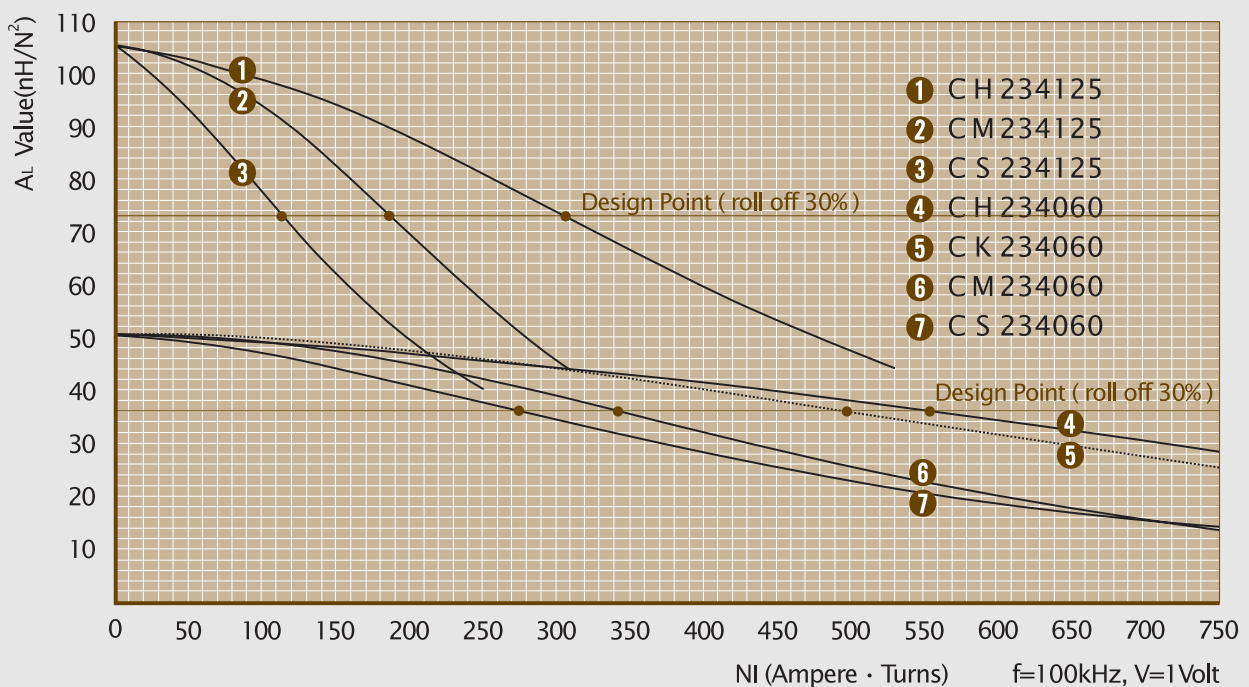
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 12 | 0.213 | 15 | 0.00307 | 21 | 0.0785 | 46 | 0.0620 |
| 13 | 0.190 | 17 | 0.00429 | 22 | 0.0701 | 52 | 0.0874 |
| 14 | 0.171 | 20 | 0.00595 | 23 | 0.0632 | 58 | 0.1210 |
| 15 | 0.153 | 22 | 0.00832 | 24 | 0.0566 | 65 | 0.170 |
| 16 | 0.137 | 25 | 0.0116 | 25 | 0.0505 | 73 | 0.238 |
| 17 | 0.122 | 29 | 0.0162 | 26 | 0.0452 | 81 | 0.336 |
| 18 | 0.109 | 32 | 0.0227 | 27 | 0.0409 | 91 | 0.465 |
| 19 | 0.0980 | 36 | 0.0318 | 28 | 0.0366 | 101 | 0.657 |
| 20 | 0.0879 | 41 | 0.0443 | 29 | 0.0330 | 112 | 0.901 |

Single layer winding with 1 inch leads

Available Cores

| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM234026 | CH234026 | CS234026 | CK234026 | 22 | 26 |
| CM234060 | CH234060 | CS234060 | CK234060 | 51 | 60 |
| - | - | CS234075 | CK234075 | 63 | 75 |
| - | - | CS234090 | CK234090 | 76 | 90 |
| CM234125 | CH234125 | CS234125 | - | 105 | 125 |
| CM234147 | CH234147 | - | - | 124 | 147 |
| CM234160 | CH234160 | - | - | 135 | 160 |
| CM234173 | - | - | - | 146 | 173 |
| CM234200 | - | - | - | 169 | 200 |

AL vs NI Curve (60μ, 125μ)



OD270

OD 26.92mm / 1.060inches



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 26.92 | 14.73 | 11.18 |
| | (inch) | 1.060 | 0.580 | 0.440 |
| After coating (Epoxy) | (mm) | 27.70 | 14.10 | 11.99 |
| | (inch) | 1.090 | 0.555 | 0.472 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|-----------------------|-----------------|---------------------|-----------------------|
| 0.654cm ² | 6.35cm | 1.56cm ² | 4.154cm ³ |
| 0.1014in ² | 2.50in | 308,000cmil | 0.2536in ³ |

Available Cores

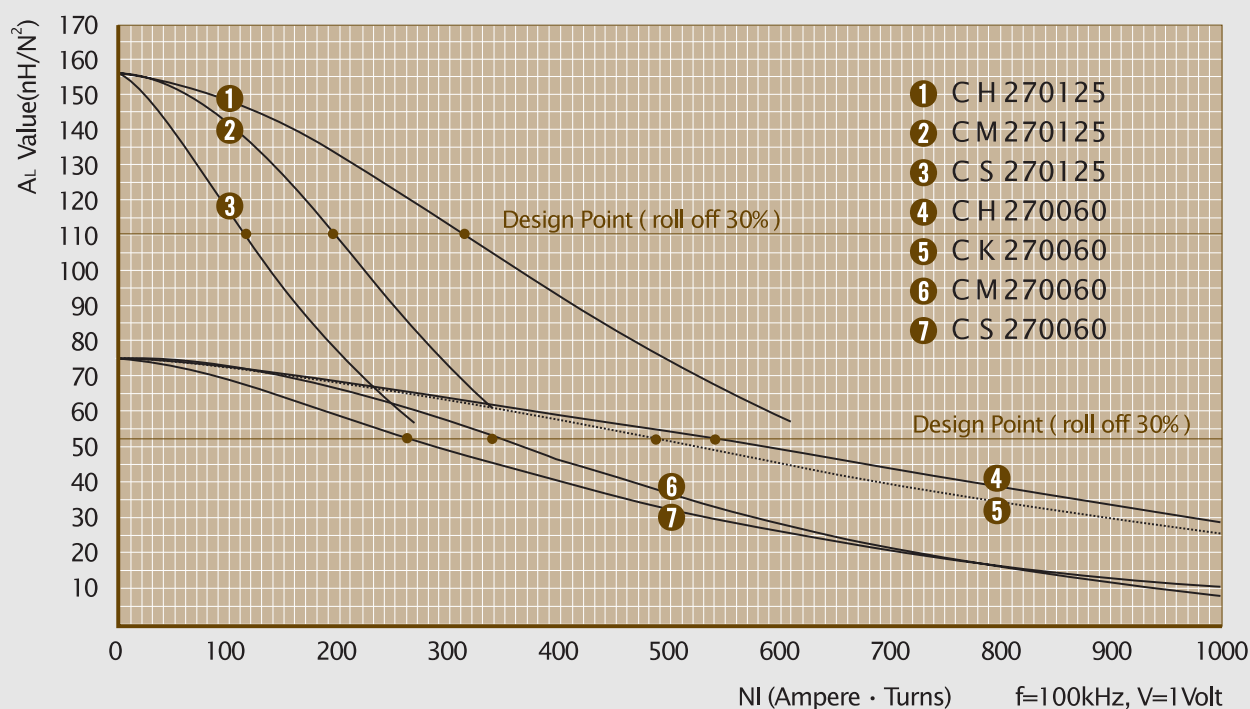
| MPP | Part No. | | | AL (mH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux [®] | | |
| CM270026 | CH270026 | CS270026 | CK270026 | 32 | 26 |
| CM270060 | CH270060 | CS270060 | CK270060 | 75 | 60 |
| - | - | CS270075 | CK270075 | 94 | 75 |
| - | - | CS270090 | CK270090 | 113 | 90 |
| CM270125 | CH270125 | CS270125 | - | 157 | 125 |
| CM270147 | CH270147 | - | - | 185 | 147 |
| CM270160 | CH270160 | - | - | 201 | 160 |
| CM270173 | - | - | - | 217 | 173 |
| CM270200 | - | - | - | 251 | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 12 | 0.213 | 16 | 0.00367 | 21 | 0.0785 | 47 | 0.0759 |
| 13 | 0.190 | 18 | 0.00514 | 22 | 0.0701 | 53 | 0.107 |
| 14 | 0.171 | 20 | 0.00715 | 23 | 0.0632 | 59 | 0.149 |
| 15 | 0.153 | 23 | 0.0100 | 24 | 0.0566 | 66 | 0.209 |
| 16 | 0.137 | 26 | 0.0141 | 25 | 0.0505 | 74 | 0.294 |
| 17 | 0.122 | 29 | 0.0197 | 26 | 0.0452 | 83 | 0.414 |
| 18 | 0.109 | 33 | 0.0276 | 27 | 0.0409 | 93 | 0.575 |
| 19 | 0.0980 | 37 | 0.0387 | 28 | 0.0366 | 104 | 0.812 |
| 20 | 0.0879 | 42 | 0.0541 | 29 | 0.0330 | 115 | 1.11 |

Single layer winding with 1 inch leads

■ AL vs NI Curve (60μ, 125μ)



OD330

Core Dimensions

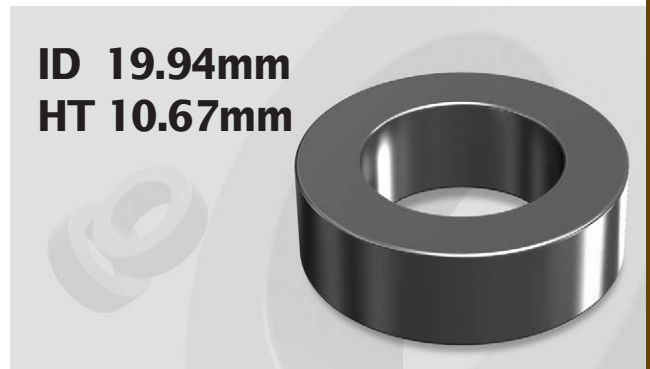
| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 33.02 | 19.94 | 10.67 |
| | (inch) | 1.300 | 0.785 | 0.420 |
| After coating (Epoxy) | (mm) | 33.83 | 19.30 | 11.61 |
| | (inch) | 1.332 | 0.760 | 0.457 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|-----------------------|-----------------|---------------------|-----------------------|
| 00.672cm ² | 8.15cm | 2.93cm ² | 5.4768cm ³ |
| 0.1042in ² | 3.21in | 577,600cmil | 0.3345in ³ |

OD 33.02mm / 1.300inches

ID 19.94mm
HT 10.67mm



Winding Information

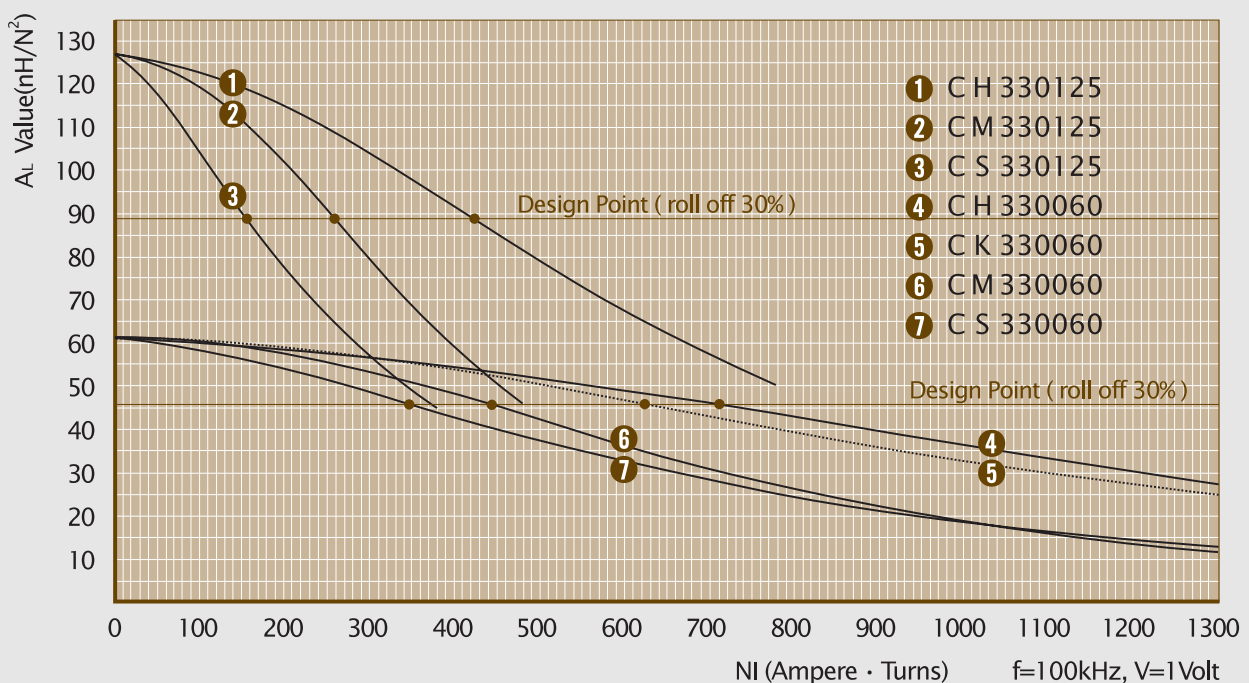
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 12 | 0.213 | 23 | 0.00517 | 21 | 0.0785 | 66 | 0.105 |
| 13 | 0.190 | 26 | 0.00722 | 22 | 0.0701 | 74 | 0.148 |
| 14 | 0.171 | 29 | 0.0100 | 23 | 0.0632 | 82 | 0.206 |
| 15 | 0.153 | 32 | 0.0140 | 24 | 0.0566 | 92 | 0.289 |
| 16 | 0.137 | 37 | 0.0197 | 25 | 0.0505 | 103 | 0.406 |
| 17 | 0.122 | 41 | 0.0274 | 26 | 0.0452 | 115 | 0.572 |
| 18 | 0.109 | 46 | 0.0384 | 27 | 0.0409 | 128 | 0.794 |
| 19 | 0.0980 | 52 | 0.0538 | 28 | 0.0366 | 143 | 1.12 |
| 20 | 0.0879 | 58 | 0.0750 | 29 | 0.0330 | 159 | 1.54 |

Single layer winding with 1 inch leads

Available Cores

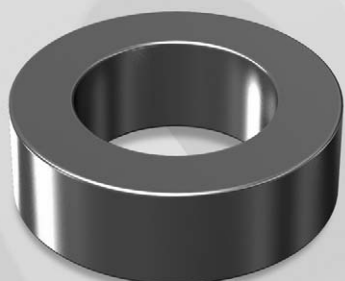
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM330026 | CH330026 | CS330026 | CK330026 | 28 | 26 |
| CM330060 | CH330060 | CS330060 | CK330060 | 61 | 60 |
| - | - | CS330075 | CK330075 | 76 | 75 |
| - | - | CS330090 | CK330090 | 91 | 90 |
| CM330125 | CH330125 | CS330125 | - | 127 | 125 |
| CM330147 | CH330147 | - | - | 150 | 147 |
| CM330160 | CH330160 | - | - | 163 | 160 |
| CM330173 | - | - | - | 176 | 173 |
| - | - | - | - | 203 | 200 |

AL vs NI Curve (60μ, 125μ)



OD343

OD 34.29mm / 1.350inches



ID 23.37mm
HT 8.89mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 34.29 | 23.37 | 8.89 |
| | (inch) | 1.350 | 0.920 | 0.350 |
| After coating (Epoxy) | (mm) | 35.20 | 22.60 | 9.83 |
| | (inch) | 1.385 | 0.888 | 0.387 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|-----------------------|-----------------|---------------------|-----------------------|
| 0.454cm ² | 8.95cm | 4.01cm ² | 4.0633cm ³ |
| 0.0704in ² | 3.53in | 788,500cmil | 0.2485in ³ |

Available Cores

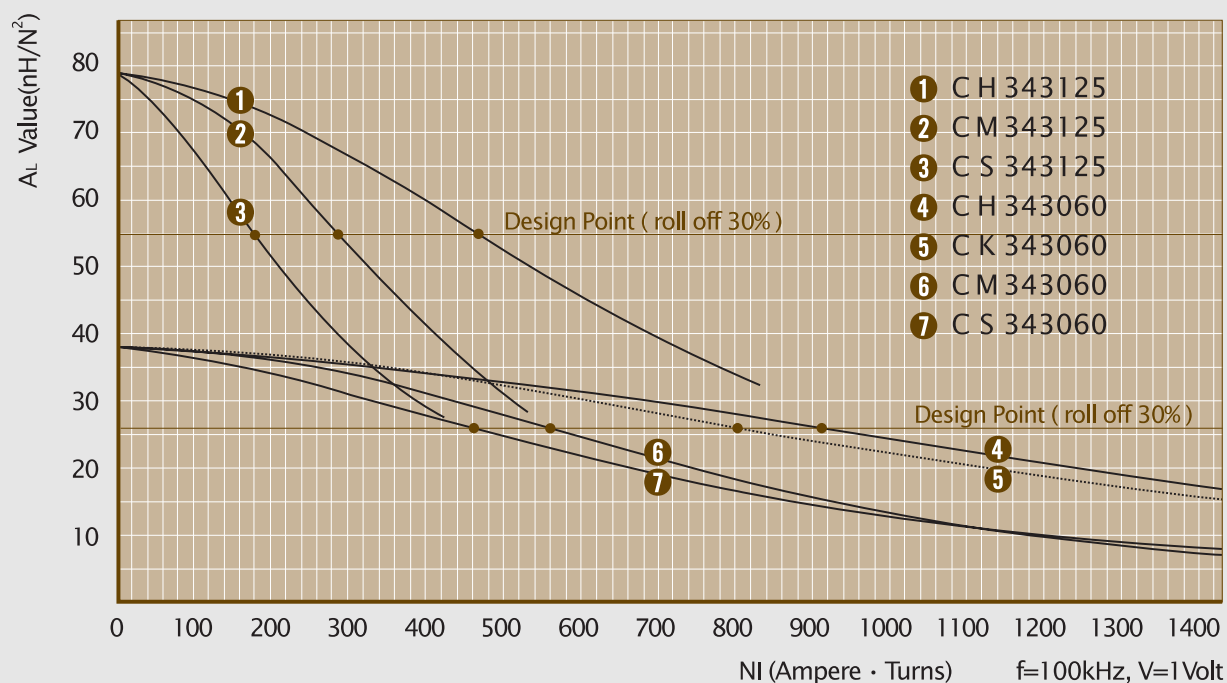
| MPP | Part No. | | | AL (mH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux [®] | | |
| CM343026 | CH343026 | CS343026 | CK343026 | 16 | 26 |
| CM343060 | CH343060 | CS343060 | CK343060 | 38 | 60 |
| - | - | CS343075 | CK343075 | 47 | 75 |
| - | - | CS343090 | CK343090 | 57 | 90 |
| CM343125 | CH343125 | CS343125 | - | 79 | 125 |
| CM343147 | CH343147 | - | - | 93 | 147 |
| CM343160 | CH343160 | - | - | 101 | 160 |
| CM343173 | - | - | - | 109 | 173 |
| - | - | - | - | 126 | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Single Layer Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Single Layer Rdc, Ω |
|--------------|----------------------|------|---------------------|--------------|----------------------|------|---------------------|
| 12 | 0.213 | 27 | 0.00533 | 21 | 0.0785 | 77 | 0.105 |
| 13 | 0.190 | 30 | 0.00740 | 22 | 0.0701 | 87 | 0.148 |
| 14 | 0.171 | 34 | 0.0102 | 23 | 0.0632 | 96 | 0.206 |
| 15 | 0.153 | 38 | 0.0143 | 24 | 0.0566 | 108 | 0.288 |
| 16 | 0.137 | 43 | 0.0199 | 25 | 0.0505 | 121 | 0.404 |
| 17 | 0.122 | 49 | 0.0277 | 26 | 0.0452 | 135 | 0.569 |
| 18 | 0.109 | 55 | 0.0388 | 27 | 0.0409 | 150 | 0.789 |
| 19 | 0.0980 | 61 | 0.0541 | 28 | 0.0366 | 168 | 1.11 |
| 20 | 0.0879 | 69 | 0.0754 | 29 | 0.0330 | 186 | 1.53 |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD358

Core Dimensions

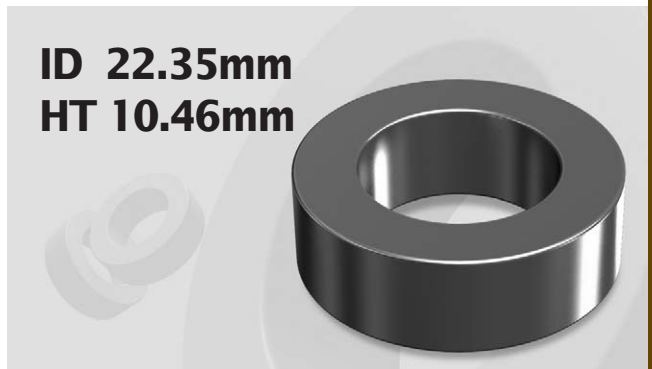
| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 35.81 | 22.35 | 10.46 |
| | (inch) | 1.410 | 0.880 | 0.412 |
| After coating (Epoxy) | (mm) | 36.70 | 21.50 | 11.28 |
| | (inch) | 1.445 | 0.848 | 0.444 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|-----------------------|-----------------|---------------------|-----------------------|
| 0.678cm ² | 8.98cm | 3.64cm ² | 6.0884cm ³ |
| 0.1051in ² | 3.54in | 719,100cmil | 0.3721in ³ |

OD 35.81 mm / 1.410 inches

ID 22.35mm
HT 10.46mm



Winding Information

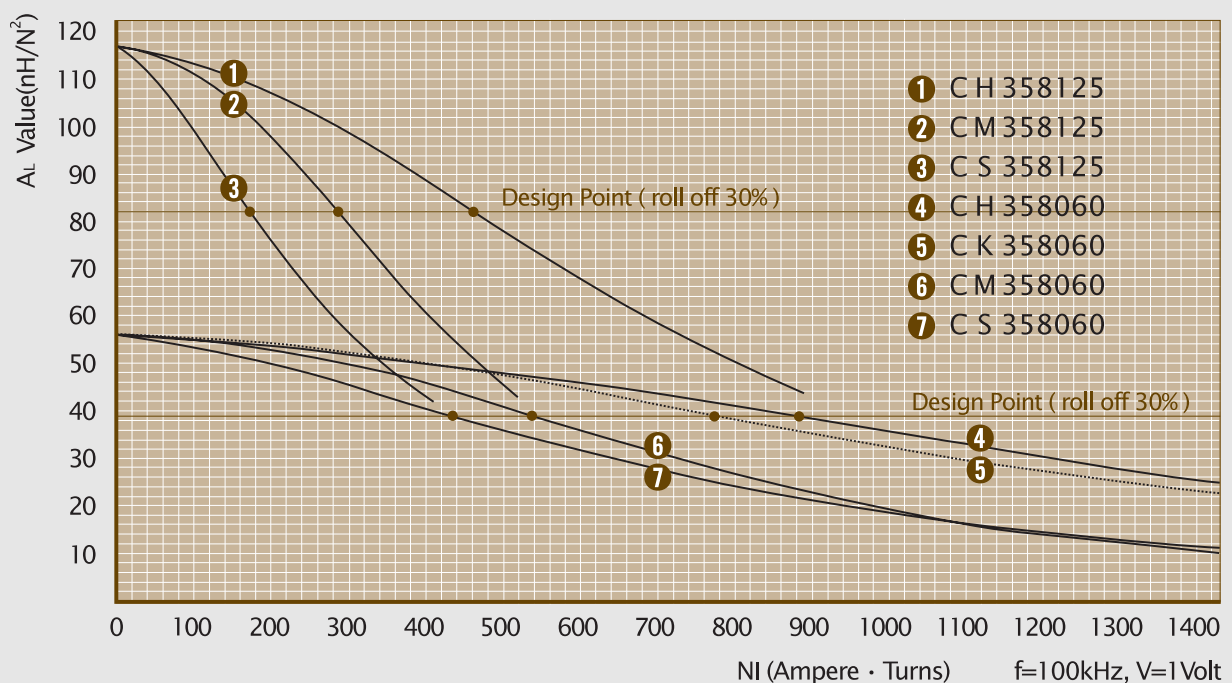
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 12 | 0.213 | 25 | 0.00579 | 21 | 0.0785 | 74 | 0.117 |
| 13 | 0.190 | 29 | 0.00809 | 22 | 0.0701 | 82 | 0.166 |
| 14 | 0.171 | 32 | 0.0112 | 23 | 0.0632 | 92 | 0.229 |
| 15 | 0.153 | 37 | 0.0157 | 24 | 0.0566 | 103 | 0.322 |
| 16 | 0.137 | 41 | 0.0220 | 25 | 0.0505 | 115 | 0.452 |
| 17 | 0.122 | 46 | 0.0306 | 26 | 0.0452 | 129 | 0.637 |
| 18 | 0.109 | 52 | 0.0429 | 27 | 0.0409 | 143 | 0.885 |
| 19 | 0.0980 | 58 | 0.0600 | 28 | 0.0366 | 160 | 1.25 |
| 20 | 0.0879 | 65 | 0.0837 | 29 | 0.0330 | 177 | 1.71 |

Single layer winding with 1 inch leads

Available Cores

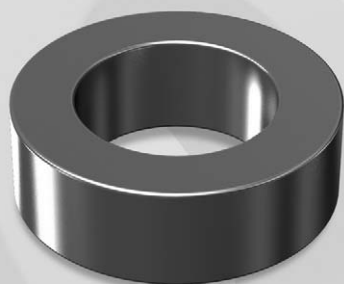
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM358026 | CH358026 | CS358026 | CK358026 | 24 | 26 |
| CM358060 | CH358060 | CS358060 | CK358060 | 56 | 60 |
| - | - | CS358075 | CK358075 | 70 | 75 |
| - | - | CS358090 | CK358090 | 84 | 90 |
| CM358125 | CH358125 | CS358125 | - | 117 | 125 |
| CM358147 | CH358147 | - | - | 138 | 147 |
| CM358160 | CH358160 | - | - | 150 | 160 |
| CM358173 | - | - | - | 162 | 173 |
| - | - | - | - | 187 | 200 |

AL vs NI Curve (60μ, 125μ)



OD400

OD 39.88mm / 1.570inches



**ID 24.13mm
HT 14.48mm**

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|--------------------------|--------|---------|---------|---------|
| Before coating | (mm) | 39.88 | 24.13 | 14.48 |
| | (inch) | 1.570 | 0.950 | 0.570 |
| After coating (Epoxy) | (mm) | 40.70 | 23.30 | 15.37 |
| | (inch) | 1.602 | 0.918 | 0.605 |

Magnetic Dimensions

| Cross Section (A) | Path Length (l) | Window Area (W_a) | Volume (V) |
|-----------------------|------------------------|--------------------------|------------------------|
| 1.072cm ² | 9.84cm | 4.27cm ² | 10.5485cm ³ |
| 0.1662in ² | 3.88in | 842,700cmil | 0.6449in ³ |

Available Cores

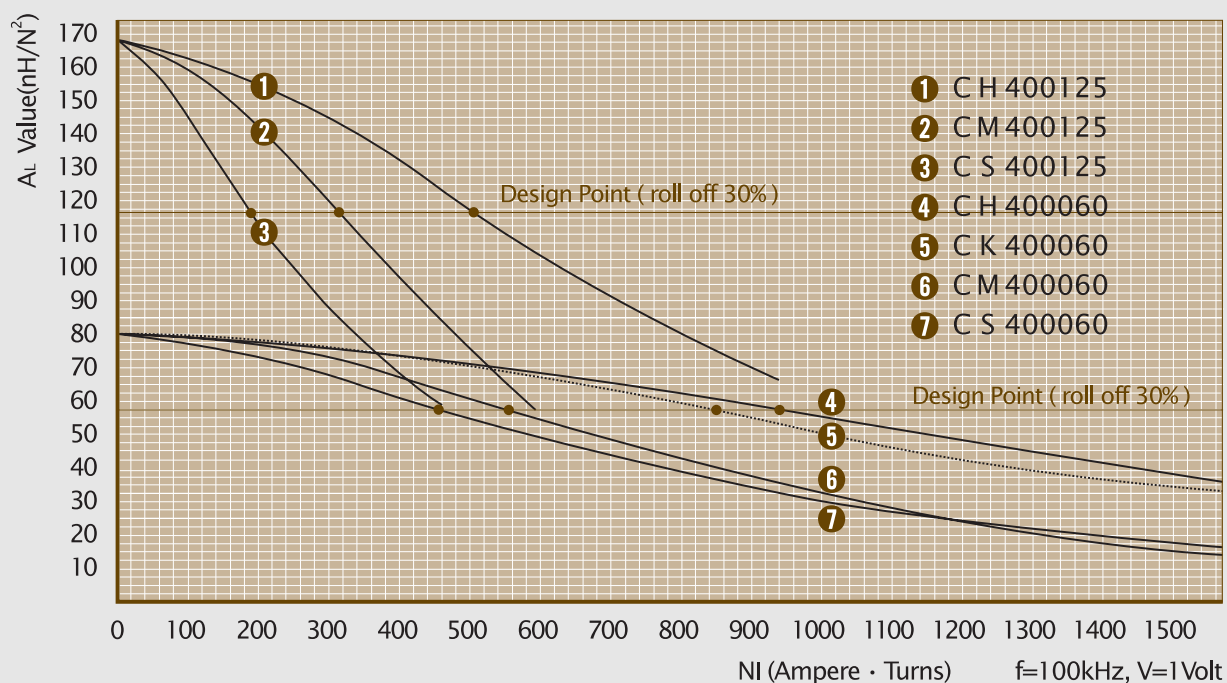
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------------------|----------------------------|--------------------|
| | High Flux | Sendust | Mega Flux [®] | | |
| CM400026 | CH400026 | CS400026 | CK400026 | 35 | 26 |
| CM400060 | CH400060 | CS400060 | CK400060 | 81 | 60 |
| - | - | CS400075 | CK400075 | 101 | 75 |
| - | - | CS400090 | CK400090 | 121 | 90 |
| CM400125 | CH400125 | CS400125 | - | 168 | 125 |
| CM400147 | CH400147 | - | - | 198 | 147 |
| CM400160 | CH400160 | - | - | 215 | 160 |
| CM400173 | - | - | - | 233 | 173 |
| - | - | - | - | 269 | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|-----------------|-------------------------|------|---------------|-----------------|-------------------------|------|---------------|
| 10 | 0.213 | 22 | 0.00389 | 19 | 0.0785 | 64 | 0.0804 |
| 11 | 0.190 | 25 | 0.00545 | 20 | 0.0701 | 71 | 0.112 |
| 12 | 0.171 | 28 | 0.00762 | 21 | 0.0632 | 80 | 0.158 |
| 13 | 0.153 | 31 | 0.0107 | 22 | 0.0566 | 90 | 0.223 |
| 14 | 0.137 | 35 | 0.0148 | 23 | 0.0505 | 100 | 0.309 |
| 15 | 0.122 | 40 | 0.0208 | 24 | 0.0452 | 112 | 0.435 |
| 16 | 0.109 | 45 | 0.0292 | 25 | 0.0409 | 125 | 0.611 |
| 17 | 0.0980 | 50 | 0.0408 | 26 | 0.0366 | 140 | 0.862 |
| 18 | 0.0879 | 57 | 0.0574 | 27 | 0.0330 | 155 | 1.20 |

Single layer winding with 1 inch leads

■ AL vs NI Curve (60 μ , 125 μ)



OD467

Core Dimensions

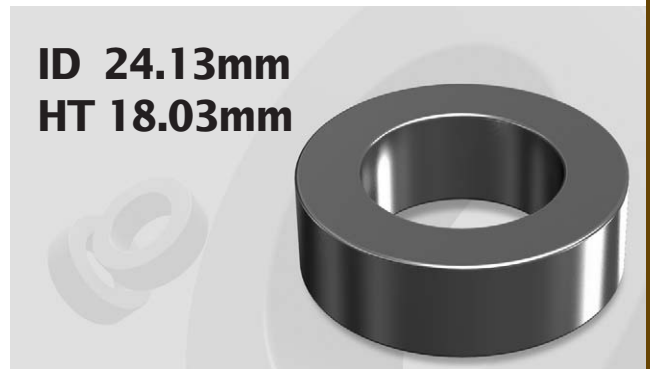
| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 46.74 | 24.13 | 18.03 |
| | (inch) | 1.840 | 0.950 | 0.710 |
| After coating (Epoxy) | (mm) | 47.60 | 23.30 | 18.92 |
| | (inch) | 1.875 | 0.918 | 0.745 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|---------------------|-----------------------|
| 1.990cm ² | 10.74cm | 4.27cm ² | 21.373cm ³ |
| 0.308in ² | 4.23in | 842,700cmil | 1.303in ³ |

OD 46.74mm / 1.840inches

ID 24.13mm
HT 18.03mm



Winding Information

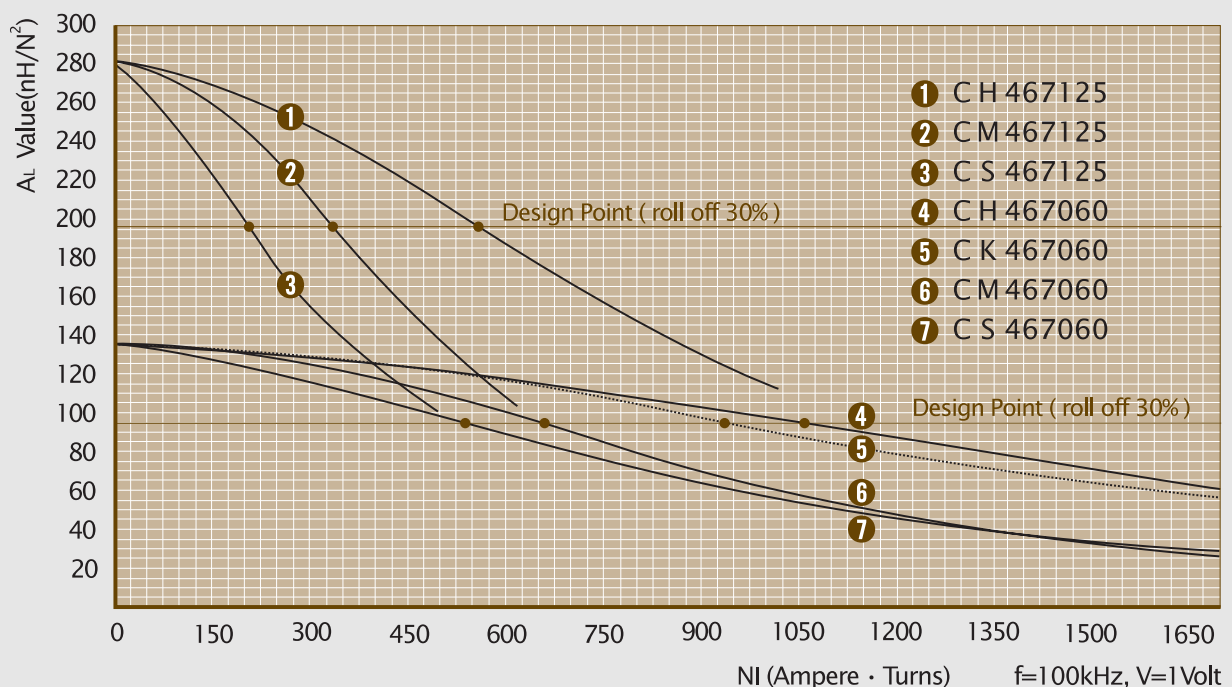
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|--------|--------------|----------------------|------|--------|
| 10 | 0.213 | 22 | 0.0488 | 19 | 0.0785 | 64 | 0.104 |
| 11 | 0.190 | 25 | 0.0688 | 20 | 0.0701 | 71 | 0.146 |
| 12 | 0.171 | 28 | 0.0966 | 21 | 0.0632 | 80 | 0.205 |
| 13 | 0.153 | 31 | 0.0136 | 22 | 0.0566 | 90 | 0.290 |
| 14 | 0.137 | 35 | 0.0189 | 23 | 0.0505 | 100 | 0.403 |
| 15 | 0.122 | 40 | 0.0267 | 24 | 0.0452 | 112 | 0.567 |
| 16 | 0.109 | 45 | 0.0375 | 25 | 0.0409 | 125 | 0.798 |
| 17 | 0.0980 | 50 | 0.0526 | 26 | 0.0366 | 140 | 1.13 |
| 18 | 0.0879 | 57 | 0.0740 | 27 | 0.0330 | 155 | 1.57 |

Single layer winding with 1 inch leads

Available Cores

| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM467026 | CH467026 | CS467026 | CK467026 | 59 | 26 |
| CM467060 | CH467060 | CS467060 | CK467060 | 135 | 60 |
| - | - | CS467075 | CK467075 | 169 | 75 |
| - | - | CS467090 | CK467090 | 202 | 90 |
| CM467125 | CH467125 | CS467125 | - | 281 | 125 |
| CM467147 | - | - | - | 330 | 147 |
| CM467160 | - | - | - | 360 | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

AL vs NI Curve (60μ, 125μ)



OD468

OD 46.74mm / 1.840inches



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 46.74 | 28.70 | 15.24 |
| | (inch) | 1.840 | 1.130 | 0.600 |
| After coating (Epoxy) | (mm) | 47.60 | 27.90 | 16.13 |
| | (inch) | 1.875 | 1.098 | 0.635 |

Magnetic Dimensions

| Cross Section (A) | Path Length (L) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|---------------------|-----------------------|
| 1.340cm ² | 11.63cm | 6.11cm ² | 15.584cm ³ |
| 0.208in ² | 4.58in | 1,206,000cmil | 0.9526in ³ |

Available Cores

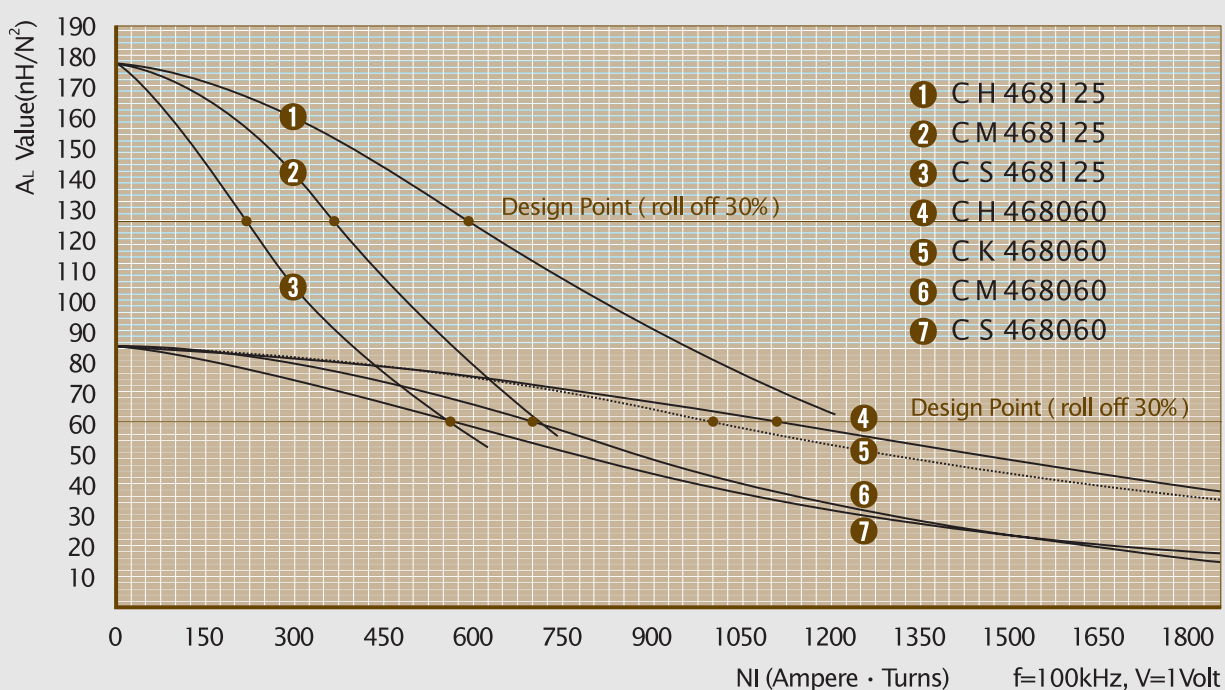
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM468026 | CH468026 | CS468026 | CK468026 | 37 | 26 |
| CM468060 | CH468060 | CS468060 | CK468060 | 86 | 60 |
| - | - | CS468075 | CK468075 | 107 | 75 |
| - | - | CS468090 | CK468090 | 128 | 90 |
| CM468125 | CH468125 | CS468125 | - | 178 | 125 |
| CM468147 | - | - | - | 210 | 147 |
| CM468160 | - | - | - | 228 | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 10 | 0.267 | 26 | 0.00505 | 19 | 0.0980 | 77 | 0.104 |
| 11 | 0.238 | 30 | 0.00708 | 20 | 0.0879 | 86 | 0.146 |
| 12 | 0.213 | 34 | 0.0099 | 21 | 0.0785 | 96 | 0.205 |
| 13 | 0.190 | 38 | 0.0139 | 22 | 0.0701 | 108 | 0.290 |
| 14 | 0.171 | 43 | 0.0193 | 23 | 0.0632 | 120 | 0.402 |
| 15 | 0.153 | 48 | 0.0270 | 24 | 0.0566 | 134 | 0.565 |
| 16 | 0.137 | 54 | 0.0380 | 25 | 0.0505 | 150 | 0.795 |
| 17 | 0.122 | 61 | 0.0530 | 26 | 0.0452 | 168 | 1.12 |
| 18 | 0.109 | 68 | 0.0745 | 27 | 0.0409 | 186 | 1.56 |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD 508

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 50.80 | 31.75 | 13.46 |
| | (inch) | 2.000 | 1.250 | 0.530 |
| After coating (Epoxy) | (mm) | 51.70 | 30.90 | 14.35 |
| | (inch) | 2.035 | 1.218 | 0.565 |

Magnetic Dimensions

| Cross Section (A) | Path Length (l) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|---------------------|-----------------------|
| 1.251cm ² | 12.73cm | 7.50cm ² | 15.929cm ³ |
| 0.194in ² | 5.02in | 1,484,000cmil | 0.9739in ³ |

OD 50.80mm / 2.000inches

ID 31.75mm
HT 13.46mm



Winding Information

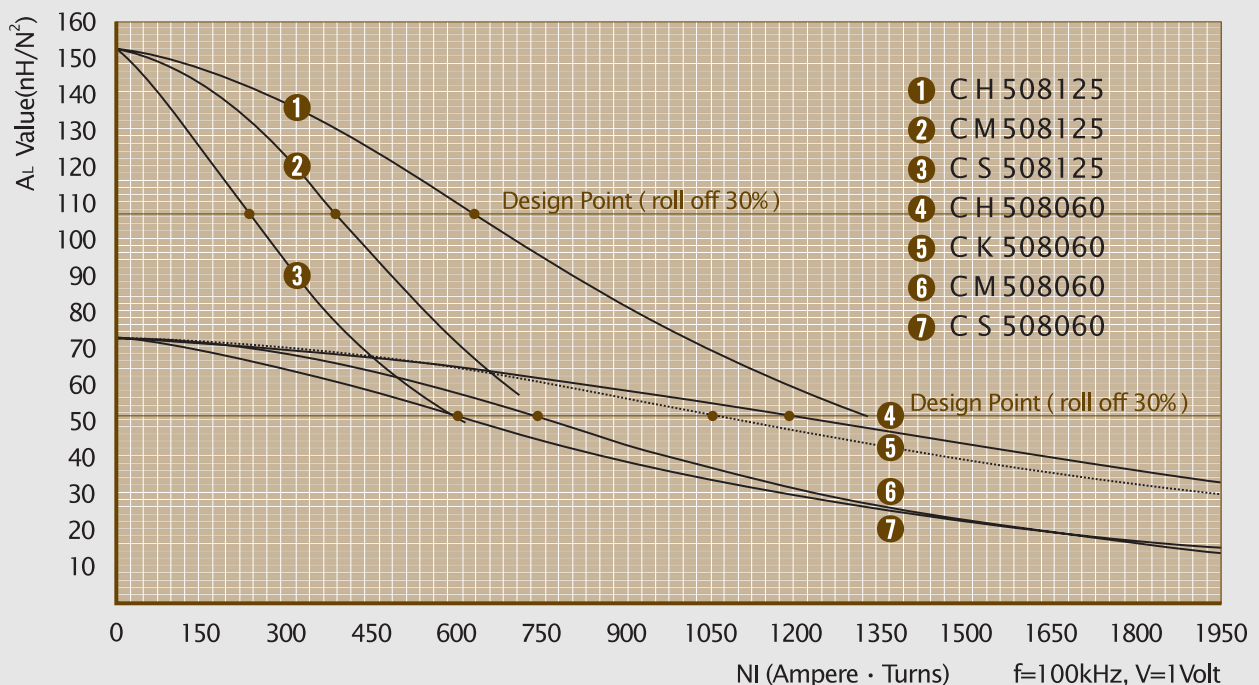
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 10 | 0.267 | 30 | 0.00539 | 19 | 0.0980 | 85 | 0.110 |
| 11 | 0.238 | 33 | 0.00754 | 20 | 0.0879 | 95 | 0.154 |
| 12 | 0.213 | 38 | 0.0105 | 21 | 0.0785 | 107 | 0.216 |
| 13 | 0.190 | 43 | 0.0147 | 22 | 0.0701 | 120 | 0.306 |
| 14 | 0.171 | 48 | 0.0205 | 23 | 0.0632 | 133 | 0.424 |
| 15 | 0.153 | 54 | 0.0287 | 24 | 0.0566 | 149 | 0.596 |
| 16 | 0.137 | 60 | 0.0402 | 25 | 0.0505 | 167 | 0.838 |
| 17 | 0.122 | 68 | 0.0562 | 26 | 0.0452 | 186 | 1.18 |
| 18 | 0.109 | 76 | 0.0788 | 27 | 0.0409 | 207 | 1.64 |

Single layer winding with 1 inch leads

Available Cores

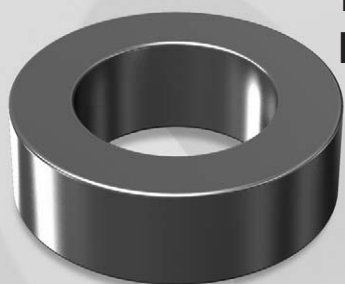
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux [®] | | |
| CM508026 | CH508026 | CS508026 | CK508026 | 32 | 26 |
| CM508060 | CH508060 | CS508060 | CK508060 | 73 | 60 |
| - | - | CS508075 | CK508075 | 91 | 75 |
| - | - | CS508090 | CK508090 | 109 | 90 |
| CM508125 | CH508125 | CS508125 | - | 152 | 125 |
| CM508147 | - | - | - | 179 | 147 |
| CM508160 | - | - | - | 195 | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

AL vs NI Curve (60μ, 125μ)



OD571

OD 57.15mm / 2.250inches



ID 26.39mm
HT 15.24mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 57.15 | 26.39 | 15.24 |
| | (inch) | 2.250 | 1.039 | 0.600 |
| After coating (Epoxy) | (mm) | 58.00 | 25.60 | 16.10 |
| | (inch) | 2.285 | 1.007 | 0.635 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|---------------------|---------------------|
| 2.29cm ² | 12.5cm | 5.14cm ² | 28.6cm ³ |
| 0.355in ² | 4.93in | 1,014,049cmil | 1.75in ³ |

Available Cores

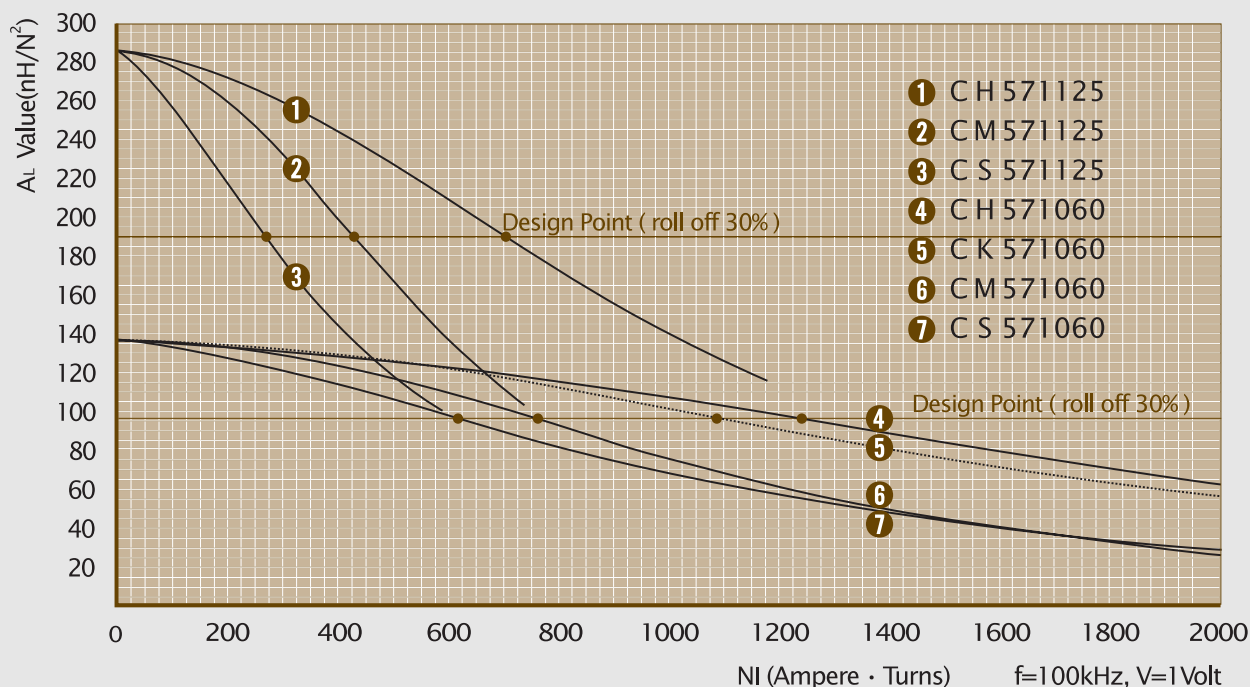
| MPP | Part No. | | | AL (mH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM571026 | CH571026 | CS571026 | CK571026 | 60 | 26 |
| CM571060 | CH571060 | CS571060 | CK571060 | 138 | 60 |
| - | - | CS571075 | CK571075 | 172 | 75 |
| - | - | CS571090 | CK571090 | 206 | 90 |
| CM571125 | CH571125 | CS571125 | - | 287 | 125 |
| CM571147 | - | - | - | 306 | 147 |
| CM571160 | - | - | - | 333 | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc,Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc,Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|-------|
| 10 | 0.267 | 26 | 0.00551 | 19 | 0.0980 | 78 | 0.133 |
| 11 | 0.238 | 30 | 0.00801 | 20 | 0.0879 | 88 | 0.189 |
| 12 | 0.213 | 34 | 0.0115 | 21 | 0.0785 | 99 | 0.269 |
| 13 | 0.190 | 39 | 0.0165 | 22 | 0.0701 | 111 | 0.381 |
| 14 | 0.171 | 43 | 0.0230 | 23 | 0.0632 | 124 | 0.534 |
| 15 | 0.153 | 49 | 0.0330 | 24 | 0.0566 | 138 | 0.752 |
| 16 | 0.137 | 55 | 0.0469 | 25 | 0.0505 | 156 | 1.07 |
| 17 | 0.122 | 62 | 0.0664 | 26 | 0.0452 | 174 | 1.51 |
| 18 | 0.109 | 70 | 0.0948 | 27 | 0.0409 | 193 | 2.10 |

Single layer winding with 1 inch leads

■ AL vs NI Curve (60μ, 125μ)



OD 572

Core Dimensions

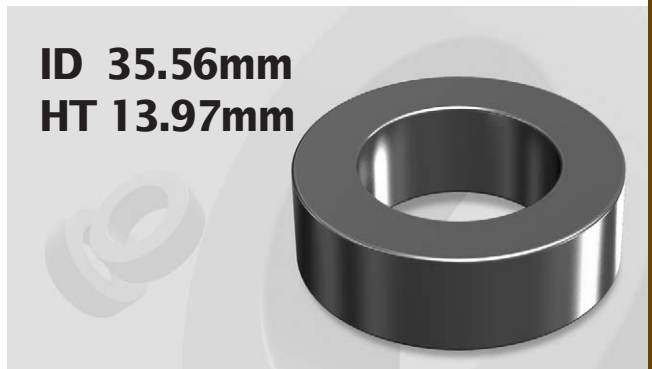
| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 57.15 | 35.56 | 13.97 |
| | (inch) | 2.250 | 1.400 | 0.550 |
| After coating (Epoxy) | (mm) | 58.00 | 34.70 | 14.86 |
| | (inch) | 2.285 | 1.368 | 0.585 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|---------------------|----------------------|
| 1.444cm ² | 14.30cm | 9.48cm ² | 20.65cm ³ |
| 0.244in ² | 5.63in | 1,871,000cmil | 1.261in ³ |

OD 57.15mm / 2.250inches

ID 35.56mm
HT 13.97mm



Winding Information

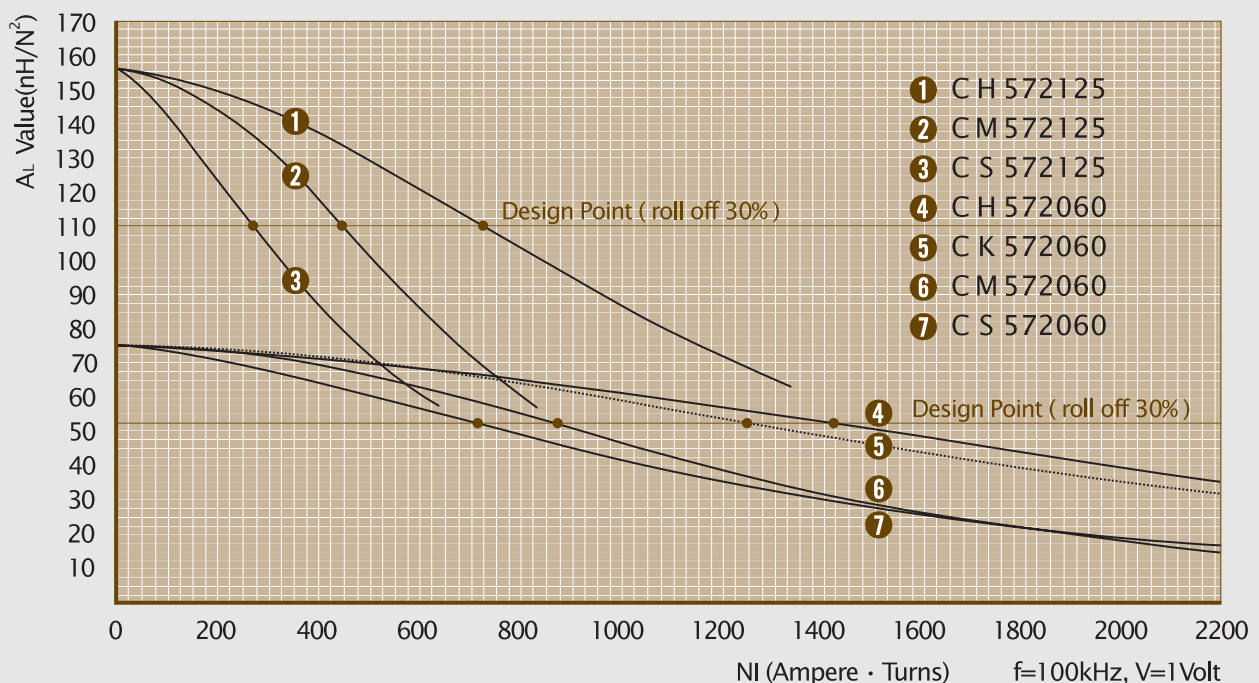
| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|---------|--------------|----------------------|------|--------|
| 10 | 0.267 | 37 | 0.00644 | 19 | 0.0980 | 108 | 0.152 |
| 11 | 0.238 | 42 | 0.00920 | 20 | 0.0879 | 120 | 0.211 |
| 12 | 0.213 | 48 | 0.0133 | 21 | 0.0785 | 135 | 0.300 |
| 13 | 0.190 | 54 | 0.0188 | 22 | 0.0701 | 152 | 0.428 |
| 14 | 0.171 | 60 | 0.0263 | 23 | 0.0632 | 169 | 0.596 |
| 15 | 0.153 | 68 | 0.0376 | 24 | 0.0566 | 189 | 0.845 |
| 16 | 0.137 | 76 | 0.0531 | 25 | 0.0505 | 212 | 1.19 |
| 17 | 0.122 | 85 | 0.0746 | 26 | 0.0452 | 237 | 1.69 |
| 18 | 0.109 | 96 | 0.107 | 27 | 0.0409 | 263 | 2.35 |

Single layer winding with 1 inch leads

Available Cores

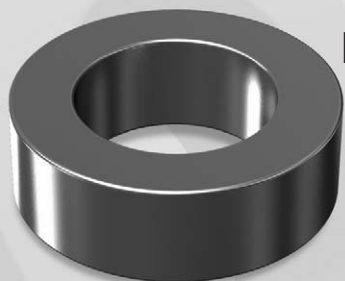
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM572026 | CH572026 | CS572026 | CK572026 | 33 | 26 |
| CM572060 | CH572060 | CS572060 | CK572060 | 75 | 60 |
| - | - | CS572075 | CK572075 | 94 | 75 |
| - | - | CS572090 | CK572090 | 112 | 90 |
| CM572125 | CH572125 | CS572125 | - | 156 | 125 |
| CM572147 | - | - | - | 185 | 147 |
| CM572160 | - | - | - | 200 | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

AL vs NI Curve (60μ, 125μ)



OD610

OD 62.0mm / 2.441 inches



ID 32.6mm
HT 25.0mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 62.0 | 32.6 | 25.0 |
| | (inch) | 2.441 | 1.283 | 0.984 |
| After coating (Epoxy) | (mm) | 63.1 | 31.37 | 26.27 |
| | (inch) | 2.484 | 1.235 | 1.034 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|---------------------|----------------------|
| 3.675cm ² | 14.37cm | 7.73cm ² | 52.81cm ³ |
| 0.570in ² | 5.66in | 1,525,610cmil | 3.223in ³ |

Available Cores

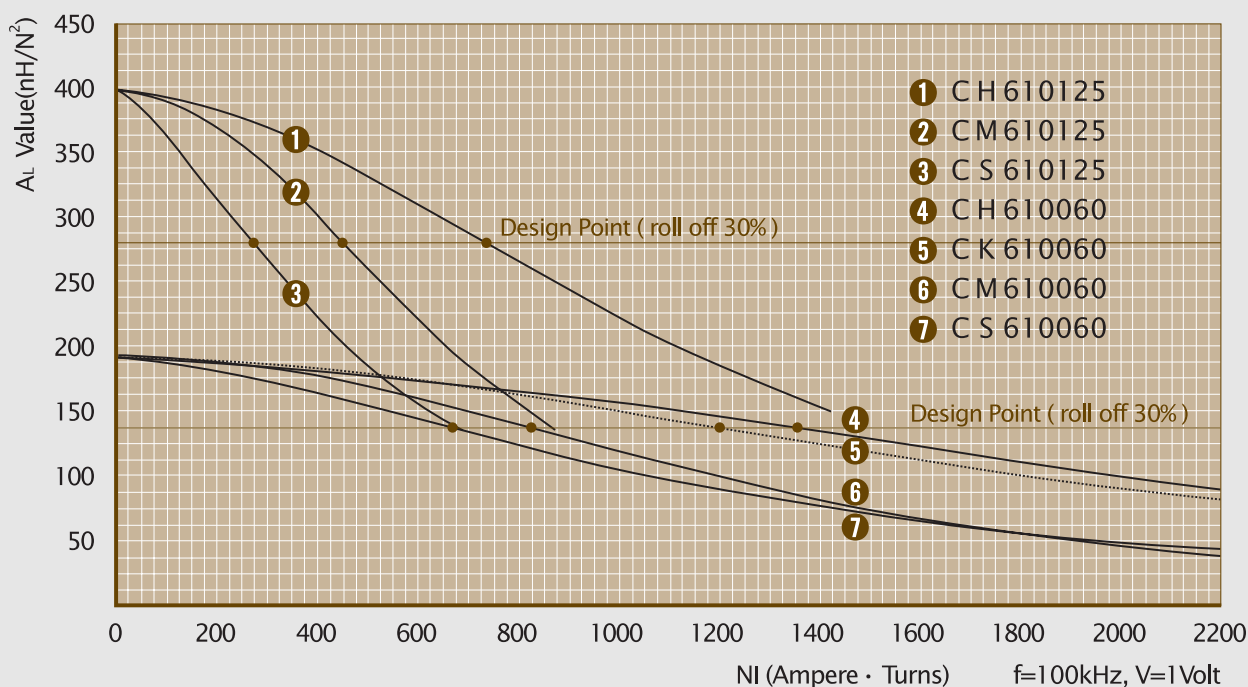
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM610026 | CH610026 | CS610026 | CK610026 | 83 | 26 |
| CM610060 | CH610060 | CS610060 | CK610060 | 192 | 60 |
| - | - | CS610075 | CK610075 | 240 | 75 |
| - | - | CS610090 | CK610090 | 288 | 90 |
| CM610125 | CH610125 | CS610125 | - | 400 | 125 |
| - | - | - | - | - | 147 |
| - | - | - | - | - | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

Winding Information

| AWG Wire No. | Single Layer Turn Rdc, Ω | AWG Wire No. | Single Layer Turn Rdc, Ω |
|--------------|--------------------------|--------------|--------------------------|
| 10 0.267 | | 19 0.0980 | |
| 11 0.238 | | 20 0.0879 | |
| 12 0.213 | | 21 0.0785 | |
| 13 0.190 | | 22 0.0701 | |
| 14 0.171 | N - A | 23 0.0632 | N - A |
| 15 0.153 | | 24 0.0566 | |
| 16 0.137 | | 25 0.0505 | |
| 17 0.122 | | 26 0.0452 | |
| 18 0.109 | | 27 0.0409 | |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD 740

Core Dimensions

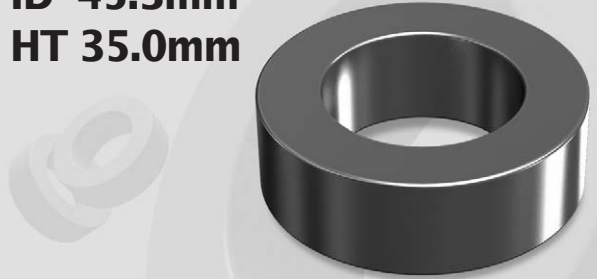
| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 74.1 | 45.3 | 35.0 |
| | (inch) | 2.917 | 1.783 | 1.378 |
| After coating (Epoxy) | (mm) | 75.2 | 44.07 | 36.27 |
| | (inch) | 2.961 | 1.735 | 1.428 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|----------------------|----------------------|
| 5.040cm ² | 18.38cm | 15.25cm ² | 92.64cm ³ |
| 0.781in ² | 7.24in | 3,009,310cmil | 5.653in ³ |

OD 74.1 mm / 2.917 inches

ID 45.3mm
HT 35.0mm



Winding Information

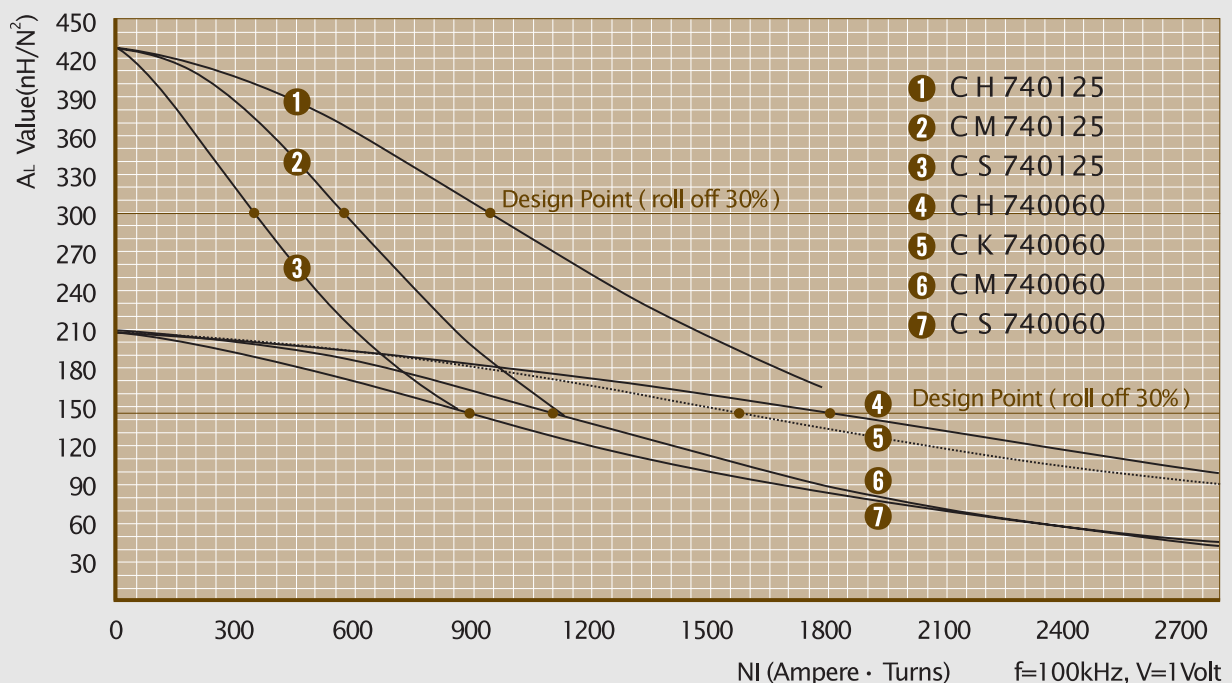
| AWG Wire No. | Single Layer Dia(cm) | Single Layer Turn Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Single Layer Turn Rdc, Ω |
|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|
| 10 | 0.267 | | 19 | 0.0980 | |
| 11 | 0.238 | | 20 | 0.0879 | |
| 12 | 0.213 | | 21 | 0.0785 | |
| 13 | 0.190 | | 22 | 0.0701 | |
| 14 | 0.171 | N - A | 23 | 0.0632 | N - A |
| 15 | 0.153 | | 24 | 0.0566 | |
| 16 | 0.137 | | 25 | 0.0505 | |
| 17 | 0.122 | | 26 | 0.0452 | |
| 18 | 0.109 | | 27 | 0.0409 | |

Single layer winding with 1 inch leads

Available Cores

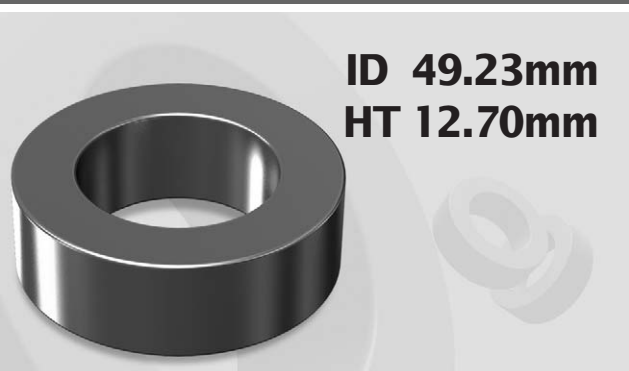
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM740026 | CH740026 | CS740026 | CK740026 | 89 | 26 |
| CM740060 | CH740060 | CS740060 | CK740060 | 206 | 60 |
| - | - | CS740075 | CK740075 | 257 | 75 |
| - | - | CS740090 | CK740090 | 309 | 90 |
| CM740125 | CH740125 | CS740125 | - | 429 | 125 |
| - | - | - | - | - | 147 |
| - | - | - | - | - | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

AL vs NI Curve (60μ, 125μ)



OD 777

OD 77.8mm / 3.063inches



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 77.80 | 49.23 | 12.70 |
| | (inch) | 3.063 | 1.938 | 0.50 |
| After coating (Epoxy) | (mm) | 78.90 | 48.0 | 13.97 |
| | (inch) | 3.108 | 1.888 | 0.550 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|----------------------|-----------------------|
| 1.770cm ² | 20.0cm | 17.99cm ² | 34.770cm ³ |
| 0.274in ² | 7.72in | 3,550,000cmil | 2.122in ³ |

Available Cores

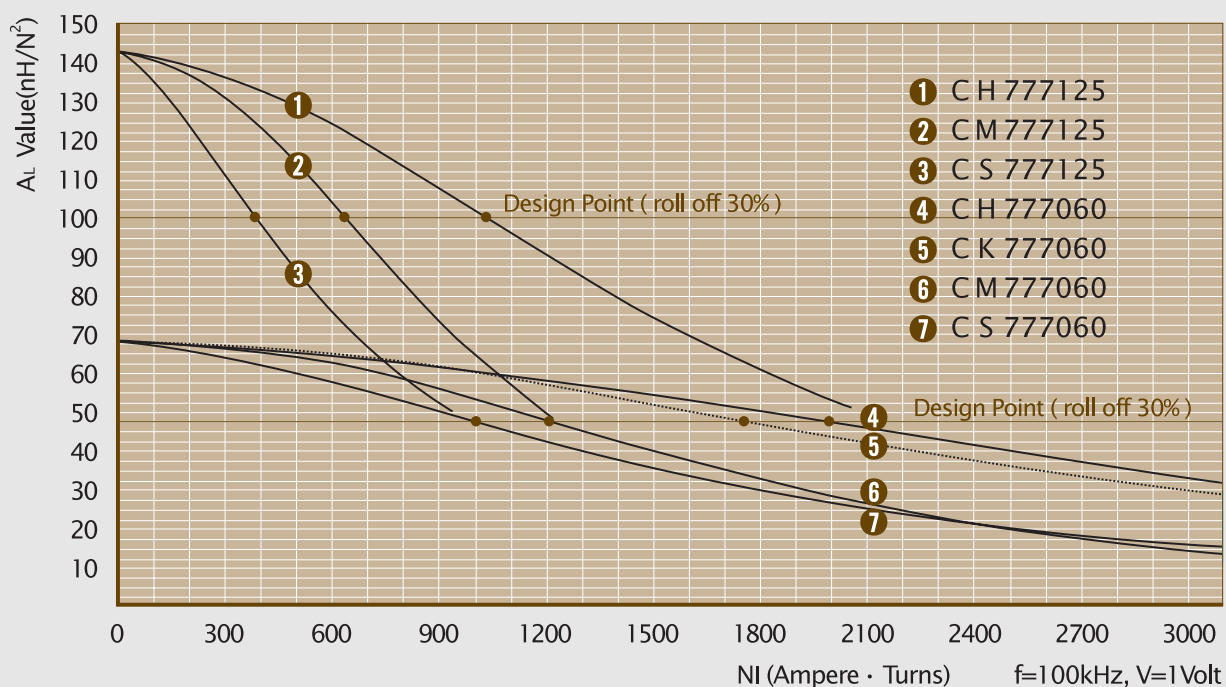
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM777026 | CH777026 | CS777026 | CK777026 | 30 | 26 |
| CM777060 | CH777060 | CS777060 | CK777060 | 68 | 60 |
| - | - | CS777075 | CK777075 | 85 | 75 |
| - | - | CS777090 | CK777090 | 102 | 90 |
| CM777125 | CH777125 | CS777125 | - | 142 | 125 |
| - | - | - | - | - | 147 |
| - | - | - | - | - | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn | Rdc, Ω |
|--------------|----------------------|------|--------|--------------|----------------------|------|--------|
| 10 | 0.267 | 53 | 0.0113 | 19 | 0.0980 | 150 | 0.258 |
| 11 | 0.238 | 60 | 0.0162 | 20 | 0.0879 | 168 | 0.364 |
| 12 | 0.213 | 67 | 0.0228 | 21 | 0.0785 | 188 | 0.514 |
| 13 | 0.190 | 76 | 0.0325 | 22 | 0.0701 | 211 | 0.732 |
| 14 | 0.171 | 84 | 0.0454 | 23 | 0.0632 | 235 | 1.02 |
| 15 | 0.153 | 95 | 0.0646 | 24 | 0.0566 | 263 | 1.30 |
| 16 | 0.137 | 106 | 0.0912 | 25 | 0.0505 | 295 | 1.84 |
| 17 | 0.122 | 119 | 0.129 | 26 | 0.0452 | 330 | 2.61 |
| 18 | 0.109 | 134 | 0.183 | 27 | 0.0409 | 365 | 3.62 |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD 778

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 77.80 | 49.23 | 15.9 |
| | (inch) | 3.063 | 1.938 | 0.626 |
| After coating (Epoxy) | (mm) | 78.90 | 48.0 | 17.2 |
| | (inch) | 3.108 | 1.888 | 0.677 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|----------------------|-----------------------|
| 2.270cm ² | 20.0cm | 17.99cm ² | 43.531cm ³ |
| 0.352in ² | 7.72in | 3,550,000cmil | 2.656in ³ |

OD 77.8mm / 3.063inches

ID 49.23mm
HT 15.9mm



Winding Information

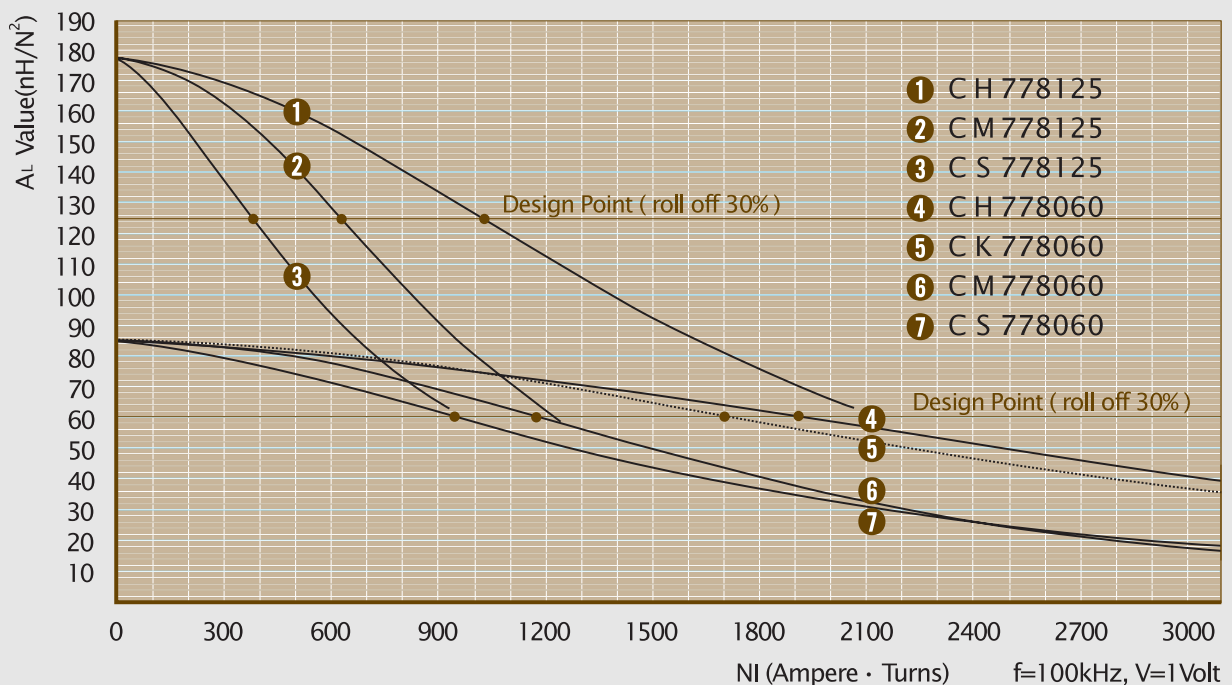
| AWG Wire No. | Single Layer Dia(cm) | Single Layer Turn Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Single Layer Turn Rdc, Ω |
|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|
| 10 | 0.267 | | 19 | 0.0980 | |
| 11 | 0.238 | | 20 | 0.0879 | |
| 12 | 0.213 | | 21 | 0.0785 | |
| 13 | 0.190 | | 22 | 0.0701 | |
| 14 | 0.171 | N · A | 23 | 0.0632 | N · A |
| 15 | 0.153 | | 24 | 0.0566 | |
| 16 | 0.137 | | 25 | 0.0505 | |
| 17 | 0.122 | | 26 | 0.0452 | |
| 18 | 0.109 | | 27 | 0.0409 | |

Single layer winding with 1 inch leads

Available Cores

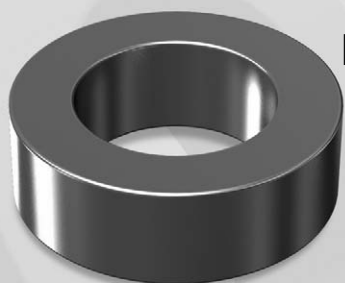
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM778026 | CH778026 | CS778026 | CK778026 | 37 | 26 |
| CM778060 | CH778060 | CS778060 | CK778060 | 85 | 60 |
| - | - | CS778075 | CK778075 | 107 | 75 |
| - | - | CS778090 | CK778090 | 128 | 90 |
| CM778125 | CH778125 | CS778125 | - | 178 | 125 |
| - | - | - | - | - | 147 |
| - | - | - | - | - | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

AL vs NI Curve (60μ, 125μ)



OD888

OD 88.9mm / 3.500inches



ID 66.0mm
HT 15.9mm

Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 88.90 | 66.00 | 15.90 |
| | (inch) | 3.500 | 2.598 | 0.626 |
| After coating (Epoxy) | (mm) | 90.03 | 64.74 | 17.20 |
| | (inch) | 3.544 | 2.549 | 0.677 |

Magnetic Dimensions

| Cross Section (A) | Path Length (L) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|----------------------|-----------------------|
| 1.83cm ² | 24.10cm | 32.92cm ² | 44,103cm ³ |
| 0.284in ² | 9.46in | 6,00,140cmil | 2.691in ³ |

Available Cores

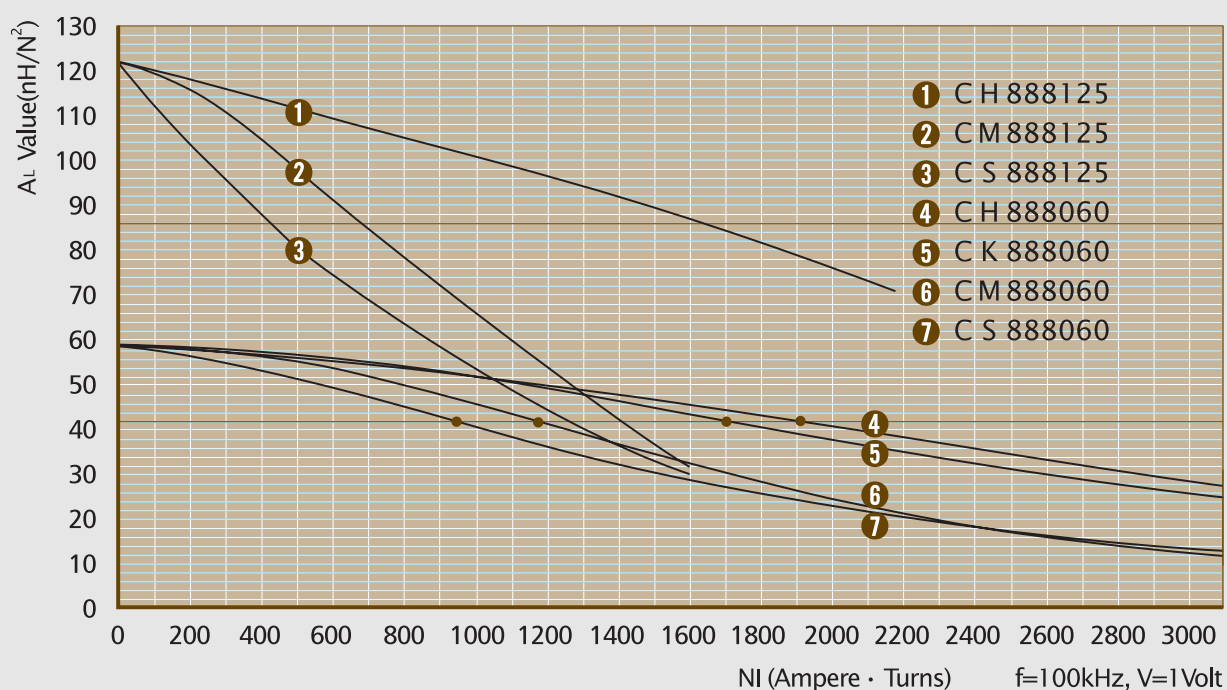
| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|----------|-----------|----------|------------------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux [®] | | |
| CM888026 | CH888026 | CS888026 | CK888026 | 24 | 26 |
| CM888060 | CH888060 | CS888060 | CK888060 | 57 | 60 |
| - | - | CS888075 | CK888075 | 71 | 75 |
| - | - | CS888090 | CK888090 | 85 | 90 |
| CM888125 | CH888125 | CS888125 | - | 119 | 125 |
| - | - | - | - | - | 147 |
| - | - | - | - | - | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

Winding Information

| AWG Wire No. | Single Layer Turn Rdc, Ω | AWG Wire No. | Single Layer Turn Rdc, Ω |
|--------------|--------------------------|--------------|--------------------------|
| 10 0.267 | | 19 0.0980 | |
| 11 0.238 | | 20 0.0879 | |
| 12 0.213 | | 21 0.0785 | |
| 13 0.190 | | 22 0.0701 | |
| 14 0.171 | N - A | 23 0.0632 | N - A |
| 15 0.153 | | 24 0.0566 | |
| 16 0.137 | | 25 0.0505 | |
| 17 0.122 | | 26 0.0452 | |
| 18 0.109 | | 27 0.0409 | |

Single layer winding with 1 inch leads

AL vs NI Curve (60μ, 125μ)



OD 1016

Core Dimensions

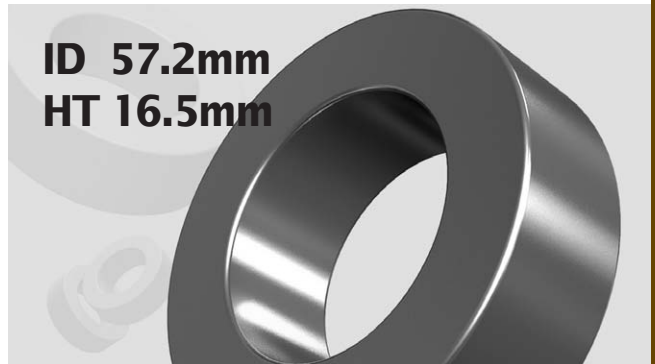
| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 101.6 | 57.2 | 16.5 |
| | (inch) | 3.980 | 2.252 | 0.650 |
| After coating (Epoxy) | (mm) | 103.1 | 55.7 | 17.8 |
| | (inch) | 4.059 | 2.193 | 0.701 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|----------------------|-----------------------|
| 3.522cm ² | 24.27cm | 24.36cm ² | 85.495cm ³ |
| 0.546in ² | 9.56in | 4,807,425cmil | 5.217in ³ |

OD 101.6mm / 3.980inches

ID 57.2mm
HT 16.5mm



Winding Information

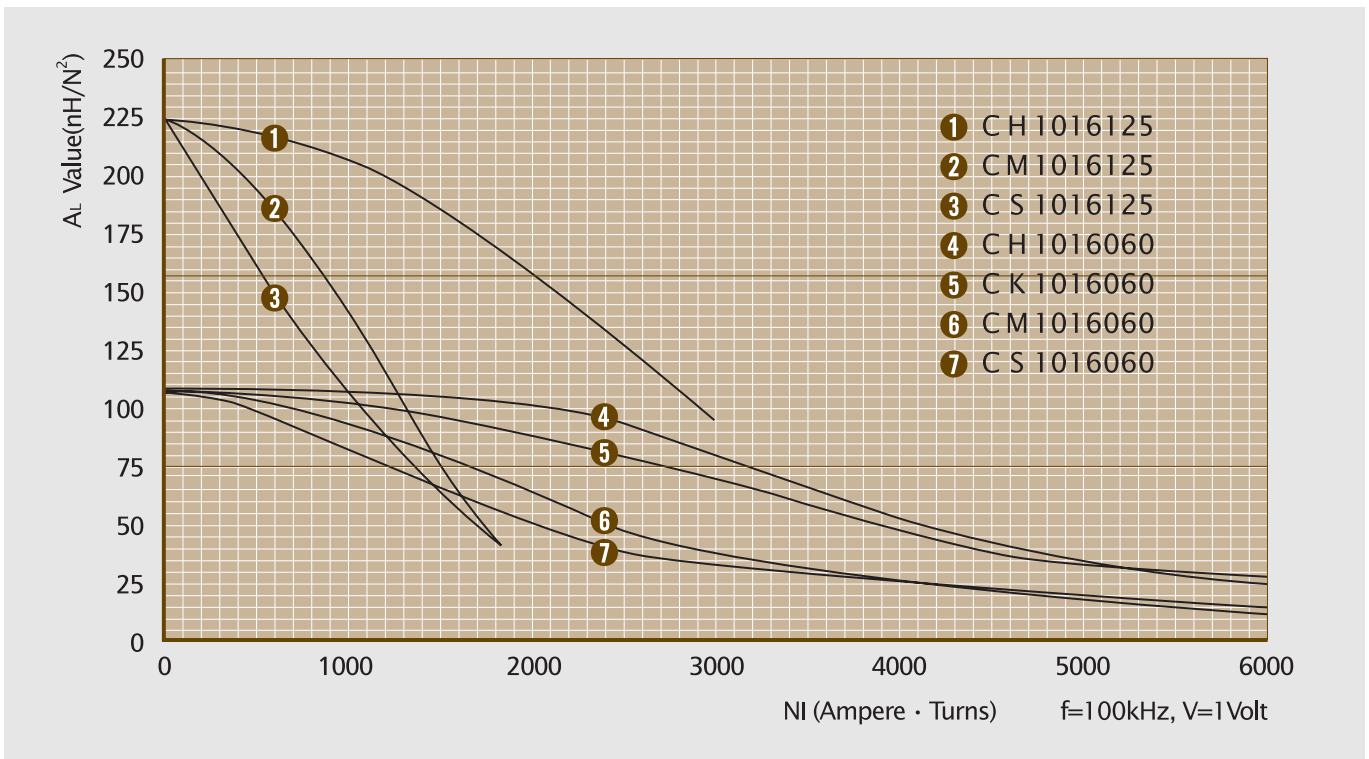
| AWG Wire No. | Single Layer Dia(cm) | Single Layer Turn Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Single Layer Turn Rdc, Ω |
|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|
| 10 | 0.267 | | 19 | 0.0980 | |
| 11 | 0.238 | | 20 | 0.0879 | |
| 12 | 0.213 | | 21 | 0.0785 | |
| 13 | 0.190 | | 22 | 0.0701 | |
| 14 | 0.171 | N - A | 23 | 0.0632 | N - A |
| 15 | 0.153 | | 24 | 0.0566 | |
| 16 | 0.137 | | 25 | 0.0505 | |
| 17 | 0.122 | | 26 | 0.0452 | |
| 18 | 0.109 | | 27 | 0.0409 | |

Single layer winding with 1 inch leads

Available Cores

| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|-----------|-----------|-----------|------------------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux [®] | | |
| CM1016026 | CH1016026 | CS1016026 | CK1016026 | 48 | 26 |
| CM1016060 | CH1016060 | CS1016060 | CK1016060 | 112 | 60 |
| CM1016125 | CH1016125 | CS1016125 | - | 228 | 125 |
| - | - | - | - | - | 147 |
| - | - | - | - | - | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

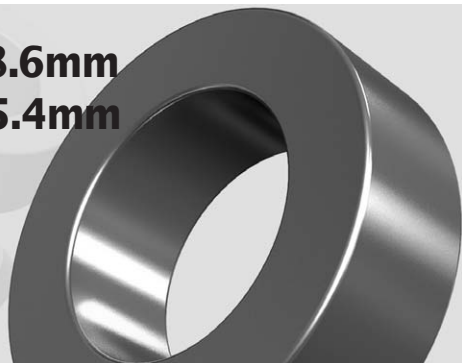
AL vs NI Curve (60μ, 125μ)



OD 1325

OD 132.5mm / 5.217inches

ID 78.6mm
HT 25.4mm



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 132.5 | 78.6 | 25.4 |
| | (inch) | 5.217 | 3.094 | 1.000 |
| After coating (Epoxy) | (mm) | 134.2 | 77.0 | 26.8 |
| | (inch) | 5.283 | 3.032 | 1.055 |

Magnetic Dimensions

| Cross Section (A) | Path Length (L) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|----------------------|-----------------------|
| 6.71cm ² | 32.42cm | 46.61cm ² | 217.58cm ³ |
| 1.040in ² | 12.77in | 9,199,089cmil | 13.28in ³ |

Available Cores

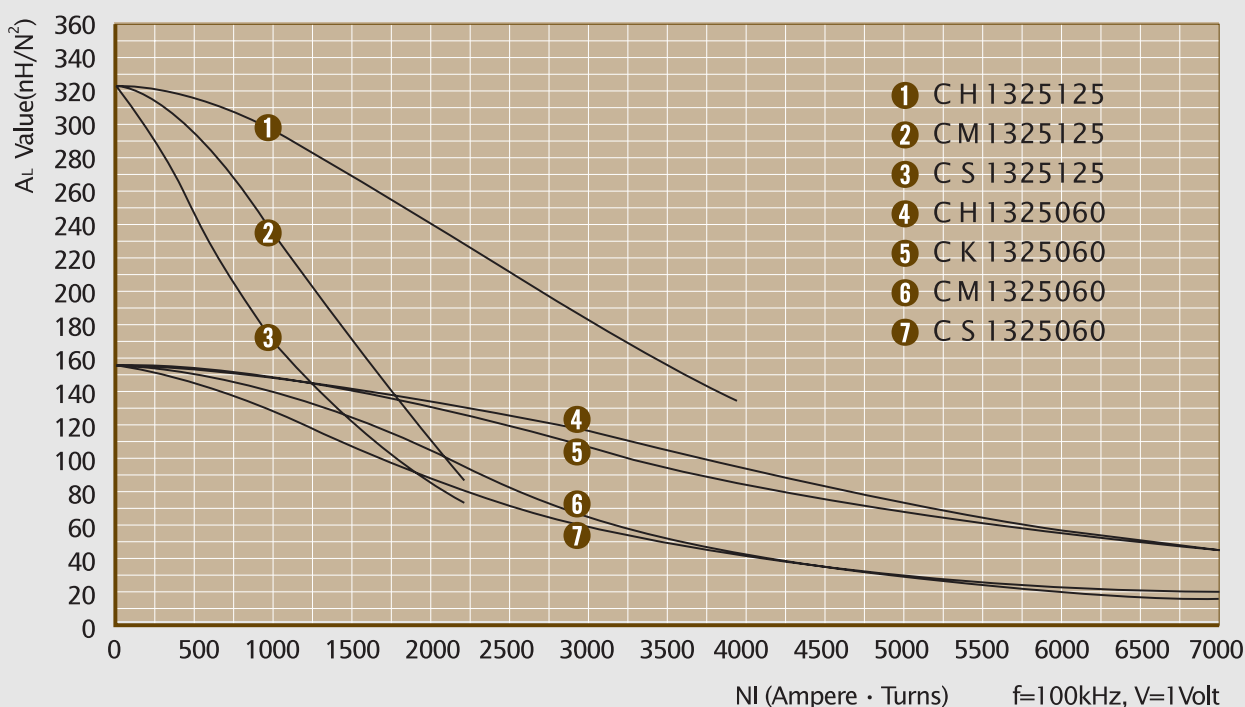
| MPP | Part No. | | | | AL (nH/N ²) | Perm. (μ) |
|-----------|-----------|-----------|------------|-----------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | CK1325026 | | |
| CM1325026 | CH1325026 | CS1325026 | CK1325026 | 68 | 26 | |
| CM1325060 | CH1325060 | CS1325060 | CK1325060 | 156 | 60 | |
| CM1325125 | CH1325125 | CS1325125 | - | 325 | 125 | |
| - | - | - | - | - | 147 | |
| - | - | - | - | - | 160 | |
| - | - | - | - | - | 173 | |
| - | - | - | - | - | 200 | |

Winding Information

| AWG Wire No. | Single Layer Dia(cm) | Turn Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Turn Rdc, Ω |
|--------------|----------------------|-------------|--------------|----------------------|-------------|
| 10 | 0.267 | | 19 | 0.0980 | |
| 11 | 0.238 | | 20 | 0.0879 | |
| 12 | 0.213 | | 21 | 0.0785 | |
| 13 | 0.190 | | 22 | 0.0701 | |
| 14 | 0.171 | N - A | 23 | 0.0632 | N - A |
| 15 | 0.153 | | 24 | 0.0566 | |
| 16 | 0.137 | | 25 | 0.0505 | |
| 17 | 0.122 | | 26 | 0.0452 | |
| 18 | 0.109 | | 27 | 0.0409 | |

Single layer winding with 1 inch leads

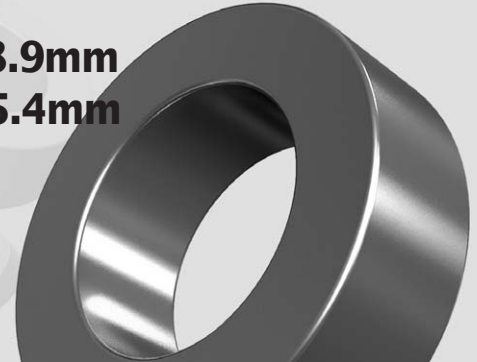
AL vs NI Curve (60μ, 125μ)



OD 1625

OD 165.0mm / 6.496inches

ID 88.9mm
HT 25.4mm



Core Dimensions

| | | OD(max) | ID(min) | HT(max) |
|-----------------------|--------|---------|---------|---------|
| Before coating | (mm) | 165.0 | 88.9 | 25.4 |
| | (inch) | 6.496 | 3.500 | 1.000 |
| After coating (Epoxy) | (mm) | 167.2 | 86.9 | 27.3 |
| | (inch) | 6.583 | 3.421 | 1.075 |

Magnetic Dimensions

| Cross Section (A) | Path Length (ℓ) | Window Area (Wa) | Volume (V) |
|----------------------|-----------------|----------------------|-----------------------|
| 9.46cm ² | 38.65cm | 59.31cm ² | 365.63cm ³ |
| 1.466in ² | 15.22in | 11,704,978cmil | 22.31in ³ |

Winding Information

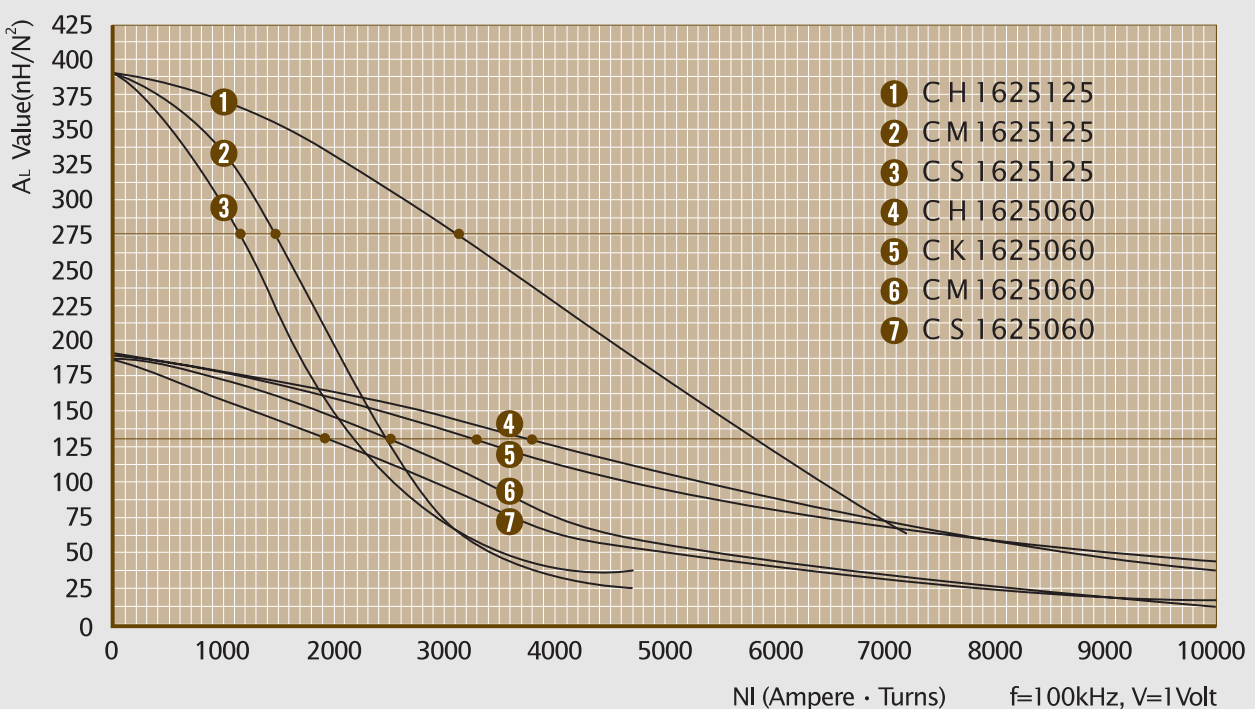
| AWG Wire No. | Single Layer Dia(cm) | Single Layer Turn Rdc, Ω | AWG Wire No. | Single Layer Dia(cm) | Single Layer Turn Rdc, Ω |
|--------------|----------------------|--------------------------|--------------|----------------------|--------------------------|
| 10 | 0.267 | | 19 | 0.0980 | |
| 11 | 0.238 | | 20 | 0.0879 | |
| 12 | 0.213 | | 21 | 0.0785 | |
| 13 | 0.190 | | 22 | 0.0701 | |
| 14 | 0.171 | N - A | 23 | 0.0632 | N - A |
| 15 | 0.153 | | 24 | 0.0566 | |
| 16 | 0.137 | | 25 | 0.0505 | |
| 17 | 0.122 | | 26 | 0.0452 | |
| 18 | 0.109 | | 27 | 0.0409 | |

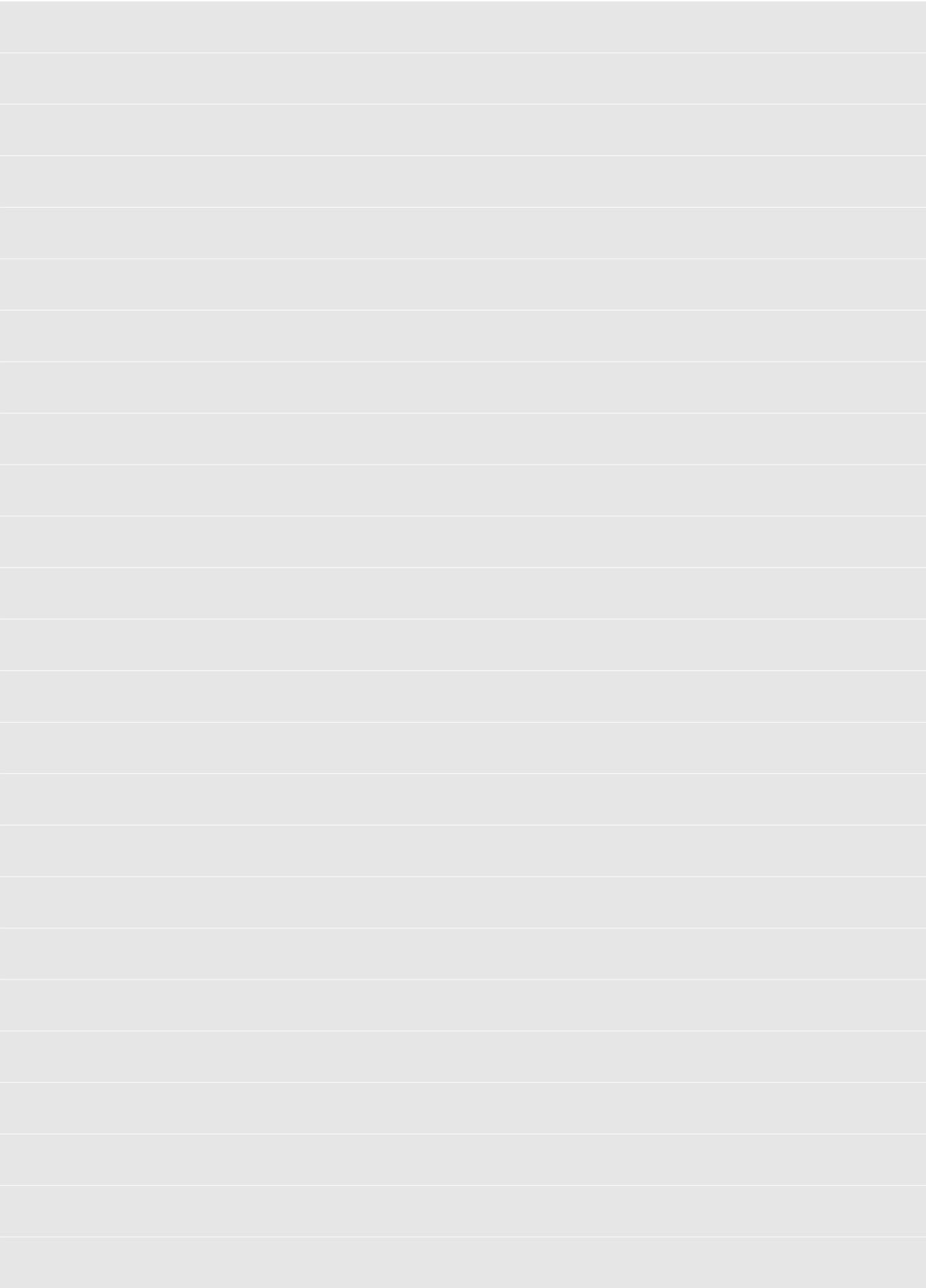
Single layer winding with 1 inch leads

Available Cores

| MPP | Part No. | | | AL (nH/N ²) | Perm. (μ) |
|-----------|-----------|-----------|------------|-------------------------|-----------|
| | High Flux | Sendust | Mega Flux® | | |
| CM1625026 | CH1625026 | CS1625026 | CK1625026 | 80 | 26 |
| CM1625060 | CH1625060 | CS1625060 | CK1625060 | 184 | 60 |
| CM1625125 | CH1625125 | CS1625125 | - | 384 | 125 |
| - | - | - | - | - | 147 |
| - | - | - | - | - | 160 |
| - | - | - | - | - | 173 |
| - | - | - | - | - | 200 |

AL vs NI Curve (60μ, 125μ)





SPECIAL MAGNETIC POWDER CORES



ELLIPSE CORES



Features

- Shorter wire length than rectangular post
- Good DC Bias characteristics
- Larger energy storage capacity
- Low core loss at high frequency

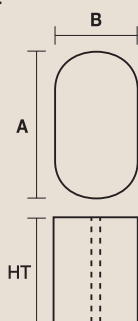
Applications

- Choke filter for solar cell inverters
- Boost Inductor for solar cell inverters



Product Identification

• Post



LK 35 15 - 20 C

Permeability : 60 μ | Available perm. A:26 μ , B:40 μ , C:60 μ

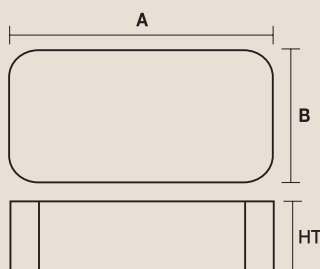
Height : 20mm | Available size : 20mm~25mm

Width : 15mm

Length : 35mm

Mega Flux[®] Ellipse Core | LK : Mega Flux[®]; LS: Sendust

• Plate



LK 60 35 - 13 C

Permeability : 60 μ | Available perm. A:26 μ , B:40 μ , C:60 μ

Height : 13mm | Available size : 13mm~18mm

Width : 35mm

Length : 60mm

Ellipse Core | LK : Mega Flux[®]

Post Ellipse Cores

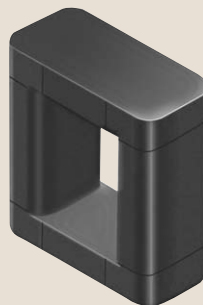
| Part No. | Dimensions | | | | Cross Section Area (cm ²) |
|-----------|---------------|--------------|----------------|---------------|---------------------------------------|
| | A Length (mm) | B Width (mm) | RC Radius (mm) | D Height (mm) | |
| LK3515-20 | 35 | 15 | 7.5 | 20 | 4.77 |
| LK3515-25 | 35 | 15 | 7.5 | 25 | 4.77 |
| LK3520-20 | 35 | 20 | 7.5 | 20 | 6.52 |
| LK3520-25 | 35 | 20 | 7.5 | 25 | 6.52 |

Plate Ellipse Cores

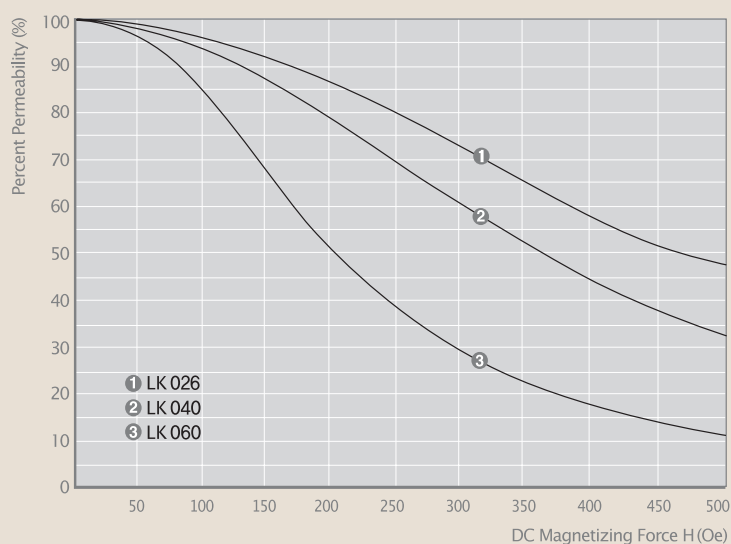
| Part No. | Dimensions | | | | Cross Section Area (cm ²) |
|-----------|---------------|--------------|----------------|---------------|---------------------------------------|
| | A Length (mm) | B Width (mm) | RC Radius (mm) | D Height (mm) | |
| LK5035-13 | 50 | 35 | 7.5 | 13.5 | 4.77 |
| LK5035-18 | 50 | 35 | 7.5 | 18.5 | 6.52 |
| LK6035-13 | 60 | 35 | 7.5 | 13.5 | 4.77 |
| LK6035-18 | 60 | 35 | 7.5 | 18.5 | 6.52 |
| LK7035-13 | 60 | 35 | 7.5 | 13.5 | 4.77 |
| LK7035-18 | 70 | 35 | 7.5 | 18.5 | 6.52 |

※ LS(Sendust Ellipse Core), LH(High Flux Ellipse Core) and customized designs are also available.

ELLIPSE CORES ASSEMBLY



Permeability vs DC Bias Curves



| PLATE Part No. | POST | | Dimensions | | | | | Path Length (cm) | Cross Section Area (cm ²) | Window Area (cm ²) | AL value (nH/N ²) ± 12% | | |
|----------------|-----------|-------------|---------------|--------------|---------------|---------------------|---------------------|------------------|---------------------------------------|--------------------------------|-------------------------------------|------|------|
| | Part No. | 1 LEG STACK | A Length (mm) | B Width (mm) | C Height (mm) | D Inner Height (mm) | E Inner Length (mm) | | | | 026μ | 040μ | 060μ |
| LK5035-13 | LK3515-20 | 2 | 50 | 35 | 67 | 40 | 20 | 16.47 | 4.77 | 8 | 113 | 146 | 218 |
| | LK3515-25 | 2 | 50 | 35 | 77 | 50 | 20 | 18.47 | 4.77 | 10 | 101 | 130 | 195 |
| | LK3515-20 | 3 | 50 | 35 | 87 | 60 | 20 | 16.04 | 4.77 | 12 | 91 | 117 | 176 |
| LK5035-18 | LK3520-20 | 2 | 50 | 35 | 77 | 40 | 10 | 18.04 | 6.52 | 4 | 158 | 204 | 306 |
| | LK3520-25 | 2 | 50 | 35 | 87 | 50 | 10 | 20.04 | 6.52 | 5 | 141 | 182 | 273 |
| | LK3520-20 | 3 | 50 | 35 | 97 | 60 | 10 | 22.04 | 6.52 | 6 | 127 | 164 | 245 |
| LK6035-13 | LK3515-20 | 2 | 60 | 35 | 67 | 40 | 30 | 18.47 | 4.77 | 12 | 101 | 130 | 195 |
| | LK3515-25 | 2 | 60 | 35 | 77 | 50 | 30 | 20.47 | 4.77 | 15 | 91 | 117 | 176 |
| | LK3515-20 | 3 | 60 | 35 | 87 | 60 | 30 | 22.47 | 4.77 | 18 | 83 | 107 | 160 |
| LK6035-18 | LK3520-20 | 2 | 60 | 35 | 77 | 40 | 20 | 18.04 | 6.52 | 8 | 141 | 182 | 273 |
| | LK3520-25 | 2 | 60 | 35 | 87 | 50 | 20 | 20.04 | 6.52 | 10 | 127 | 164 | 245 |
| | LK3520-20 | 3 | 60 | 35 | 97 | 60 | 20 | 22.04 | 6.52 | 12 | 115 | 149 | 223 |
| LK7035-13 | LK3515-20 | 2 | 70 | 35 | 67 | 40 | 40 | 20.47 | 4.77 | 16 | 91 | 117 | 176 |
| | LK3515-25 | 2 | 70 | 35 | 77 | 50 | 40 | 22.47 | 4.77 | 20 | 83 | 107 | 160 |
| | LK3515-20 | 3 | 70 | 35 | 87 | 60 | 40 | 24.47 | 4.77 | 24 | 76 | 98 | 147 |
| LK7035-18 | LK3520-25 | 2 | 70 | 35 | 77 | 40 | 30 | 20.04 | 6.52 | 12 | 127 | 164 | 245 |
| | LK3520-20 | 2 | 70 | 35 | 87 | 50 | 30 | 22.04 | 6.52 | 15 | 115 | 149 | 223 |
| | LK3520-25 | 3 | 70 | 35 | 97 | 60 | 30 | 24.04 | 6.52 | 18 | 106 | 136 | 204 |

BLOCK CORES



Features

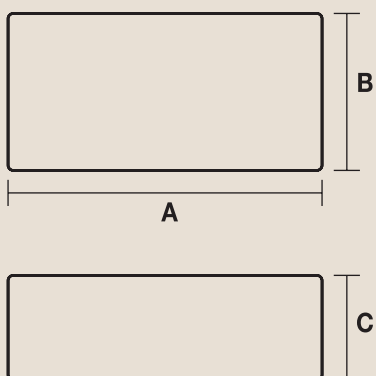
- Large energy storage capacity
- No magnetic flux leakage
- Good temperature stability
- Low core loss at high frequency

Applications

- High inductance choke coils
- Flyback transformers
- Multiple circuit choke coils
- Output chokes for SMPS



Product Identification



BK 6 3 20 - 060

Permeability : 60 μ

Available perm. 26,40,60 μ

Height : 20mm

Available HT : 15mm~20mm

Width : 30mm

Length : 60mm

Available size : 50mm~80mm

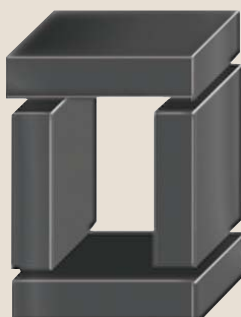
Mega Flux[®] Block Core

BH : High Flux, BS : Sendust

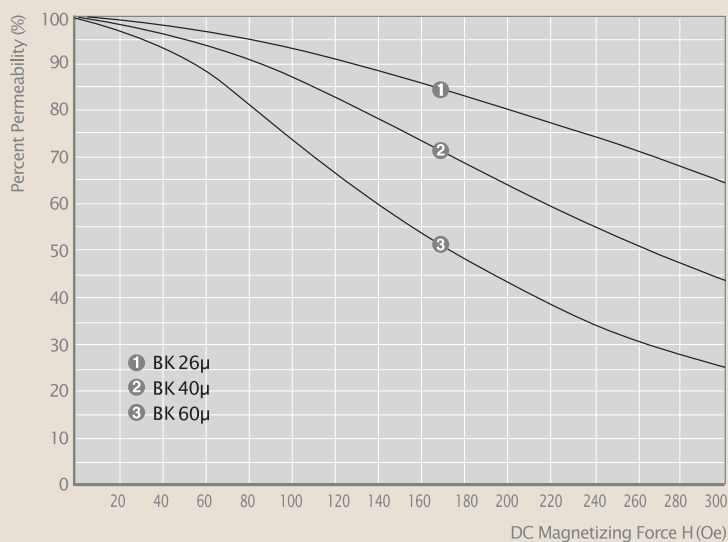
| Part No. | Dimensions (mm) | | | Cross Section Area(cm ²) |
|----------|-----------------|------|----|--------------------------------------|
| | A | B | C | |
| BK5315 | 50.5 | 30.3 | 15 | 4.5 |
| BK5320 | 50.5 | 30.3 | 20 | 6 |
| BK6315 | 60.5 | 30.3 | 15 | 4.5 |
| BK6320 | 60.5 | 30.3 | 20 | 6 |
| BK7315 | 70.5 | 30.3 | 15 | 4.5 |
| BK7320 | 70.5 | 30.3 | 20 | 6 |
| BK8315 | 80.5 | 30.3 | 15 | 4.5 |
| BK8320 | 80.5 | 30.3 | 20 | 6 |

※ BS(Sendust Block Core), BH(High Flux Core) and customized designs are also available.

■ BLOCK CORES ASSEMBLY



■ Permeability vs DC Bias Curves



| Unit Part No. | Assembled (L x W x H mm) | Path Length (cm) | Window Area (cm ²) | Sectional Area (cm ²) | A _L value (nH/N ²) ± 12% | | |
|---------------|--------------------------|------------------|--------------------------------|-----------------------------------|---|------|------|
| | | | | | 026μ | 040μ | 060μ |
| BK5315 | 80 x 50 x 30 | 18.71 | 15 | 3 | 95 | 121 | 181 |
| BK5320 | 90 x 50 x 30 | 18.28 | 24 | 3 | 130 | 165 | 247 |
| BK6315 | 90 x 60 x 30 | 22.71 | 18 | 4.5 | 79 | 100 | 149 |
| BK6320 | 100 x 60 x 30 | 22.28 | 12 | 6 | 107 | 135 | 203 |
| BK7315 | 100 x 70 x 30 | 26.71 | 28 | 4.5 | 67 | 85 | 127 |
| BK7320 | 110 x 70 x 30 | 26.28 | 21 | 6 | 91 | 115 | 172 |
| BK8315 | 110 x 80 x 30 | 30.71 | 40 | 4.5 | 58 | 74 | 110 |
| BK8320 | 120 x 80 x 30 | 30.28 | 32 | 6 | 78 | 100 | 149 |

※ BS(Sendust Block Core), BH(High Flux Block Core) and customized designs are also available.

CYLINDER+ROUND BLOCK CORES



Features

- Large energy storage capacity
- Low core loss at high frequency

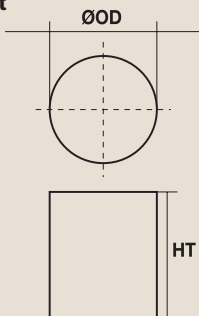
Applications

- Power inductor for large currents
- Buck/ Boost inductor for inverters



Product Identification

• Post



CK 30 30 - 060

Permeability : 60 μ

Available perm. A:26 μ , B:40 μ , C:60 μ

HT : 30mm

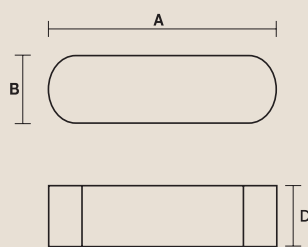
OD : 30mm

Available size 24mm ~ 60mm

Mega Flux[®] Cylinder Core

CS : Sendust, CH : High Flux

• Plate



RBK 54 20 - 15 C

Permeability : 60 μ

Available perm. A:26 μ , B:40 μ , C:60 μ

Height : 15mm

Available size : 13mm~18mm

Width : 20mm

Length : 54mm

Round Block Core

RBK : Mega Flux[®]

Post Cylinder Cores

| Cylinder Part No. | Dimensions | | Cross Section Area (cm ²) | Plate |
|-------------------|------------|---------|---------------------------------------|------------|
| | OD (mm) | HT (mm) | | |
| CK2020 | 20 | 20 | 3.14 | RBK5420-15 |
| CK2424 | 24 | 24 | 4.52 | RBK6424-18 |
| CK2525 | 25 | 25 | 4.91 | RBK6725-19 |
| CK2828 | 27 | 27 | 6.00 | RBK7428-21 |
| CK3030 | 30 | 30 | 7.07 | RBK8030-23 |
| CK3035 | 30 | 34.7 | 7.07 | RBK8030-23 |
| CK6030 | 60 | 30 | 28.27 | - |

Plate Round Block Core

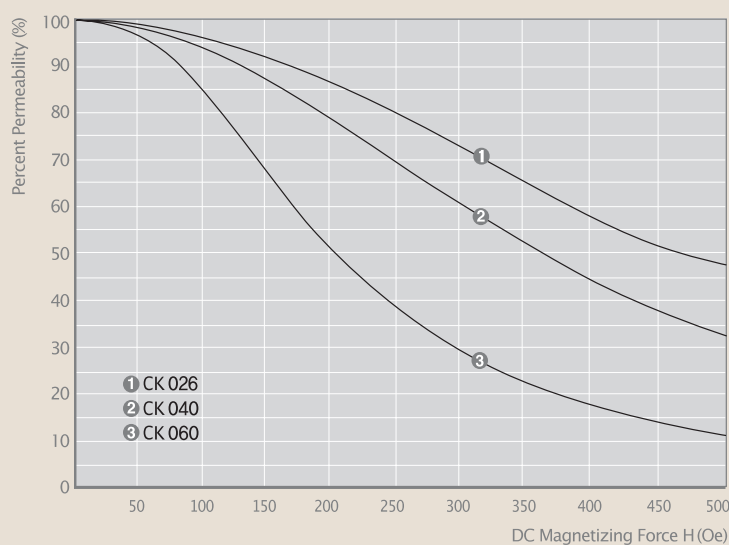
| Plate Part No. | Dimensions | | | | Cross Section Area (cm ²) | Post |
|----------------|---------------|--------------|----------------|---------------|---------------------------------------|--------|
| | A Length (mm) | B Width (mm) | RC Radius (mm) | D Height (mm) | | |
| RBK5420-15 | 54 | 20 | 10.0 | 15.7 | 3.14 | CK2020 |
| RBK6424-18 | 64 | 24 | 12.0 | 18.8 | 4.52 | CK2424 |
| RBK6725-19 | 67 | 25 | 12.5 | 19.6 | 4.91 | CK2525 |
| RBK7428-21 | 74 | 27 | 13.7 | 21.7 | 6.00 | CK2828 |
| RBK8030-23 | 80 | 30 | 15.0 | 23.5 | 7.07 | CK3030 |

* CS(Sendust Cylinder Core), CH(High Flux Cylinder Core) and customized designs are also available

■ CYLINDER ASSEMBLY

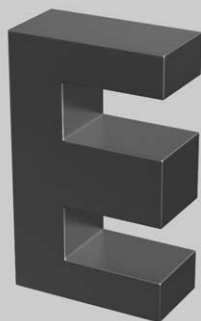


■ DC Bias Characteristics



| Plate Part No. | Cylinder Part No. | 1 LEG STACK | Dimensions | | | | | Path Length (cm) | Cross Section Area (cm ²) | Window Area (cm ²) | AL value (nH/N ²) ± 12% | | |
|----------------|-------------------|-------------|---------------|--------------|---------------|---------------------|---------------------|------------------|---------------------------------------|--------------------------------|-------------------------------------|------|------|
| | | | A Length (mm) | B Width (mm) | C Height (mm) | D Inner Height (mm) | E Inner Length (mm) | | | | 026μ | 040μ | 060μ |
| | | | | | | | | | | | | | |
| RBK5420-15 | CK2020 | 1 | 54 | 20 | 51.4 | 20 | 14 | 12.41 | 3.14 | 2.8 | 99 | 127 | 191 |
| | | 2 | 54 | 20 | 71.4 | 40 | 14 | 16.41 | 3.14 | 5.6 | 75 | 96 | 144 |
| | | 3 | 54 | 20 | 91.4 | 60 | 14 | 20.41 | 3.14 | 8.4 | 60 | 77 | 116 |
| RBK6424-18 | CK2424 | 1 | 64 | 24 | 61.6 | 24 | 16 | 14.72 | 4.52 | 3.84 | 120 | 154 | 232 |
| | | 2 | 64 | 24 | 85.6 | 48 | 16 | 19.52 | 4.52 | 7.68 | 90 | 116 | 175 |
| | | 3 | 64 | 24 | 109.6 | 72 | 16 | 24.32 | 4.52 | 11.52 | 72 | 93 | 140 |
| RBK6725-19 | CK2525 | 1 | 67 | 25 | 64.2 | 25 | 17 | 15.41 | 4.91 | 4.25 | 124 | 160 | 240 |
| | | 2 | 67 | 25 | 89.2 | 50 | 17 | 20.41 | 4.91 | 8.5 | 94 | 121 | 181 |
| | | 3 | 67 | 25 | 114.2 | 75 | 17 | 25.41 | 4.91 | 12.75 | 75 | 97 | 146 |
| RBK7428-21 | CK2828 | 1 | 74 | 27.5 | 71.4 | 28 | 19 | 17.13 | 6.00 | 5.32 | 136 | 176 | 264 |
| | | 2 | 74 | 27.5 | 99.4 | 56 | 19 | 22.73 | 6.00 | 10.64 | 103 | 133 | 199 |
| | | 3 | 74 | 27.5 | 127.4 | 84 | 19 | 28.33 | 6.00 | 15.96 | 83 | 106 | 160 |
| RBK8030-23 | CK3030 | 1 | 80 | 30 | 77 | 30 | 20 | 18.4 | 7.07 | 6 | 150 | 193 | 290 |
| | | 2 | 80 | 30 | 107 | 60 | 20 | 24.4 | 7.07 | 12 | 113 | 146 | 218 |
| | | 3 | 80 | 30 | 137 | 90 | 20 | 30.4 | 7.07 | 18 | 91 | 117 | 175 |

EE CORES



Features

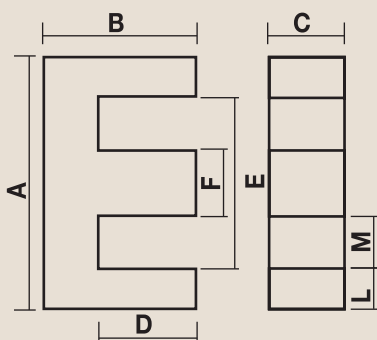
- Large energy storage capacity
- No magnetic flux leakage
- Good temperature stability
- Low core loss at high frequency

Applications

- High inductance choke coils
- Flyback transformers
- Multiple circuit choke coils
- Output chokes for SMPS



Product Identification



ES 43 21 A - 060

| | |
|--|--------------------------------------|
| Permeability : 60μ | Available perm. 26, 40, 60, 90 μ |
| Height of E core | |
| Width : 21 mm | Available size : 8.0mm~38.1mm |
| Length : 43mm | Available size : 19.0mm~80.0mm |
| Sendust E core | EK : Mega Flux TM |

| Part No. | Dimensions (mm) | | | | | | | | Path Length (cm) | Cross Section Area (cm ²) | AL value (nH/N ²) \pm 12% | | | |
|----------|-----------------|------|------|--------|--------|------|--------|--------|------------------|---------------------------------------|---|-----------|-----------|-----------|
| | A | B | C | D(min) | E(min) | F | L(nom) | M(min) | | | 026 μ | 040 μ | 060 μ | 090 μ |
| ES 1908A | 19.3 | 8.1 | 4.8 | 5.5 | 13.9 | 4.8 | 2.3 | 4.7 | 4.01 | 0.228 | 26 | 35 | 48 | 69 |
| ES 2510A | 25.1 | 9.6 | 6.5 | 6.2 | 18.8 | 6.1 | 3.0 | 6.3 | 4.85 | 0.385 | 39 | 52 | 70 | 100 |
| ES 3015A | 30.1 | 15.0 | 7.1 | 9.7 | 19.5 | 7.0 | 5.1 | 6.4 | 6.56 | 0.601 | 33 | 46 | 71 | 92 |
| ES 3515A | 34.5 | 14.1 | 9.3 | 9.6 | 25.3 | 9.3 | 4.4 | 7.9 | 6.94 | 0.840 | 56 | 75 | 102 | 146 |
| ES 4117A | 40.9 | 16.5 | 12.5 | 10.4 | 28.3 | 12.5 | 6.0 | 7.9 | 7.75 | 1.520 | 88 | 119 | 163 | 234 |
| ES 4321A | 42.8 | 21.1 | 10.8 | 15.0 | 30.4 | 11.7 | 5.9 | 9.5 | 9.84 | 1.280 | 56 | 76 | 105 | 151 |
| ES 4321B | 42.8 | 21.1 | 15.4 | 15.0 | 30.4 | 11.7 | 5.9 | 9.5 | 9.84 | 1.830 | 80 | 108 | 150 | 217 |
| ES 4321C | 42.8 | 21.1 | 20.0 | 15.0 | 30.4 | 11.7 | 5.9 | 9.5 | 9.84 | 2.370 | 104 | 140 | 194 | 281 |
| ES 5528A | 54.9 | 27.6 | 20.6 | 18.5 | 37.5 | 16.8 | 8.4 | 10.3 | 12.30 | 3.500 | 116 | 157 | 219 | |
| ES 5528B | 54.9 | 27.6 | 24.6 | 18.5 | 37.5 | 16.8 | 8.4 | 10.3 | 12.30 | 4.170 | 138 | 187 | 261 | |
| ES 6533A | 65.1 | 32.5 | 27.0 | 22.2 | 44.2 | 19.7 | 10.0 | 12.1 | 14.70 | 5.400 | 162 | 230 | 300 | |
| ES 7228A | 72.4 | 27.9 | 19.0 | 17.8 | 52.6 | 19.1 | 9.5 | 16.9 | 13.70 | 3.680 | 130 | 173 | 236 | |
| ES 8038A | 80.0 | 38.1 | 19.8 | 28.1 | 59.3 | 19.8 | 9.9 | 19.8 | 18.50 | 3.890 | 103 | 145 | 190 | |

※ EK(Mega Flux®EE Core) and customized designs are also available.

EER CORES

SPECIAL MAGNETIC POWDER CORES

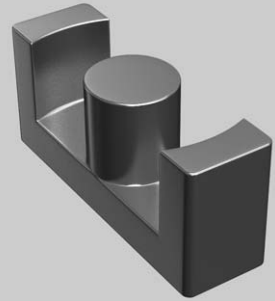


Features

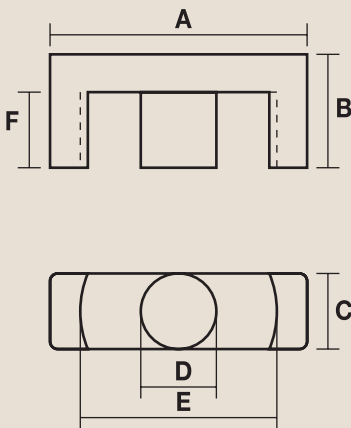
- Large energy storage capacity
- No magnetic flux leakage
- Good temperature stability
- Excellent DC bias characteristics

Applications

- Power inductor for large currents
- Multiple circuit choke coils
- Output chokes for SMPS



Product Identification



HER 40 13 B - 060

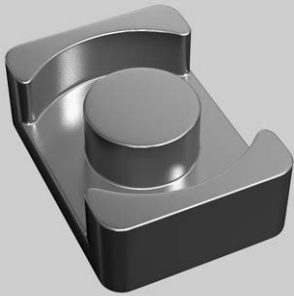
| | |
|--|--|
| Permeability : 60μ | Available perm. 26, 40, 60 μ |
| Height of EER core | |
| Width : 13mm | Available size : 7mm~17mm |
| Length : 40mm | Available size : 25mm~49mm |
| High Flux EER Core | KER : Mega Flux [®] , SER : Sendust |

| Part No. | Dimensions (mm) | | | | | | Path Length (cm) | Cross Section Area (cm ²) | AL value (nH/N ²) $\pm 12\%$ | | |
|-----------|-----------------|------|------|------|------|------|------------------|---------------------------------------|--|-----------|-----------|
| | A | B | C | D | E | F | | | 026 μ | 040 μ | 060 μ |
| HER 2507A | 25.5 | 9.3 | 7.5 | 7.5 | 19.8 | 6.2 | 5.10 | 0.450 | 39 | 53 | 73 |
| HER 2507B | 25.5 | 11.0 | 7.5 | 7.5 | 19.8 | 7.9 | 5.78 | 0.450 | 34 | 47 | 65 |
| HER 3010A | 30.6 | 15.8 | 9.8 | 9.8 | 22.0 | 11 | 8.66 | 0.754 | 38 | 53 | 72 |
| HER 3511A | 35.0 | 15.8 | 11.3 | 11.3 | 25.6 | 9.8 | 8.30 | 1.078 | 57 | 78 | 108 |
| HER 3511B | 35.0 | 20.7 | 11.3 | 11.3 | 25.6 | 14.7 | 10.27 | 1.078 | 46 | 63 | 87 |
| HER 4013A | 40.0 | 17.4 | 13.3 | 13.3 | 29.0 | 10.4 | 9.13 | 1.491 | 72 | 99 | 135 |
| HER 4013B | 40.0 | 22.4 | 13.3 | 13.3 | 29.0 | 15.4 | 11.13 | 1.491 | 59 | 81 | 111 |
| HER 4215A | 42.0 | 22.4 | 15.5 | 15.5 | 29.4 | 15.4 | 10.64 | 2.026 | 84 | 115 | 158 |
| HER 4215B | 42.0 | 25.4 | 15.5 | 15.5 | 29.4 | 18.4 | 11.84 | 2.026 | 75 | 103 | 142 |
| HER 4917A | 49.0 | 18.8 | 17.2 | 17.2 | 36.5 | 12.2 | 9.57 | 2.353 | 99 | 136 | 185 |
| HER 4917B | 49.0 | 24.7 | 17.2 | 17.2 | 36.5 | 18.1 | 11.93 | 2.353 | 79 | 109 | 149 |

※ KER(Mega Flux[®] EER Core), SER(Sendust EER Core)and customized designs are also available.

SPECIAL MAGNETIC POWDER CORES

EQ CORES



Features

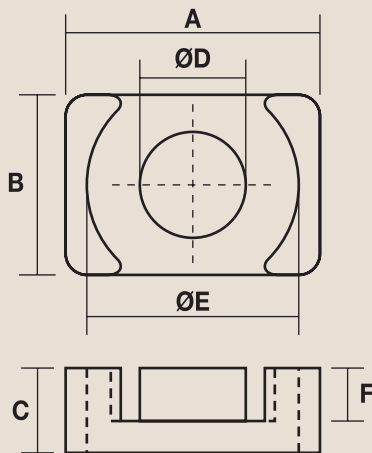
- Small dimensions for large currents
- No magnetic flux leakage
- Excellent DC bias characteristics
- Good temperature stability
- Large energy storage capacity

Applications

- Small dimension DC/DC converters
- Large current choke coils
- Smoothing choke coils
- CPU cores for lap-top computers



Product Identification



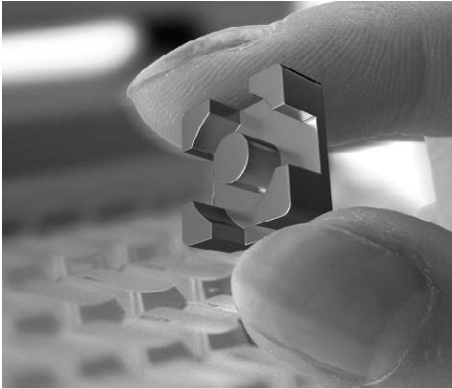
KEQ 41 28 A - 040

| | |
|--------------------------------|----------------------------------|
| Permeability : 40 μ | Available perm. 26, 40, 60 μ |
| Height of EQ core | |
| Width : 28mm | |
| Length : 40mm | Available size : 21mm~65mm |
| Mega Flux [®] EQ core | HEQ : High Flux, SEQ : Sendust |

| Part No. | Dimensions (mm) | | | | | | Path Length (cm) | Cross Section Area (cm ²) | A _L value (nH/N ²) \pm 12% | | |
|-----------|-----------------|------|------|------|------|------|------------------|---------------------------------------|---|-----------|-----------|
| | A | B | C | D | E | F | | | 026 μ | 040 μ | 060 μ |
| KEQ 2014A | 20.5 | 14.0 | 8.1 | 8.8 | 18.0 | 5.7 | 4.52 | 0.608 | 44 | 68 | 101 |
| KEQ 2014B | 20.5 | 14.0 | 10.1 | 8.8 | 18.0 | 7.7 | 5.32 | 0.608 | 37 | 57 | 86 |
| KEQ 2619A | 26.5 | 19.0 | 10.1 | 12.0 | 22.6 | 6.8 | 5.47 | 1.198 | 72 | 110 | 165 |
| KEQ 2619B | 26.5 | 19.0 | 12.4 | 12.0 | 22.6 | 9.1 | 6.39 | 1.198 | 61 | 94 | 141 |
| KEQ 3222A | 32.0 | 22.0 | 10.3 | 13.5 | 27.6 | 6.6 | 6.03 | 1.523 | 83 | 127 | 190 |
| KEQ 3222B | 32.0 | 22.0 | 15.2 | 13.5 | 27.6 | 11.5 | 7.99 | 1.523 | 62 | 96 | 144 |
| KEQ 3626A | 36.0 | 26.0 | 17.4 | 14.4 | 32.0 | 13.4 | 9.47 | 1.808 | 62 | 96 | 144 |
| KEQ 4128A | 41.5 | 28.0 | 19.9 | 14.9 | 36.5 | 15.4 | 11.52 | 1.997 | 57 | 87 | 131 |
| KEQ 5032A | 50.0 | 32.0 | 25.0 | 20.0 | 44.0 | 19.5 | 13.34 | 3.141 | 77 | 118 | 178 |

※ HEQ(High Flux EQ Core), SEQ(Sendust EQ core) and customized designs are also available.

ER CORES

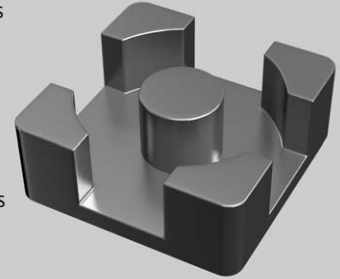


Features

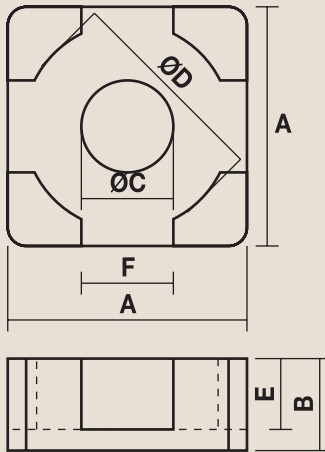
- Small dimensions for large currents
- No magnetic flux leakage
- Excellent DC bias characteristics
- Good temperature stability
- Large energy storage capacity

Applications

- Small dimension DC/DC converters
- Large current choke coils
- Smoothing choke coils
- CPU cores for lap-top computers



■ Product Identification



RH 12 44 SC

Shape Number

Height : 4.4mm

Length : 12mm

Available size 8mm ~15mm

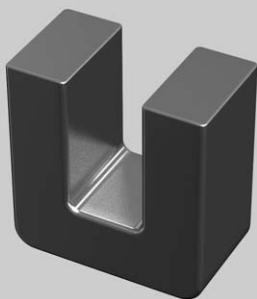
High Flux ER core

RK : Mega FluxTM

| Part No. | Dimensions (mm) | | | | | | Path Length (cm) | Cross Section Area (cm ²) | Al value (nH/N ²) ±15% |
|----------|-----------------|-----|------|-------|------|------|------------------|---------------------------------------|------------------------------------|
| | A | B | C | D | E | F | | | |
| RH0721SC | 7.6 | 2.1 | 2.88 | 6.5 | 1.15 | 2.82 | 1.39 | 0.117 | 37.1 |
| RH0725SC | 7.6 | 2.5 | 2.88 | 6.5 | 1.55 | 2.82 | 1.55 | 0.117 | 33.3 |
| RH1028SC | 10.1 | 2.8 | 3.85 | 8.65 | 1.75 | 3.76 | 1.73 | 0.206 | 52.3 |
| RH1034SC | 10.1 | 3.4 | 3.85 | 8.65 | 2.35 | 3.76 | 1.97 | 0.206 | 45.9 |
| RH1237SC | 12.7 | 3.7 | 4.85 | 10.8 | 2.45 | 4.7 | 2.19 | 0.329 | 66.1 |
| RH1244SC | 12.7 | 4.4 | 4.85 | 10.8 | 3.15 | 4.7 | 2.47 | 0.329 | 58.6 |
| RH1539SC | 15.2 | 3.9 | 5.76 | 12.96 | 2.35 | 5.64 | 2.45 | 0.468 | 83.9 |
| RH1549SC | 15.2 | 4.9 | 5.76 | 12.96 | 3.35 | 5.64 | 2.85 | 0.468 | 72.1 |

※ RK(Mega Flux®RK core) and customized designs are also available.

U CORES



Features

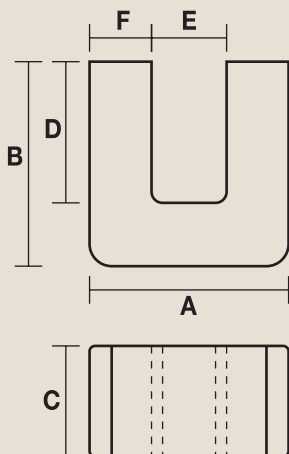
- Large energy storage capacity
- No magnetic flux leakage
- Good temperature stability
- Low core loss at high frequencies

Applications

- High inductance choke coils
- Flyback transformers
- Multiple circuit choke coils
- Output chokes for SMPS



Product Identification



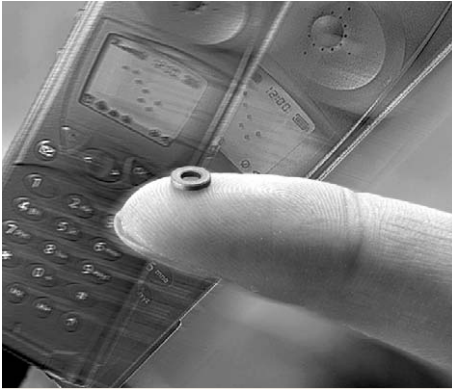
UK 41 41 C-060

| | |
|--|----------------------------------|
| Permeability : 60μ | Available perm. 26, 40, 60 μ |
| Height of U core | |
| Width : 41 mm | Available size : 36mm~ 65mm |
| Length : 41 mm | Available size : 35mm~ 79mm |
| Mega Flux[®] U core | UH : High Flux, US : Sendust |

| Part No. | Dimensions (mm) | | | | | | Path Length (cm) | Cross Section Area(cm ²) | Al value (nH/N ²) $\pm 12\%$ | | |
|----------------|-----------------|------|------|------|------|------|------------------|--------------------------------------|--|-----------|-----------|
| | A | B | C | D | E | F | | | 026 μ | 040 μ | 060 μ |
| UK3536A | 35.0 | 36.0 | 20.0 | 25.0 | 13.0 | 11.0 | 16.90 | 2.200 | 43 | 65 | 98 |
| UK3536B | 35.0 | 36.0 | 25.0 | 25.0 | 13.0 | 11.0 | 16.90 | 2.750 | 53 | 82 | 123 |
| UK4141A | 41.0 | 41.0 | 20.0 | 28.0 | 15.0 | 13.0 | 19.30 | 2.600 | 44 | 68 | 102 |
| UK4141B | 41.0 | 41.0 | 25.0 | 28.0 | 15.0 | 13.0 | 19.30 | 3.250 | 55 | 85 | 127 |
| UK4141C | 41.0 | 41.0 | 30.0 | 28.0 | 15.0 | 13.0 | 19.30 | 3.900 | 66 | 102 | 152 |
| UK5251A | 52.0 | 51.0 | 25.0 | 35.0 | 20.0 | 16.0 | 24.30 | 4.000 | 54 | 83 | 124 |
| UK5251B | 52.0 | 51.0 | 30.0 | 35.0 | 20.0 | 16.0 | 24.30 | 4.800 | 65 | 99 | 149 |
| UK6361A | 63.0 | 60.5 | 30.0 | 41.5 | 25.0 | 19.0 | 29.10 | 5.700 | 64 | 98 | 148 |
| UK6361B | 63.0 | 60.5 | 35.0 | 41.5 | 25.0 | 19.0 | 29.10 | 6.650 | 75 | 115 | 172 |
| UK7965A | 79.0 | 64.5 | 30.0 | 42.5 | 35.0 | 22.0 | 32.60 | 6.600 | 66 | 102 | 153 |
| UK7965B | 79.0 | 64.5 | 35.0 | 42.5 | 35.0 | 22.0 | 32.60 | 7.700 | 77 | 119 | 178 |

※ UH(High Flux U Core), US(Sendust U Core) and customized designs are also available.

WASHER CORES

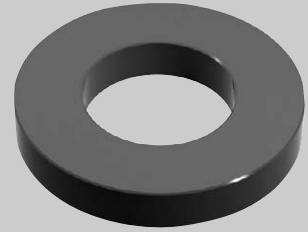


Features

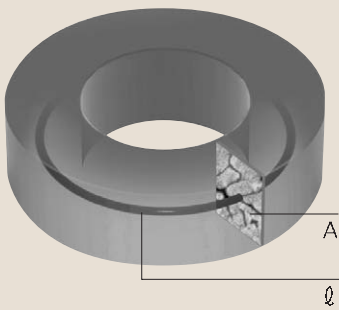
- High permeability powder cores
- Low core loss at high frequencies
- High efficiency washer cores
- Minimum magnetic flux leakage
- Excellent DC bias characteristics
- Good temperature stability
- Large energy storage capacity

Applications

- Choke coil for mobile phones
- Inductor for handheld devices
- Power Inductor for PDA, LCD



Product Identification



DM 46 12 P

Parylene - C coated

Height : 1.2mm

OD size : 4.6mm

Washer Core

Available HT 0.8mm~ 1.2mm

Available size : 3.5mm~ 6.3mm

DM : Washer MPP Core

| Part No. | Core Dimensions (mm) Before Finish | | | AL value (nH/N ²) ± 12% | Path Length (cm) | Typical Inductance L@ 0A, 20T (μH) | Recommended Inductance L (μH) at 0A |
|----------|------------------------------------|------|-----|-------------------------------------|------------------|------------------------------------|-------------------------------------|
| | OD | ID | HT | | | | |
| DM 3508P | 3.56 | 1.78 | 0.8 | 14 | 0.817 | 5.6 | 3.3, 4.7, 6.8, 10 |
| DM 3510P | | | 1.0 | | | | |
| DM 3908P | 3.94 | 2.24 | 0.8 | 14 | 0.942 | 5.6 | 3.3, 4.7, 6.8, 10, 15, 22 |
| DM 3910P | | | 1.0 | | | | |
| DM 3912P | | | 1.2 | | | | |
| DM 4610P | 4.65 | 2.36 | 1.0 | 20 | 1.060 | 8 | 3.3, 4.7, 6.8, 10, 15, 22 |
| DM 4612P | | | 1.2 | | | | |
| DM 4614P | | | 1.4 | | | | |
| DM 6310P | 6.35 | 3.79 | 1.0 | 18 | 1.361 | 8.8 | 4.7, 6.8, 10, 15, 22, 33, 47, 56 |
| DM 6312P | | | 1.2 | | | | |

BIG TOROIDAL CORES



Features

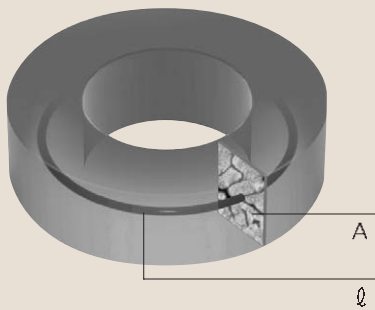
- Excellent DC bias characteristics
- Near zero magnetostriction coefficient constant
- Good temperature stability

Applications

- Power factor correction(PFC) circuits
- Power inductors for large currents
- AC Reactors for inverters



Product Identification



CS 16 25 026 E

| | |
|------------------------|---|
| Epoxy coated | E : Epoxy, C : Plastic case, U : uncoated |
| Perm. : 26μ | Available perm. 26, 50, 60, 125μ |
| Height : 25mm | Available HT 13.6mm ~ 40.6mm |
| OD size : 165mm | Available size : 101.6mm ~ 165.0mm |
| Sendust Core | CM : MPP, CH : High Flux, CK : Mega Flux [®] |

CSC' big toroidal cores produced by a 3000 ton press are ideal for high current applications, especially in UPS, renewable energy(solar/wind), high power industrial power systems. The maximum diameter is 165mm(6.5")OD and the electrical characteristics are the same as small toroidal cores. CSC cores are the world's biggest and strongest on the market today.

| Part No. | Before Finish Dimensions (mm) | | | After Finish Dimensions (mm) | | | Weight (g) | Path Length (cm) | Cross Section Area (cm ²) | AL value (nH/N ²) ±8% | | |
|----------|-------------------------------|------------|------------|------------------------------|------------|------------|------------|------------------|---------------------------------------|-----------------------------------|------|------|
| | OD(mm) Max | ID(mm) Min | HT(mm) Max | OD(mm) Max | ID(mm) Max | HT(mm) Max | | | | 026μ | 060μ | 125μ |
| CS1013 | 101.6 | 57.2 | 13.6 | 103.1 | 55.7 | 14.9 | 548.6 | 24.27 | 2.972 | 40 | 92 | 192 |
| CS1016 | 101.6 | 57.2 | 16.5 | 103.1 | 55.7 | 17.8 | 665.6 | 24.27 | 3.522 | 47 | 112 | 228 |
| CS1027 | 101.6 | 57.2 | 27.2 | 103.1 | 55.7 | 28.5 | 1097.3 | 24.27 | 5.944 | 80 | 184 | 384 |
| CS1033 | 101.6 | 57.2 | 33.0 | 103.1 | 55.7 | 34.3 | 1331.3 | 24.27 | 7.044 | 94 | 224 | 456 |
| CS1320 | 132.5 | 78.6 | 20.3 | 134.2 | 77 | 21.7 | 1280.1 | 32.42 | 5.347 | 54 | 124 | 259 |
| CS1325 | 132.5 | 78.6 | 25.4 | 134.2 | 77 | 26.8 | 1601.7 | 32.42 | 6.710 | 68 | 156 | 325 |
| CS1333 | 132.5 | 78.6 | 33.0 | 134.2 | 77 | 34.4 | 2080.9 | 32.42 | 8.717 | 88 | 202 | 422 |
| CS1340 | 132.5 | 78.6 | 40.6 | 134.2 | 77 | 42 | 2560.2 | 32.42 | 10.694 | 108 | 248 | 518 |
| CS1625 | 165.0 | 88.9 | 25.4 | 167.2 | 86.9 | 27.3 | 2808.0 | 38.65 | 9.460 | 80 | 184 | 384 |

※ CM(MPP core), CH(High Flux core), CK(Mega Flux[®] core) and customer specifications are also available.

A large grey rectangular area with horizontal white lines, serving as a template for notes. The lines are evenly spaced and extend across the width of the page, providing a guide for writing.

Terminology

AL Value (nH/N²)

The inductance (nanohenries) of a core for 1 turn winding. It is measured at peak AC flux density of 10 gauss and frequency of 10kHz. $1\text{nH}/\text{N}^2 = 1\text{mH}/(1000\text{turns})^2$

Ambient Temperature

Temperature surrounding the devices or circuits. The ambient temperature is measured at 0.5inch(1.27cm) away from the devices or circuits.

Attenuation

The ratio of output parameter (voltage, current, power, etc.) to input parameter. Unit is [dB]. In the case of power, dB is $10\log(\text{output power} / \text{input power})$. In the case of current and voltage, dB is $20\log(\text{output current} / \text{input current})$, $20\log(\text{output voltage} / \text{input voltage})$ respectively.

Coercive Force (Hc) Refer to Hysteresis Curve.

Common-Mode Noise

Electrical interference that is common to both lines in relation to the ground.

Copper Loss [watts]

The power loss (I^2R) or heat generated by current (I) flowing in a winding with resistance (R).

Core loss [watts]

Core loss is composed of eddy current loss, hysteresis loss and residual loss. Refer to Magnetic Design Formulae.

Cross Sectional Area (A)

The effective cross sectional area of a core available for magnetic flux. The cross sectional area listed for toroidal cores is based on bare core dimensions.

Curie Temperature, Tc [°C]

The transition temperature above which a core loses its ferromagnetic properties. Usually defined as the temperature at which μ_i falls to 10% of its room temperature value.

DC Resistance [Ω]

Resistance of winding when AC current is not applied.

Differential Mode Noise

Electrical interference that is not common to both lines but is present between both lines. This is also known as normal mode noise.

Disaccommodation

The proportional change of permeability after a disturbance of a magnetic material. It is measured at a constant temperature over a given time interval.

Distributed Capacitance

In an inductor, each winding behaves as a capacitor having the distributed capacitance. Distributed capacitance is parallel with

inductance in the circuit and causes self-resonance at a certain frequency. An inductor which has a smaller distributed capacitance extends a much higher self resonant frequency. So the inductor should be wound to have as small a distributed capacitance as possible.

Eddy Current

When a varying electric or magnetic field passes through the conducting material, current which opposes the change of field is induced in it. This current is called eddy current. Because a conducting material has electric resistance, the eddy current results in heat loss. This is referred to as the eddy current loss.

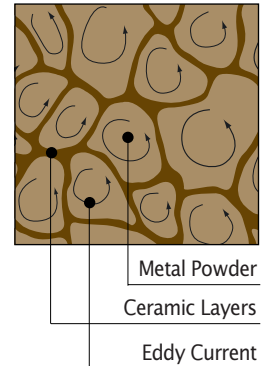


Figure 1. Eddy Current in Powder Cores

Effective Permeability (μ_e) Refer to Permeability.

EMI

The acronym for Electromagnetic Interference is EMI. Generally, EMI refers to unnecessary electrical energies such as noise.

EMC Electromagnetic Compatibility

Hysteresis Curve (B-H Loop)

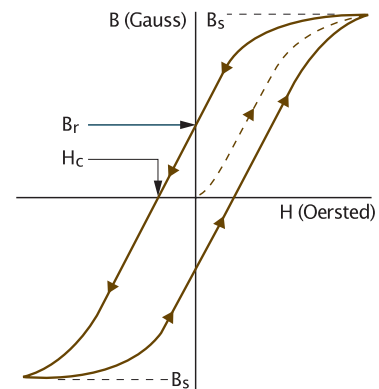


Figure 2. B-H Loop

When the magnetic material is taken through a complete cycle of magnetization and demagnetization, the magnetic flux density in that material behaves irreversibly according to the change of the magnetizing force.

The results are as shown in Figure 2. As H is increased in the neutral magnetic material, flux density B increases along the dashed line (initial magnetization curve) to the saturation point, B_s .

Terminology

When H is now decreased, the B-H loop transverses a path to Br (remanent flux density), where H is zero and the core is still magnetized. The magnetizing force H is now reversed to give a negative value. The magnetizing force required to reduce the flux Br to zero is called the coercive force (Hc). Along the initial magnetization curve, B increases from the origin nonlinearly with H until the material saturates. In practice, the magnetization of a core in an excited inductor never follows this curve because the core is never in a totally demagnetized state when the magnetizing force is first applied.

Flux Density, Magnetic Induction, B [Gauss ; Tesla]

The corresponding parameter for the induced magnetic field in an area perpendicular to the flux path. Flux density is determined by the field strength and permeability of the medium in which it is measured. $1T=10^4$ Gauss

Incremental Permeability ($\Delta\mu$)

 Refer to Permeability.

Inductor

A passive device that prevents a variance of the current. Magnetic flux is induced in the inductor when current flows through the inductor, and the voltage induced by magnetic flux prevents the change of current. Induced voltage

$$\xi = L \cdot di/dt.$$

Initial Permeability (μ_i)

 Refer to Permeability.

Leakage Flux

Leakage flux is the small fraction of the total magnetic flux in a transformer or common mode choke that does not contribute to the magnetic coupling of the windings of the device. The presence of leakage flux in a transformer or common mode choke is modeled as a small "leakage" inductance in series with each winding. In a multi-winding choke or transformer, leakage inductance is the inductance measured at one winding with all other windings short circuited.

Litz Wire

A wire made by twisting and bundling some insulated wire. It can decrease the copper loss at high frequency by reducing the skin effect.

Magnetic Hysteresis

 Refer to Hysteresis Loop.

Magnetizing Force, H [Oe ; A/m]

The magnetic field strength which produces magnetic flux. The mmf per unit length. H can be considered to be a measure of the strength or effort that the magnetomotive force applies to magnetic circuit to establish a magnetic field. H may be expressed as $H=Nl/\ell$, where ℓ is the mean length of the magnetic circuit in meters. $1 \text{ oersted}=79.58A/m$

Mean Magnetic Path Length (ℓ)

The effective magnetic path length of a core structure (cm). Refer to Magnetic Design Formulae.

Normal Mode Noise

 Refer to Differential Mode Noise.

Noise

Unnecessary electrical energy that rises in a circuit.

Operating Temperature Range

The temperature at which a device can be operated normally. Above this temperature, the characteristics of the device can become inferior or the device may operate abnormally. In the case of the inductor, this temperature refers to the temperature rise by the copper loss or core loss. Refer to temperature rise.

Permeability (μ)

In magnetics, permeability is the ability of a material to conduct flux. The magnitude of the permeability at a given induction is a measure of the ease with which a core material can be magnetized to that induction. It is defined as the ratio of the flux density B to the magnetizing force H.

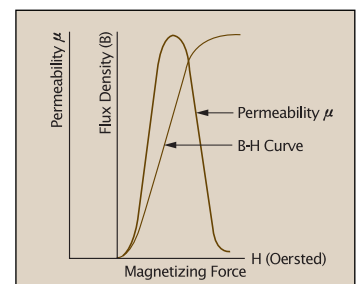


Figure 3. Variation of μ along the Magnetization Curve

$$\text{Permeability} : \mu = B/H \text{ [Gauss/Oersted]}$$

The slope of the initial magnetization curve at any given point gives the permeability at that point. Permeability can be plotted against a typical B-H curve as shown in Figure 3. Permeability is not constant, therefore its value can be stated only at a given value of B or H. There are many different kinds of permeability.

Absolute Permeability (μ_0)

 Permeability in a vacuum

Initial Permeability (μ_i)

Slope of the initial magnetization curve at the origin, that is, the value of permeability at a peak AC flux density of 10 gauss (1 millitesla).

$$\mu = B/H \text{ (Figure 4)}$$

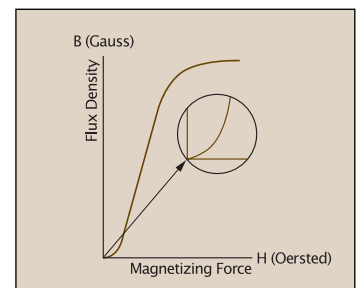


Figure 4. Initial Permeability

Incremental Permeability ($\Delta\mu$)

The slope of the magnetization curve for finite values of peak-to-peak flux density with superimposed DC magnetization (Figure 5). Initial permeability can be thought of as incremental permeability with 0 DC magnetization at small inductions. The incremental permeability is expressed as the slope of the B-H characteristic at around the given operating point.

Terminology

$$\Delta\mu = \frac{\Delta B}{\Delta H}$$

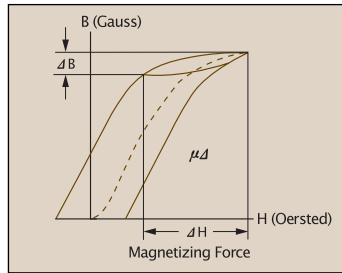


Figure 5. Incremental Permeability

Effective Permeability (μ_e)

If a magnetic circuit is not homogeneous (i.e. contains an air gap), the effective permeability is the permeability of a hypothetical homogeneous (ungapped) structure of the same shape, dimensions, and reluctance that would give the inductance equivalent to the gapped structure.

Relative Permeability (μ_r)

Permeability of a material relative to that of free space.

Maximum permeability (μ_{max})

The slope of a straight line drawn from the origin tangent to the curve at its knee.

(Figure 6)

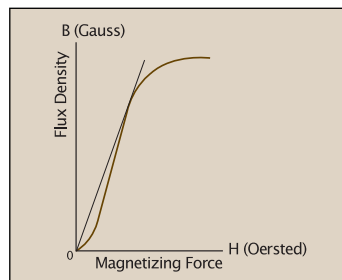


Figure 6. Maximum Permeability

Rated Current

Continuous DC current that can flow in the inductor. It is determined by the maximum temperature rise at the maximum storage temperature range. As rated current is related to power loss of the inductor, DC resistance of the inductor should be lowered or the inductor size should be increased in order to increase the rated current.

Saturation Current

The current at which the inductance decreases below a critical percent inductance (10% or 20% of the initial inductance) by applying DC current to an inductor. In general the critical percent inductance is 10% for ferrite cores and 20% for metal powder cores. The decrease of inductance is caused by the magnetic characteristics of cores. Cores can store a certain amount of flux density, but above that flux density the permeability and inductance of the cores decrease.

Self Resonant Frequency, SRF

The frequency at which the resonance appears between distributed capacitance and inductance of an inductor. At this frequency, inductance and capacitance are canceled out and the inductor is almost a resistor having high impedance. Distributed capacitance that

arises between wires and between wires and cores is parallel with inductance in circuits. Above the self resonant frequency, the capacitive reactance is dominant and the inductor works like the capacitor.

Skin Effect

As the frequency is higher, the current flow is limited to the surface of the wire because the magnetic field in the center of the wire increases. The depth from the wire surface at which the current density at the wire surface decreases by 1/e (37%) is called "skin depth", and this is determined by the conductivity of the wire. As the frequency is higher, skin depth decreases, the reactance of wire increases and current flow is interfered. Litz wire may be used in order to decrease the skin effect.

Storage Temperature Range

Temperature range in which the characteristics of a device can be preserved.

Remanence, Br [Gauss ; Tesla] Refer to Hysteresis Curve.

Saturation

The point at which the flux density B in a magnetic material does not increase with further applications of greater magnetization force H. At saturation, the slope of a material's B-H characteristic curve becomes extremely small, with the instantaneous permeability approaching that of free space. (relative permeability = 1.0)

Saturation Flux Density, Bs [Gauss ; Tesla]

The maximum intrinsic induction possible in a material. This is the flux level at which additional H-field produces no additional B-field.

Temperature Rise (ΔT)

The increase in surface temperature of a component in free-standing air due to the total power dissipation (both copper and core loss).

Approximate temperature rise is as follows ;

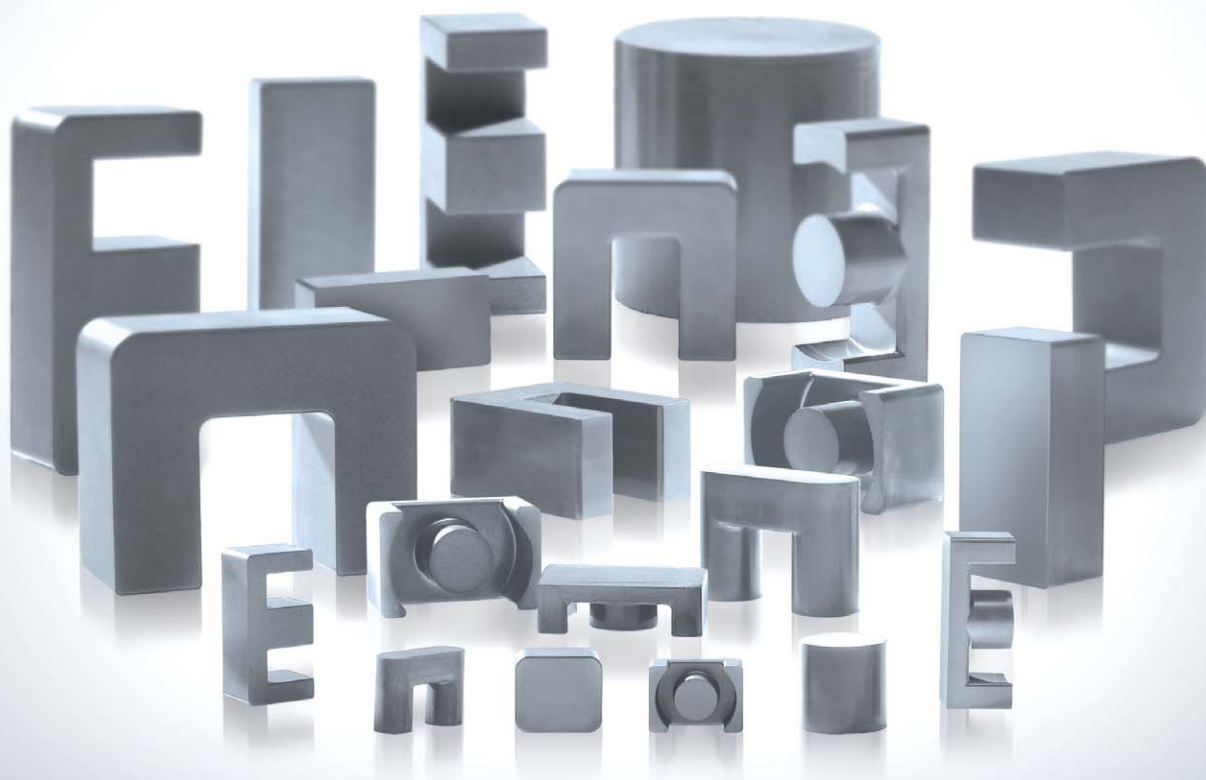
$$\Delta T(^{\circ}\text{C}) = \left[\frac{\text{Total Power Dissipation (Milliwatts)}}{\text{Surface Area (cm}^2\text{)}} \right]^{0.833}$$

Total Power Dissipation = Copper Losses + Core Losses



Innovative Technological Advancements

Special Shaped Magnetic Powder Cores



Research & Development

Chang Sung Corporation has become a global leader through its outstanding R&D center, which is constantly striving to develop new technologies and products. In particular, CSC magnetic powder cores have raised the company's profile and competitiveness in the world market.



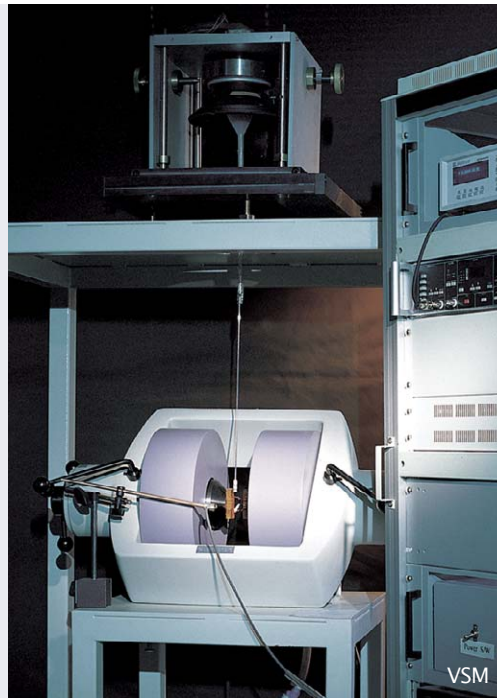
The CSC product line is constantly evolving and improving through our highly advanced R&D center equipped with the most modern research facilities.



AC Power Supply

▼ EQUIPMENT

- B-H Analyser
- B-H Loop Tracer
- DC Bias Tracer
- Precision LCR Meter
- AC Power Supply
- Electrical Load
- Oscilloscope
- Puncture Tester
- Vibrating Sample Magnetometer (VSM)
- PFC Test Kit
- Impedance Analyser
- Scanning Electron Microscope (SEM)
- Optical Microscope
- Laser Particle Size Analyser
- Specific Surface Area Analyser (BET)
- Oxygen / Nitrogen Analyser
- Atomic Absorption Spectrophotometer
- Heat Treating Furnaces
- Optical Emission Spectrometer
- Electrolysis Analyser
- Thermal Analysis Equipment (DSC, TG, DTA)
- Constant Temperature & Humidity Chamber
- Universal Testing Machine (UTM)
- Hardness Testers, etc.



VSM



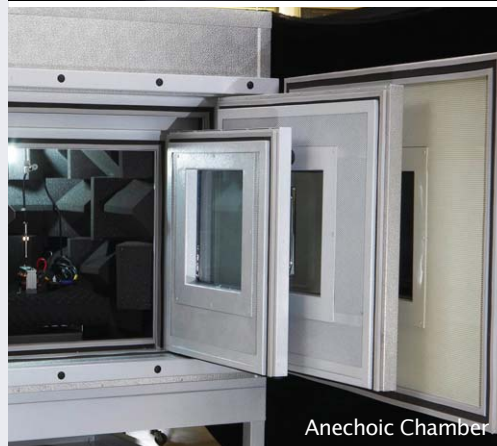
SEM



BET



B-H LOOP



Anechoic Chamber



LCR



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