LITE ON LITE-ON SEMICONDUCTOR

DF15005S thru DF1510S

SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIERS

REVERSE VOLTAGE - 50 to 1000 Volts FORWARD CURRENT - 1.5 Amperes

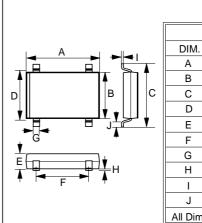
DF-S

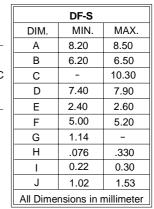
FEATURES

- Rating to 1000V PRV
- Ideal for printed circuit board
- Low forward voltage drop, high current capability.
- Reliable low cost construction utilizing molded plastic technique results in inexpensive product
- Lead Pb/Sn copper
- The plastic material has UL flammability classification 94V-0
- UL recognized file # E95060

MECHANICAL DATA

- Polarity : As marked on Body
- Weight : 0.02 ounces, 0.38 grams
- Mounting position : Any





MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25° C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%

CHARACTERISTICS	SYMBOL	DF 15005S	DF 1501S	DF 1502S	DF 1504S	DF 1506S	DF 1508S	DF 1510S	UNIT
Maximum Recurrent Peak Reverse Voltage	VRRM	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	VRMS	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	VDC	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current @TA=40℃	I(AV)	1.5							A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (JEDEC METHOD)	IFSM	50							A
Maximum forward Voltage at 1.5A DC	VF	1.1							V
Maximum DC Reverse Current at Rated DC Blocking Voltage@TJ =25°C @TJ =125°C	lr	10 500							uA
$I^{2}t$ Rating for fusing (t < 8.3ms)	$l^2 t$	10.4							A ² S
Typical Junction Capacitance per element (Note1)	Сл	25							pF
Typical Thermal Resistance (Note 2)	Reja	40							°C/W
Operating Temperature Range	TJ	-55 to +150							°C
Storage Temperature Range	Tstg	-55 to +150							°C
NOTES 14 Massured at 4 0MHz and applied reverse valtage of 4 0V/DC									

NOTES : 1.Measured at 1.0MHz and applied reverse voltage of 4.0VDC. 2.Thermal resistance from junction to ambient mounted on P.C.B with 0.5x0.5"(13x13mm) copper pads. REV. 2, 01-Dec-2000, KBDA02

RATING AND CHARACTERISTIC CURVES DF1500S thru DF1510S

FIG.1 - FORWARD CURRENT DERATING CURVE FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT PEAK FORWARD SURGE CURRENT, AMPERES 1.50 AVERAGE FORWARD CURRENT AMPERES 50 1.25 40 1.00 30 0.75 20 0.50 SINGLE PHASE HALF WAVE 60Hz RESISTIVE OR INDUCTIVE LOAD 10 0.25 Single Half-Sine-Wave (JEDEC METHOD) 0.00 0 20 40 60 80 100 120 140 1 2 5 10 20 50 100 AMBIENT TEMPERATURE , °C NUMBER OF CYCLES AT 60Hz FIG.3 - TYPICAL JUNCTION CAPACITANCE FIG.4 - TYPICAL FORWARD CHARACTERISTICS 100 10 INSTANTANEOUS FORWARD CURRENT, (A) CAPACITANCE, (pF) 1.0 10 TJ = 25℃ 0.1 PULSE WIDTH 300us 2% DUTY CYCLE TJ = 25℃, f= 1MHz 1.0 .01 0.1 100 1.0 4.0 10.0 0 0.4 1.2 1.4 1.6 1.8 0.2 0.6 0.8 1.0 **REVERSE VOLTAGE**, VOLTS INSTANTANEOUS FORWARD VOLTAGE, VOLTS FIG.5 - TYPICAL REVERSE CHARACTERISTICS 100 INSTANTANEOUS REVERSE CURRENT, (uA) TJ = 125°C 10 1.0 TJ = 25°C 0.1 0.01 0 20 40 60 80 100 120 140 PERCENT OF RATED PEAK REVERSE VOLTAGE, (%)

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