



# 1.5SMC-AU SERIES

## GLASS PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 1500 Watts

**BREAK DOWN VOLTAGE**

**6.8 to 250 Volts**

**SMC / DO-214AB**

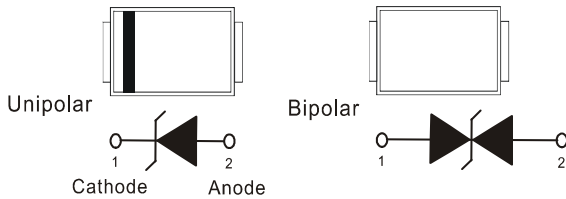
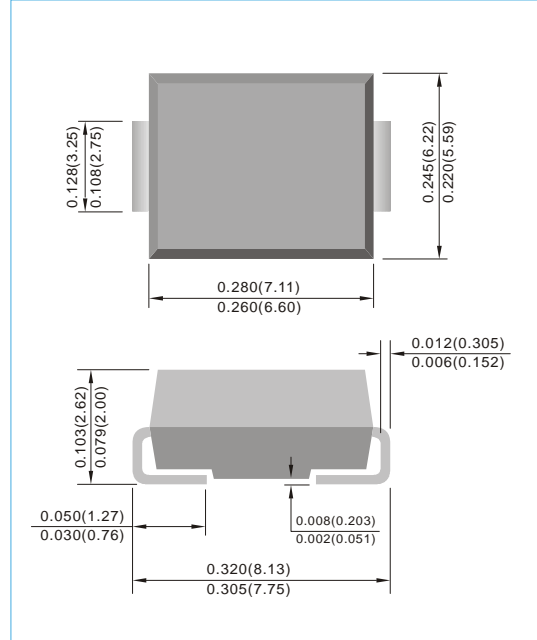
Unit : inch(mm)

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Glass passivated chip junction in SMC/DO-214AB package
- 1500W surge capability at 1.0ms
- Excellent clamping capability
- Low zener impedance
- Fast response time: typically less than 1.0 ps from 0 volts to BV min
- High temperature soldering guaranteed: 260°C/10 seconds/.375" (9.5mm) lead length/5lbs., (2.3kg) tension
- Acquire quality system certificate : TS16949
- Manufactured in accordance with AECQ101
- Lead free in comply with EU RoHS 2002/95/EC directives
- Green molding compound as per IEC61249 Std. . (Halogen Free)

### MECHANICAL DATA

- Case: JEDEC SMC/DO-214AB molded plastic
- Terminals: Axial leads, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Weight: 0.007 ounce, 0.021 gram



### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5SMC6.8 thru types 1.5SMC250.  
 Electrical characteristics apply in both directions.

### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$ , $T_P=1\text{ms}$ (Notes 1)	$P_{PP}$	1500	Watts
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	50	$^\circ\text{C} / \text{W}$
Peak Pulse Current on 10/1000 $\mu\text{s}$ waveform (Notes 1)	$I_{PPM}$	see Table	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (JECED Method) (Notes 3)	$I_{FSM}$	200	Amps
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

#### NOTES:

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2.
2. Mounted on Copper Leaf area of 0.79 in<sup>2</sup>(20mm<sup>2</sup>).
3. 8.3ms single half sine-wave, duty cycle= 4 pulses per minutes maximum.
4. A transient suppressor is selected according to the working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.



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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max Clamp Voltage 10/1000 $\mu$ s	Peak Pulse Current 10/1000 $\mu$ s	Marking Code	
		V <sub>RWM</sub> (Notes 4)	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	$\mu$ A	$\mu$ A	V	A	UNI	BI
<b>1500W Transient Voltage Suppressor</b>											
1.5SMC6.8-AU	1.5SMC6.8C-AU	5.5	6.12	7.48	10	1000	2000	10.8	139	FZA	JZA
1.5SMC6.8A-AU	1.5SMC6.8CA-AU	5.8	6.45	7.14	10	1000	2000	10.5	143	FZB	JZB
1.5SMC7.5-AU	1.5SMC7.5C-AU	6.05	6.75	8.25	10	500	1000	11.7	128	FZC	JZC
1.5SMC7.5A-AU	1.5SMC7.5CA-AU	6.4	7.13	7.88	10	500	1000	11.3	132	FZD	JZD
1.5SMC8.2-AU	1.5SMC8.2C-AU	6.63	7.38	9.02	10	200	400	12.5	120	FZE	JZE
1.5SMC8.2A-AU	1.5SMC8.2CA-AU	7.02	7.79	8.61	10	200	400	12.1	124	FZF	JZF
1.5SMC9.1-AU	1.5SMC9.1C-AU	7.37	8.19	10	1	50	100	13.8	109	FZG	JZG
1.5SMC9.1A-AU	1.5SMC9.1CA-AU	7.78	8.65	9.5	1	50	100	13.4	112	FZH	JZH
1.5SMC10-AU	1.5SMC10C-AU	8.1	9	11	1	10	20	15	100	FZJ	JZJ
1.5SMC10A-AU	1.5SMC10CA-AU	8.55	9.5	10.5	1	10	20	14.5	103	FZK	JZK
1.5SMC11-AU	1.5SMC11C-AU	8.92	9.9	12.1	1	5	10	16.2	93	FZL	JZL
1.5SMC11A-AU	1.5SMC11CA-AU	9.4	10.5	11.6	1	5	10	15.6	96	FZM	JZM
1.5SMC12-AU	1.5SMC12C-AU	9.72	10.8	13.2	1	5	5	17.3	87	FZN	JZN
1.5SMC12A-AU	1.5SMC12CA-AU	10.2	11.4	12.6	1	5	5	16.7	90	FZP	JZP
1.5SMC13-AU	1.5SMC13C-AU	10.5	11.7	14.3	1	1	1	19	79	FZQ	JZQ
1.5SMC13A-AU	1.5SMC13CA-AU	11.1	12.4	13.7	1	1	1	18.2	82	FZR	JZR
1.5SMC15-AU	1.5SMC15C-AU	12.1	13.5	16.5	1	1	1	22	68	FZS	JZS
1.5SMC15A-AU	1.5SMC15CA-AU	12.8	14.3	15.8	1	1	1	21.2	71	FZT	JZT
1.5SMC16-AU	1.5SMC16C-AU	12.9	14.4	17.6	1	1	1	23.5	64	FZU	JZU
1.5SMC16A-AU	1.5SMC16CA-AU	13.6	15.2	16.8	1	1	1	22.5	67	FZV	JZV
1.5SMC18-AU	1.5SMC18C-AU	14.5	16.2	19.8	1	1	1	26.5	56.5	FZW	JZW
1.5SMC18A-AU	1.5SMC18CA-AU	15.3	17.1	18.9	1	1	1	25.2	59.5	FZX	JZX
1.5SMC20-AU	1.5SMC20C-AU	16.2	18	22	1	1	1	29.1	51.5	FZY	JZY
1.5SMC20A-AU	1.5SMC20CA-AU	17.1	19	21	1	1	1	27.7	54	FZZ	JZZ
1.5SMC22-AU	1.5SMC22C-AU	17.8	19.8	24.2	1	1	1	31.9	47	FXA	JXA
1.5SMC22A-AU	1.5SMC22CA-AU	18.8	20.9	23.1	1	1	1	30.6	49	FXB	JXB
1.5SMC24-AU	1.5SMC24C-AU	19.4	21.6	26.4	1	1	1	34.7	43	FXC	JXC
1.5SMC24A-AU	1.5SMC24CA-AU	20.5	22.8	25.2	1	1	1	33.2	45	FXD	JXD
1.5SMC27-AU	1.5SMC27C-AU	21.8	24.3	29.7	1	1	1	39.1	38.5	FXE	JXE
1.5SMC27A-AU	1.5SMC27CA-AU	23.1	25.7	28.4	1	1	1	37.5	40	FXF	JXF
1.5SMC30-AU	1.5SMC30C-AU	24.3	27	33	1	1	1	43.5	34.5	FXG	JXG
1.5SMC30A-AU	1.5SMC30CA-AU	25.6	28.5	31.5	1	1	1	41.4	36	FXH	JXH
1.5SMC33-AU	1.5SMC33C-AU	26.8	29.7	36.3	1	1	1	47.7	31.5	FXJ	JXJ
1.5SMC33A-AU	1.5SMC33CA-AU	28.2	31.4	34.7	1	1	1	45.7	33	FXK	JXK
1.5SMC36-AU	1.5SMC36C-AU	29.1	32.4	39.6	1	1	1	52	29	FXL	JXL
1.5SMC36A-AU	1.5SMC36CA-AU	30.8	34.2	37.8	1	1	1	49.9	30	FXM	JXM
1.5SMC39-AU	1.5SMC39C-AU	31.6	35.1	42.9	1	1	1	56.4	26.5	FXN	JXN
1.5SMC39A-AU	1.5SMC39CA-AU	33.3	37.1	41	1	1	1	53.9	28	FXP	JXP
1.5SMC43-AU	1.5SMC43C-AU	34.8	38.7	47.3	1	1	1	61.9	24	FXQ	JXQ

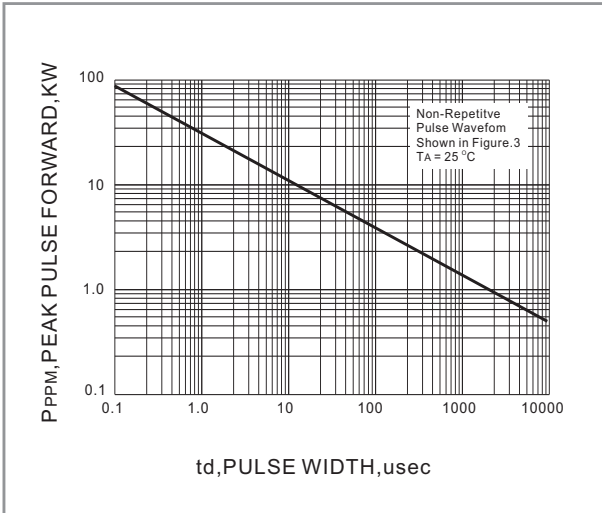


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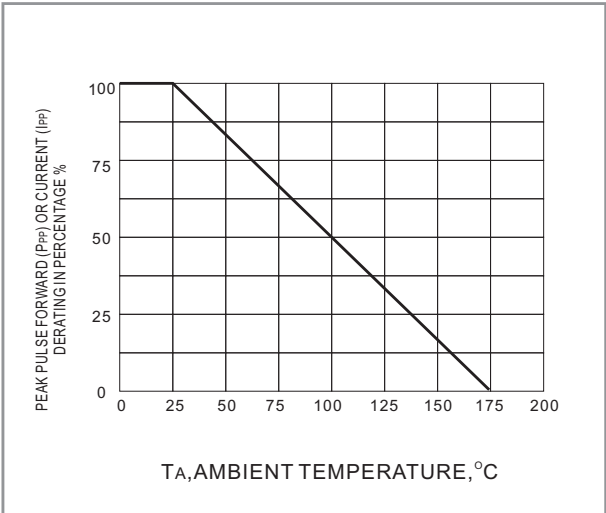
Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000 $\mu$ s	Peak Pulse Current 10/1000 $\mu$ s	Marking Code	
			$V_{BR} @ I_T$			$I_R @ V_{RWM}$					
		$V_{RWM}$ (Notes 4)	Min.	Max.	$I_T$	UNI	BI	$V_C @ I_{PP}$	$I_{PP}$		
UNI	BI	V	V	V	mA	$\mu$ A	$\mu$ A	V	A	UNI	BI
<b>1500W Transient Voltage Suppressor</b>											
1.5SMC43A-AU	1.5SMC43CA-AU	36.8	40.9	45.2	1	1	1	59.3	25.3	FXR	JXR
1.5SMC47-AU	1.5SMC47C-AU	38.1	42.3	51.7	1	1	1	67.8	22.2	FXS	JXS
1.5SMC47A-AU	1.5SMC47CA-AU	40.2	44.7	49.4	1	1	1	64.8	23.2	FXT	JXT
1.5SMC51-AU	1.5SMC51C-AU	41.3	45.9	56.1	1	1	1	73.5	20.4	FXU	JXU
1.5SMC51A-AU	1.5SMC51CA-AU	43.6	48.5	53.6	1	1	1	70.1	21.4	FXV	JXV
1.5SMC56-AU	1.5SMC56C-AU	45.6	50.4	61.6	1	1	1	80.5	18.6	FXW	JXW
1.5SMC56A-AU	1.5SMC56CA-AU	47.8	53.2	58.8	1	1	1	77	19.5	FXX	JXX
1.5SMC62-AU	1.5SMC62C-AU	50.2	55.8	68.2	1	1	1	89	16.9	FXY	JXY
1.5SMC62A-AU	1.5SMC62CA-AU	53	58.9	65.1	1	1	1	85	17.7	FXZ	JXZ
1.5SMC68-AU	1.5SMC68C-AU	55.1	61.2	74.8	1	1	1	98	15.3	FYA	JYA
1.5SMC68A-AU	1.5SMC68CA-AU	58.1	64.6	71.4	1	1	1	92	16.3	FYB	JYB
1.5SMC75-AU	1.5SMC75C-AU	60.7	67.5	82.5	1	1	1	108	13.9	FYC	JYC
1.5SMC75A-AU	1.5SMC75CA-AU	64.1	71.3	78.8	1	1	1	103	14.6	FYD	JYD
1.5SMC82-AU	1.5SMC82C-AU	66.4	73.8	90.2	1	1	1	118	12.7	FYE	JYE
1.5SMC82A-AU	1.5SMC82CA-AU	70.1	77.9	86.1	1	1	1	113	13.3	FYF	JYF
1.5SMC91-AU	1.5SMC91C-AU	73.7	81.9	100	1	1	1	131	11.4	FYG	JYG
1.5SMC91A-AU	1.5SMC91CA-AU	77.8	86.5	95.5	1	1	1	125	12	FYH	JYH
1.5SMC100-AU	1.5SMC100C-AU	81	90	110	1	1	1	144	10.4	FYJ	JYJ
1.5SMC100A-AU	1.5SMC100CA-AU	85.5	95	105	1	1	1	137	11	FYK	JYK
1.5SMC110-AU	1.5SMC110C-AU	89.2	99	121	1	1	1	158	9.5	FYL	JYL
1.5SMC110A-AU	1.5SMC110CA-AU	94	105	116	1	1	1	152	9.9	FYM	JYM
1.5SMC120-AU	1.5SMC120C-AU	97.2	108	132	1	1	1	173	8.7	FYN	JYN
1.5SMC120A-AU	1.5SMC120CA-AU	102	114	126	1	1	1	165	9.1	FYP	JYP
1.5SMC130-AU	1.5SMC130C-AU	105	117	143	1	1	1	187	8	FYQ	JYQ
1.5SMC130A-AU	1.5SMC130CA-AU	111	124	137	1	1	1	179	8.4	FYR	JYR
1.5SMC150-AU	1.5SMC150C-AU	121	135	165	1	1	1	215	7	FYS	JYS
1.5SMC150A-AU	1.5SMC150CA-AU	128	143	158	1	1	1	207	7.2	FYT	JYT
1.5SMC160-AU	1.5SMC160C-AU	130	144	176	1	1	1	230	6.5	FYU	JYU
1.5SMC160A-AU	1.5SMC160CA-AU	136	152	168	1	1	1	219	6.8	FYV	JYV
1.5SMC170-AU	1.5SMC170C-AU	138	153	187	1	1	1	244	6.2	FYW	JYW
1.5SMC170A-AU	1.5SMC170CA-AU	145	162	179	1	1	1	234	6.4	FYX	JYX
1.5SMC180-AU	1.5SMC180C-AU	146	162	198	1	1	1	258	5.8	FYY	JYY
1.5SMC180A-AU	1.5SMC180CA-AU	154	171	189	1	1	1	246	6.1	FYZ	JYZ
1.5SMC200-AU	1.5SMC200C-AU	162	180	220	1	1	1	287	5.2	FWA	JWA
1.5SMC200A-AU	1.5SMC200CA-AU	171	190	210	1	1	1	274	5.5	FWB	JWB
1.5SMC220-AU	1.5SMC220C-AU	175	198	242	1	1	1	344	4.3	FWC	JWC
1.5SMC220A-AU	1.5SMC220CA-AU	185	209	231	1	1	1	328	4.6	FWD	JWD
1.5SMC250-AU	1.5SMC250C-AU	202	225	275	1	1	1	360	4.3	FWE	JWE
1.5SMC250A-AU	1.5SMC250CA-AU	214	237	263	1	1	1	344	4.5	FWF	JWF



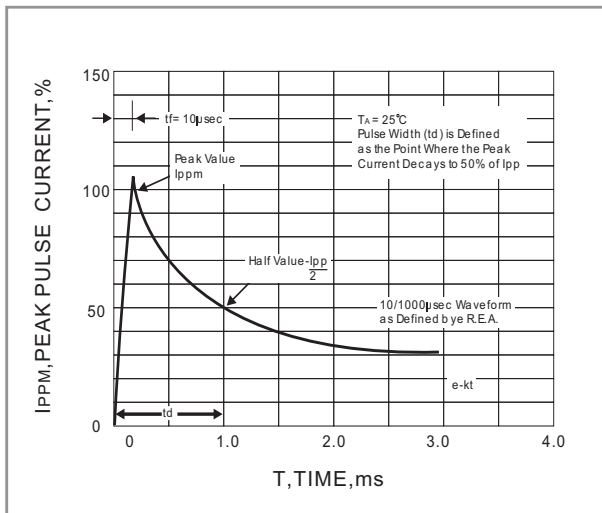
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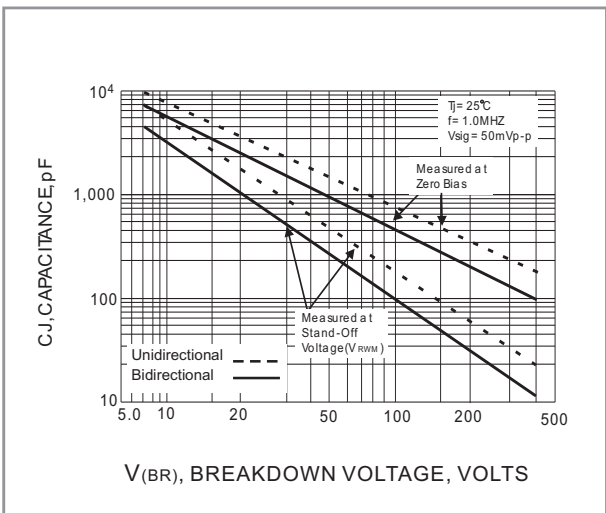
**Fig. 1 PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE**



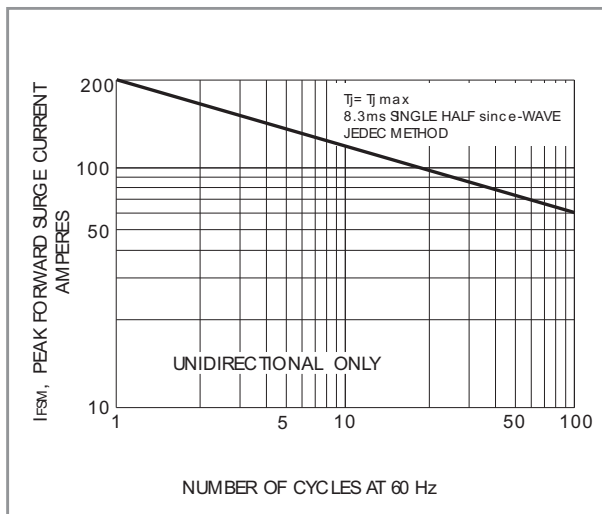
**Fig. 2 PULSE DERATING CURVE**



**Fig. 3 PULSE WAVEFORM**



**Fig. 4 TYPICAL JUNCTION CAPACITANCE**



**Fig. 5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL**

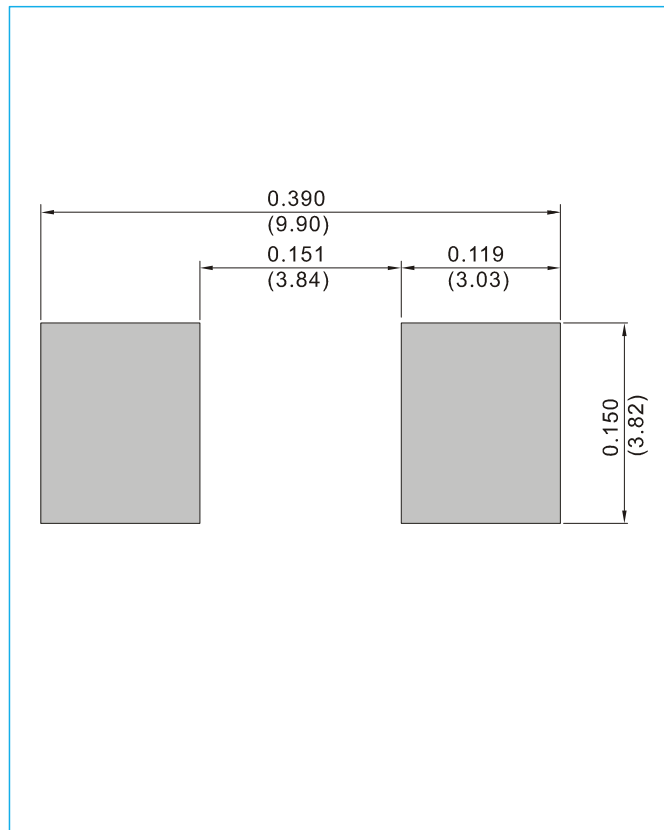


# 1.5SMC-AU SERIES

## MOUNTING PAD LAYOUT

SMC / DO-214AB

Unit : inch(mm)



## ORDER INFORMATION

- Packing information  
T/R - 3K per 13" plastic Reel  
T/R - 0.5K per 7" plastic Reel



# 1.5SMC-AU SERIES

## Part No\_packing code\_Version

1.5SMC6.8-AU\_R1\_000A1

1.5SMC6.8-AU\_R2\_000A1

For example :

**RB500V-40** **R2** **00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



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