



1.5SMCJ-AU SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 1500 Watt

STAND-OFF VOLTAGE

5 to 220 Volt

SMC / DO-214AB

Unit : inch(mm)

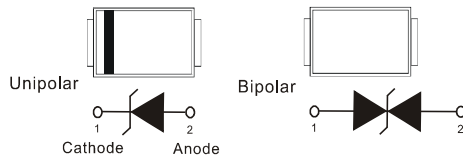
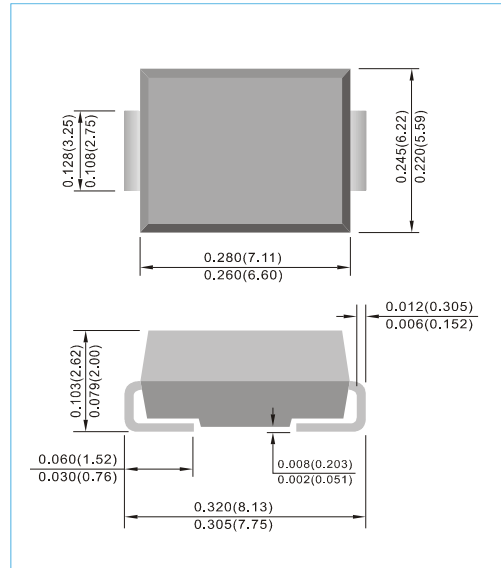
Recongized File # E210467

FEATURES

- For surface mounted applications in order to optimize board space.
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- Acquire quality system certificate : TS16949
- AEC-Q101 qualified
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in compliance with EU RoHS 2011/65/EU directive
- Green molding compound as per IEC61249 Std. . (Halogen Free)

MECHANICAL DATA

- Case: JEDEC DO-214AB, Molded plastic over passivated junction.
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard Packaging: 16mm tape (EIA-481)
- Weight: 0.008 ounce, 0.023 gram



DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use C or CA Suffix for types 1.5SMCJ5.0 thru types 1.5SMCJ220.
Electrical characteristics apply in both directions.

MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.
For Capacitive load derate current by 20%.

Rating	Symbol	Value	Units
Peak Power Dissipation at $T_A=25^\circ\text{C}$, $t_p=1\text{ms}$ (Notes 1)	P_{PP}	1500	W
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)	I_{PPM}	See table	A
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	50	$^\circ\text{C} / \text{W}$
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Notes 3)	I_{FSM}	200	A
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	V_{ESD}	± 30 ± 30	kV
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 2mm^2 (0.013mm thick) land areas.
3. Measured on 8.3ms, single half sine-wave or equivalent square 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.



1.5SMCJ-AU SERIES

Part Number		Reverse Stand-off Voltage <small>V_{VRWM} (Notes 4)</small>	Breakdown Voltage		Test Current <small>I_T</small>	Reverse Leakage		Max. Clamp Voltage 10/1000µs <small>V_C @ I_{PP}</small>	Peak Pulse Current 10/1000µs <small>I_{PP}</small>	Marking Code	
			V _{BR} @ I _T			I _R @ V _{VRWM}					
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
1500W Transient Voltage Suppressor											
1.5SMCJ5.0-AU	1.5SMCJ5.0C-AU	5	6.4	7.55	10	1000	2000	9.6	156.2	GDD	BDD
1.5SMCJ5.0A-AU	1.5SMCJ5.0CA-AU	5	6.4	7.25	10	1000	2000	9.2	163	GDE	BDE
1.5SMCJ6.0-AU	1.5SMCJ6.0C-AU	6	6.67	8.45	10	1000	2000	11.4	131.6	GDF	BDF
1.5SMCJ6.0A-AU	1.5SMCJ6.0CA-AU	6	6.67	7.67	10	1000	2000	10.3	145.6	GDG	BDG
1.5SMCJ6.5-AU	1.5SMCJ6.5C-AU	6.5	7.22	9.14	10	500	1000	12.3	122	GDH	BDH
1.5SMCJ6.5A-AU	1.5SMCJ6.5CA-AU	6.5	7.22	8.3	10	500	1000	11.2	133.9	GDK	BDK
1.5SMCJ7.0-AU	1.5SMCJ7.0C-AU	7	7.78	9.86	10	200	400	13.3	112.8	GDL	BDL
1.5SMCJ7.0A-AU	1.5SMCJ7.0CA-AU	7	7.78	8.95	10	200	400	12	125	GDM	BDM
1.5SMCJ7.5-AU	1.5SMCJ7.5C-AU	7.5	8.33	10.67	1	100	200	14.3	104.9	GDN	BDN
1.5SMCJ7.5A-AU	1.5SMCJ7.5CA-AU	7.5	8.33	9.58	1	100	200	12.9	116.3	GDP	BDP
1.5SMCJ8.0-AU	1.5SMCJ8.0C-AU	8	8.89	11	1	50	100	15	100	GDQ	BDQ
1.5SMCJ8.0A-AU	1.5SMCJ8.0CA-AU	8	8.89	10.23	1	50	100	13.6	110.3	GDR	BDR
1.5SMCJ8.5-AU	1.5SMCJ8.5C-AU	8.5	9.44	11.92	1	25	50	15.9	94.3	GDS	BDS
1.5SMCJ8.5A-AU	1.5SMCJ8.5CA-AU	8.5	9.44	10.82	1	25	50	14.4	104.2	GDT	BDT
1.5SMCJ9.0-AU	1.5SMCJ9.0C-AU	9	10	12.6	1	10	20	16.9	88.7	GDU	BDU
1.5SMCJ9.0A-AU	1.5SMCJ9.0CA-AU	9	10	11.5	1	10	20	15.4	97.4	GDV	BDV
1.5SMCJ10-AU	1.5SMCJ10C-AU	10	11.1	14.1	1	5	5	18.8	79.8	GDW	BDW
1.5SMCJ10A-AU	1.5SMCJ10CA-AU	10	11.1	12.8	1	5	5	17	88.2	GDX	BDX
1.5SMCJ11-AU	1.5SMCJ11C-AU	11	12.2	15.4	1	1	1	20.1	74.6	GDY	BDY
1.5SMCJ11A-AU	1.5SMCJ11CA-AU	11	12.2	14	1	1	1	18.2	82.4	GDZ	BDZ
1.5SMCJ12-AU	1.5SMCJ12C-AU	12	13.3	16.9	1	1	1	22	68.2	GED	BED
1.5SMCJ12A-AU	1.5SMCJ12CA-AU	12	13.3	15.3	1	1	1	19.9	75.3	GEE	BEE
1.5SMCJ13-AU	1.5SMCJ13C-AU	13	14.4	18.2	1	1	1	23.8	63	GEF	BEF
1.5SMCJ13A-AU	1.5SMCJ13CA-AU	13	14.4	16.5	1	1	1	21.5	69.7	GEG	BEG
1.5SMCJ14-AU	1.5SMCJ14C-AU	14	15.6	19.8	1	1	1	25.8	58.1	GEH	BEH
1.5SMCJ14A-AU	1.5SMCJ14CA-AU	14	15.6	17.9	1	1	1	23.2	64.7	GEK	BEK
1.5SMCJ15-AU	1.5SMCJ15C-AU	15	16.7	21.1	1	1	1	26.9	55.8	GEL	BEL
1.5SMCJ15A-AU	1.5SMCJ15CA-AU	15	16.7	19.2	1	1	1	24.4	61.5	GEM	BEM
1.5SMCJ16-AU	1.5SMCJ16C-AU	16	17.8	22.6	1	1	1	28.8	52.1	GEN	BEN
1.5SMCJ16A-AU	1.5SMCJ16CA-AU	16	17.8	20.5	1	1	1	26	57.7	GEP	BEP
1.5SMCJ17-AU	1.5SMCJ17C-AU	17	18.9	23.9	1	1	1	30.5	49.2	GEQ	BEQ
1.5SMCJ17A-AU	1.5SMCJ17CA-AU	17	18.9	21.7	1	1	1	27.6	53.3	GER	BER
1.5SMCJ18-AU	1.5SMCJ18C-AU	18	20	25.3	1	1	1	32.2	46.6	GES	BES
1.5SMCJ18A-AU	1.5SMCJ18CA-AU	18	20	23.3	1	1	1	29.2	51.4	GET	BET
1.5SMCJ20-AU	1.5SMCJ20C-AU	20	22.2	28.1	1	1	1	35.8	41.9	GEU	BEU
1.5SMCJ20A-AU	1.5SMCJ20CA-AU	20	22.2	25.5	1	1	1	32.4	46.3	GEV	BEV
1.5SMCJ22-AU	1.5SMCJ22C-AU	22	24.4	30.9	1	1	1	39.4	38.1	GEW	BEW
1.5SMCJ22A-AU	1.5SMCJ22CA-AU	22	24.4	28	1	1	1	35.5	42.2	GEX	BEX
1.5SMCJ24-AU	1.5SMCJ24C-AU	24	26.7	33.8	1	1	1	43	34.9	GEY	BEY
1.5SMCJ24A-AU	1.5SMCJ24CA-AU	24	26.7	30.7	1	1	1	38.9	38.6	GEZ	BEZ
1.5SMCJ26-AU	1.5SMCJ26C-AU	26	28.9	36.6	1	1	1	46.6	32.2	GFD	BFD
1.5SMCJ26A-AU	1.5SMCJ26CA-AU	26	28.9	33.2	1	1	1	42.1	35.6	GFE	BFE
1.5SMCJ28-AU	1.5SMCJ28C-AU	28	31.1	39.4	1	1	1	50	30	GFF	BFF
1.5SMCJ28A-AU	1.5SMCJ28CA-AU	28	31.1	35.8	1	1	1	45.4	33	GFG	BFG
1.5SMCJ30-AU	1.5SMCJ30C-AU	30	33.3	42.2	1	1	1	53.5	28	GFH	BFH
1.5SMCJ30A-AU	1.5SMCJ30CA-AU	30	33.3	38.3	1	1	1	48.4	31	GFK	BFK
1.5SMCJ33-AU	1.5SMCJ33C-AU	33	36.7	46.5	1	1	1	59	25.2	GFL	BFL
1.5SMCJ33A-AU	1.5SMCJ33CA-AU	33	36.7	42.2	1	1	1	53.3	28.1	GFM	BFM
1.5SMCJ36-AU	1.5SMCJ36C-AU	36	40	50.7	1	1	1	64.3	23.3	GFN	BFN
1.5SMCJ36A-AU	1.5SMCJ36CA-AU	36	40	46	1	1	1	58.1	25.8	GFP	BFP
1.5SMCJ40-AU	1.5SMCJ40C-AU	40	44.4	56.3	1	1	1	71.4	21	GFQ	BFQ
1.5SMCJ40A-AU	1.5SMCJ40CA-AU	40	44.4	51.1	1	1	1	64.5	23.2	GFR	BFR



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Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	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	µA	µA	V	A	UNI	BI
1500W Transient Voltage Suppressor											
1.5SMCJ43-AU	1.5SMCJ43C-AU	43	47.8	61	1	1	1	76.7	19.6	GFS	BFS
1.5SMCJ43A-AU	1.5SMCJ43CA-AU	43	47.8	55	1	1	1	69.4	21.6	GFT	BFT
1.5SMCJ45-AU	1.5SMCJ45C-AU	45	50	63	1	1	1	80.3	18.7	GFU	BFU
1.5SMCJ45A-AU	1.5SMCJ45CA-AU	45	50	57.5	1	1	1	72.7	20.6	GFV	BFV
1.5SMCJ48-AU	1.5SMCJ48C-AU	48	53.3	67.5	1	1	1	85.5	17.5	GFW	BFW
1.5SMCJ48A-AU	1.5SMCJ48CA-AU	48	53.3	61.3	1	1	1	77.4	19.4	GFX	BFX
1.5SMCJ51-AU	1.5SMCJ51C-AU	51	56.7	71.8	1	1	1	91.1	18.5	GFY	BFY
1.5SMCJ51A-AU	1.5SMCJ51CA-AU	51	56.7	65.2	1	1	1	82.4	18.2	GFZ	BFZ
1.5SMCJ54-AU	1.5SMCJ54C-AU	54	60	76	1	1	1	96.3	15.6	GGD	BGD
1.5SMCJ54A-AU	1.5SMCJ54CA-AU	54	60	69	1	1	1	87.1	17.2	GGE	BGE
1.5SMCJ58-AU	1.5SMCJ58C-AU	58	64.4	81.6	1	1	1	103	14.6	GGF	BGF
1.5SMCJ58A-AU	1.5SMCJ58CA-AU	58	64.4	74.1	1	1	1	93.6	16	GGG	BGG
1.5SMCJ60-AU	1.5SMCJ60C-AU	60	66.7	84.5	1	1	1	107	14	GGH	BGH
1.5SMCJ60A-AU	1.5SMCJ60CA-AU	60	66.7	76.7	1	1	1	96.8	15.5	GGK	BGK
1.5SMCJ64-AU	1.5SMCJ64C-AU	64	71.1	90.1	1	1	1	114	13.2	GGL	BGL
1.5SMCJ64A-AU	1.5SMCJ64CA-AU	64	71.1	81.8	1	1	1	103	14.6	GGM	BGM
1.5SMCJ70-AU	1.5SMCJ70C-AU	70	77.8	98.6	1	1	1	125	12	GGN	BGN
1.5SMCJ70A-AU	1.5SMCJ70CA-AU	70	77.8	89.5	1	1	1	113	13.3	GGP	BGP
1.5SMCJ75-AU	1.5SMCJ75C-AU	75	83.3	105.7	1	1	1	134	11.2	GGQ	BGQ
1.5SMCJ75A-AU	1.5SMCJ75CA-AU	75	83.3	95.8	1	1	1	121	12.4	GGR	BGR
1.5SMCJ78-AU	1.5SMCJ78C-AU	78	86.7	109.8	1	1	1	139	10.8	GGS	BGS
1.5SMCJ78A-AU	1.5SMCJ78CA-AU	78	86.7	99.7	1	1	1	126	11.4	GGT	BGT
1.5SMCJ85-AU	1.5SMCJ85C-AU	85	94.4	119.2	1	1	1	151	9.9	GGU	BGU
1.5SMCJ85A-AU	1.5SMCJ85CA-AU	85	94.4	108.2	1	1	1	137	10.4	GGV	BGV
1.5SMCJ90-AU	1.5SMCJ90C-AU	90	100	126.5	1	1	1	160	9.4	GGW	BGW
1.5SMCJ90A-AU	1.5SMCJ90CA-AU	90	100	115.5	1	1	1	146	10.3	GGX	BGX
1.5SMCJ100-AU	1.5SMCJ100C-AU	100	111	141	1	1	1	179	8.4	GGY	BGY
1.5SMCJ100A-AU	1.5SMCJ100CA-AU	100	111	128	1	1	1	162	9.3	GGZ	BGZ
1.5SMCJ110-AU	1.5SMCJ110C-AU	110	122	154.5	1	1	1	196	7.7	GHD	BHD
1.5SMCJ110A-AU	1.5SMCJ110CA-AU	110	122	140.5	1	1	1	177	8.4	GHE	BHE
1.5SMCJ120-AU	1.5SMCJ120C-AU	120	133	169	1	1	1	214	7	GHF	BHF
1.5SMCJ120A-AU	1.5SMCJ120CA-AU	120	133	153	1	1	1	193	7.9	GHG	BHG
1.5SMCJ130-AU	1.5SMCJ130C-AU	130	144	182.5	1	1	1	231	6.5	GHH	BHH
1.5SMCJ130A-AU	1.5SMCJ130CA-AU	130	144	165.5	1	1	1	209	7.2	GHK	BHK
1.5SMCJ150-AU	1.5SMCJ150C-AU	150	167	211.5	1	1	1	268	5.6	GHL	BHL
1.5SMCJ150A-AU	1.5SMCJ150CA-AU	150	167	192.5	1	1	1	243	6.2	GHM	BHM
1.5SMCJ160-AU	1.5SMCJ160C-AU	160	178	226	1	1	1	287	5.2	GHN	BHN
1.5SMCJ160A-AU	1.5SMCJ160CA-AU	160	178	205	1	1	1	259	5.8	GHP	BHP
1.5SMCJ170-AU	1.5SMCJ170C-AU	170	189	239.5	1	1	1	304	4.9	GHQ	BHQ
1.5SMCJ170A-AU	1.5SMCJ170CA-AU	170	189	217.5	1	1	1	275	5.5	GHR	BHR
1.5SMCJ180-AU	1.5SMCJ180C-AU	180	198	253.8	1	1	1	322	4.7	GHS	BHS
1.5SMCJ180A-AU	1.5SMCJ180CA-AU	180	198	230.4	1	1	1	292	5.1	GHT	BHT
1.5SMCJ190-AU	1.5SMCJ190C-AU	190	209	267.9	1	1	1	340	4.4	GHU	BHU
1.5SMCJ190A-AU	1.5SMCJ190CA-AU	190	209	243.2	1	1	1	308	4.8	GHV	BHV
1.5SMCJ200-AU	1.5SMCJ200C-AU	200	220	282	1	1	1	358	4.1	GHW	BHW
1.5SMCJ200A-AU	1.5SMCJ200CA-AU	200	220	256	1	1	1	324	4.6	GHX	BHX
1.5SMCJ210-AU	1.5SMCJ210C-AU	210	231	296.1	1	1	1	376	4	GHY	BHY
1.5SMCJ210A-AU	1.5SMCJ210CA-AU	210	231	268.8	1	1	1	340	4.4	GHZ	BHZ
1.5SMCJ220-AU	1.5SMCJ220C-AU	220	242	310.2	1	1	1	394	3.8	GID	BID
1.5SMCJ220A-AU	1.5SMCJ220CA-AU	220	242	281.6	1	1	1	356	4.2	GIE	BIE



1.5SMCJ-AU SERIES

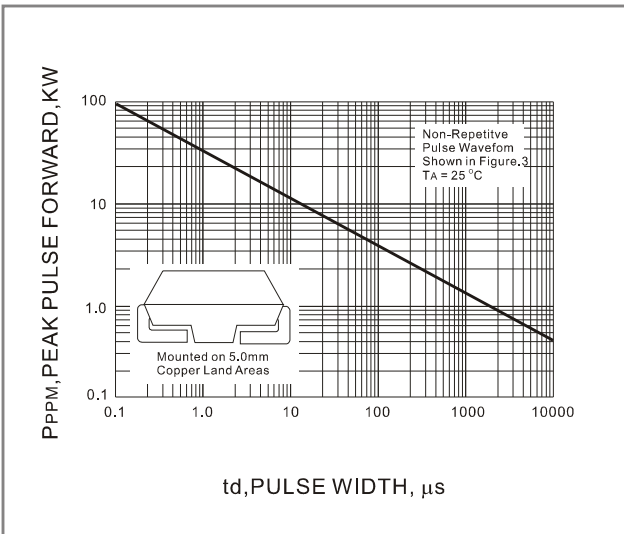


Fig.1 PEAK PULSE POWER RATING CURVE

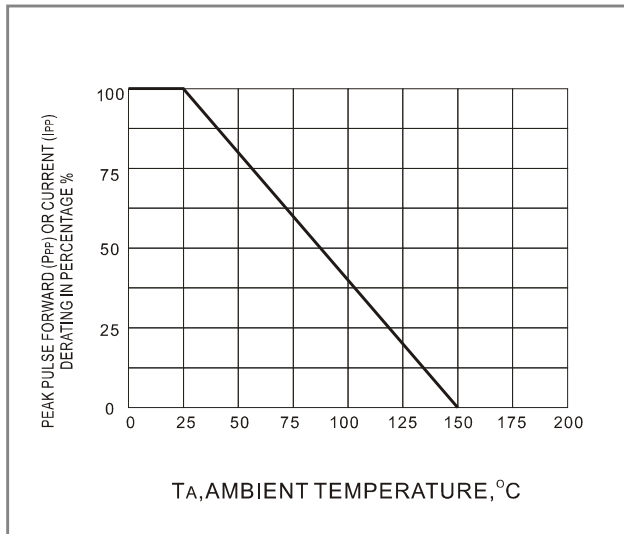


Fig.2 DERATING CURVE

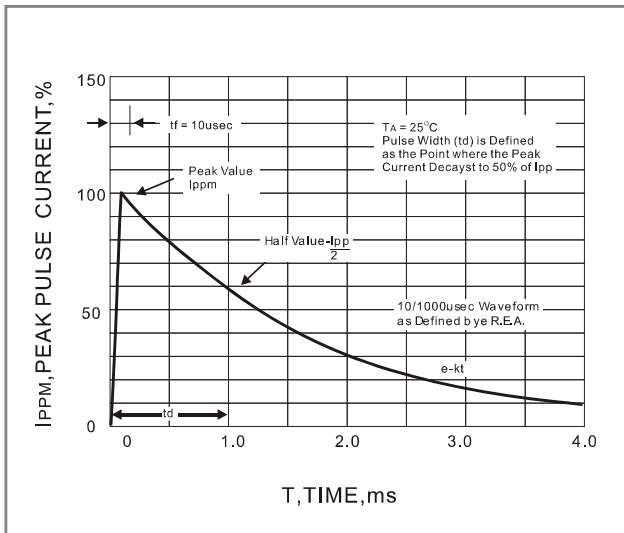


Fig.3 PULSE WAVEFORM

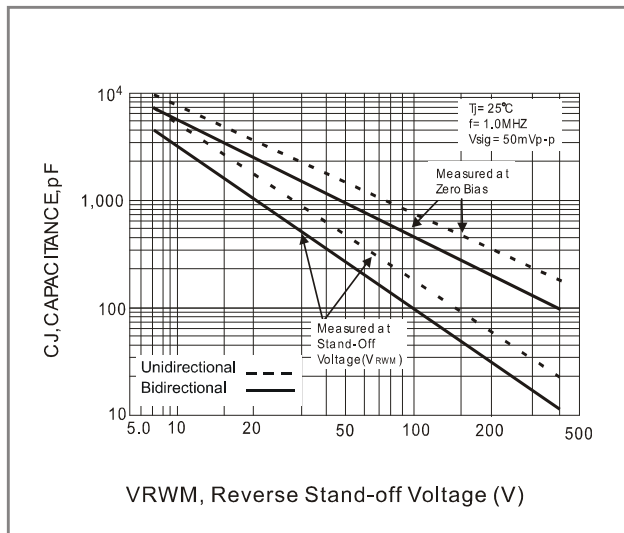


Fig.4 TYPICAL JUNCTION CAPACITANCE

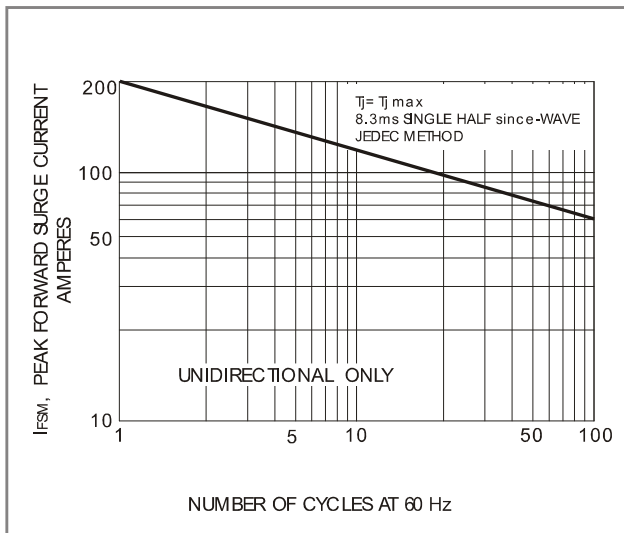


Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT UNIDIRECTIONAL

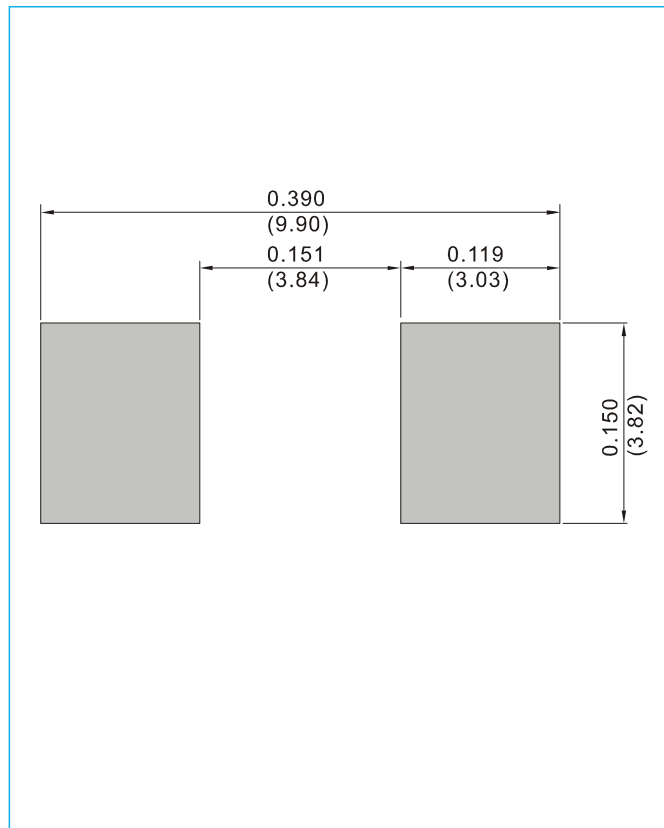


1.5SMCJ-AU SERIES

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



1.5SMCJ-AU SERIES

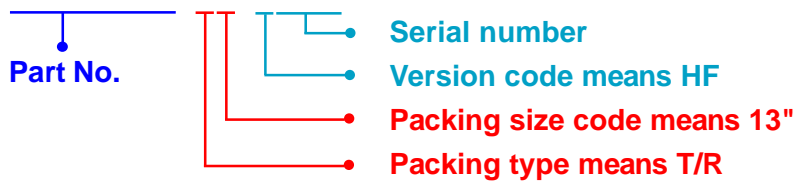
Part No_packing code_Version

1.5SMCJ5.0-AU_R1_000A1

1.5SMCJ5.0-AU_R2_000A1

For example :

RB500V-40_R2_00001



Packing Code XX				Version Code XXXXX		
Packing type	1 st Code	Packing size code	2 nd Code	HF or RoHS	1 st Code	2 nd ~5 th 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			



1.5SMCJ-AU SERIES

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