

MDE Semiconductor, Inc.

78-150 Calle Tampico, Unit 210, La Quinta, CA., USA 92253 Tel : 760-564-8656 • Fax : 760-564-2414
1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

SM15T SERIES

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR

VOLTAGE-6.8 TO 220 Volts
1500 Watt Peak Pulse Power

FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition Rate(duty cycle):0.05%
- Fast response time: typically less than 1.0ps from 0 Volts to BV min.
- Typical IR less than 1mA above 10V
- High temperature soldering: 250°C/10 seconds at terminals

MECHANICAL DATA

Case: JEDEC DO214AB. Molded plastic over glass passivated junction

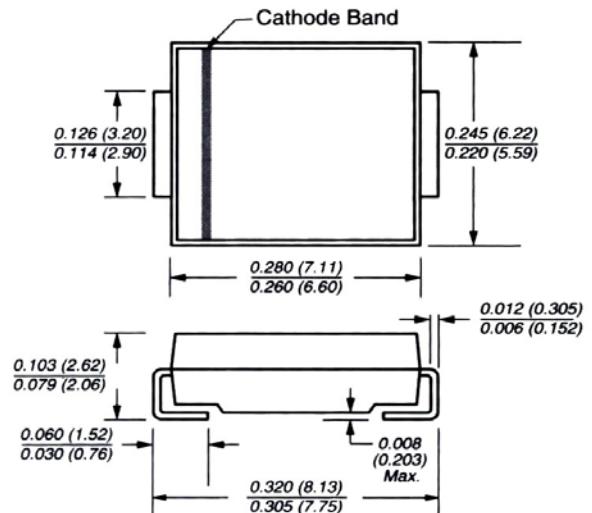
Terminal: Solder plated, solderable per MIL-STD-750, Method 2026

Polarity: Color band denotes positive end (cathode) except Bidirectional

Standard Packaging: 16mm tape(EIA STD RS-481)

Weight: 0.007ounce, 0.21gram

DO-214AB (SMC J-Bend)



Dimensions in inches and (millimeters)

DEVICES FOR BIPOLAR APPLICATION

For Bidirectional use Suffix CA for types SM15T6V8CA thru types SM15T220CA

Electrical characteristics apply in both directions

MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000µs waveform (Note 1,FIG.1)	P _{PPM}	Minimum 1500	Watts
Peak Pulse Current of on 10/1000µs waveform (Note 1,FIG.3)	I _{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current,8.3ms Single Half Sine-Wave Superimposed on Rated Load,(JEDEC Method) (Note 3)	I _{FSM}	200	Amps
Operating junction and Storage Temperature Range	T _J , T _{STG}	-55 to + 150	°C

Notes :

1.Non-repetitive current pulse , per Fig. 3 and derated above TA = 25°C per Fig. 2 .

2.Mounted on 8.0mm² Copper Pads to each terminal

3.8.3ms single half sine-wave , or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.

Certified RoHS Compliant

UL File # E223026

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SM15T SERIES RATING AND CHARACTERISTIC CURVES

Fig. 1 - Peak Pulse Power Rating Curve

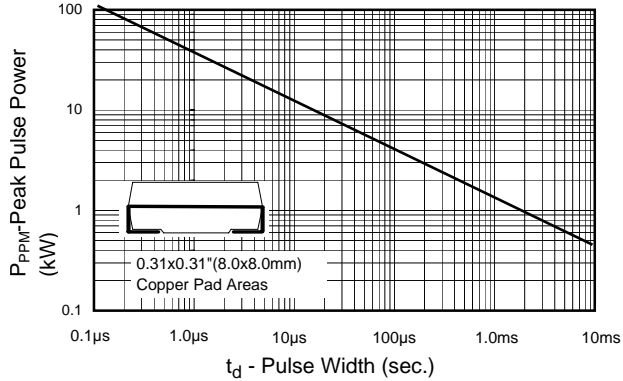


Fig.2 - Pulse Derating Curve

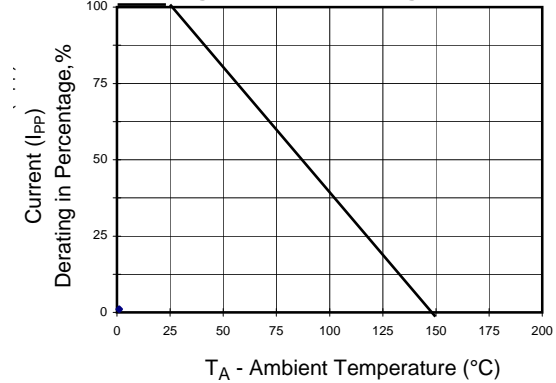


Fig.3 - Pulse Waveform

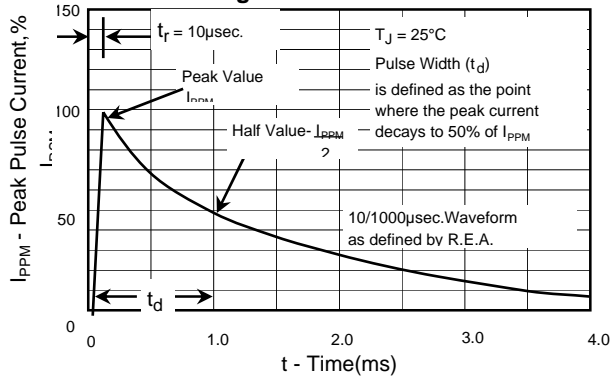


Fig.4 - Typical Junction Capacitance Uni-Directional

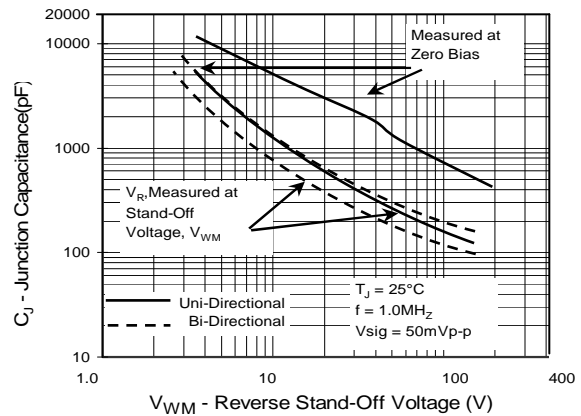


Fig. 5 - Typ. Transient Thermal Impedance

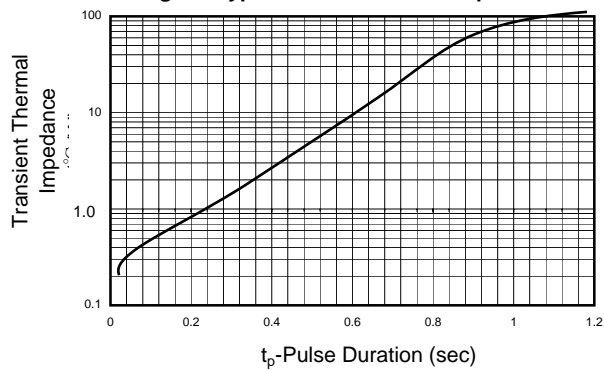
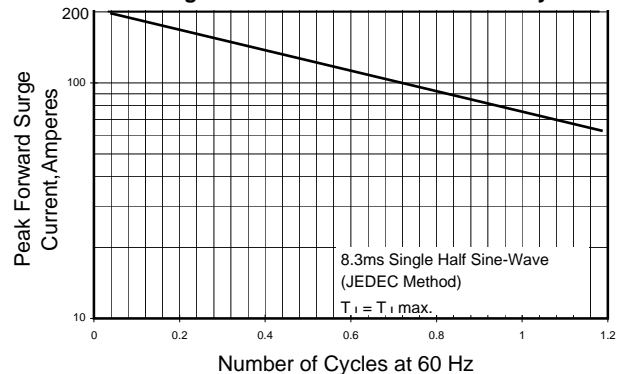


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Use Only



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1500 Watt TVS

SM15T PART NUMBER			MARKING CODE		REVERSE STAND- OFF VOLTAGE V _{RWM} (V)	BREAKDOWN VOLTAGE V _{BR} (V) MIN.@I _T	BREAKDOWN VOLTAGE V _{BR} (V) MAX.@I _T	TEST CURRENT I _T (mA)	MAXIMUM CLAMPING VOLTAGE @I _{pp} Vc(V)	PEAK PULSE CURRENT I _{pp} (A)	REVERSE LEAKAGE @ VRWM IR(mA)
			UNI- POLAR	BI- POLAR							
SM15T	6V8A	6V8CA	MDE	BDE	5.80	6.45	7.14	10	10.5	143.0	1000
SM15T	7V5A	7V5CA	MDG	BDG	6.40	7.13	7.88	10	11.3	133.0	500
SM15T	10A	10CA	MDP	BDP	8.55	9.50	10.50	1	14.5	103.0	10
SM15T	12A	12CA	MDT	BDT	10.20	11.40	12.60	1	16.7	89.8	5
SM15T	15A	15CA	MDX	BDX	12.80	14.30	15.80	1	21.2	70.8	5
SM15T	18A	18CA	MEE	BEE	15.30	17.10	18.90	1	25.2	59.5	5
SM15T	22A	22CA	MEK	BEK	18.80	20.90	23.10	1	30.6	49.0	5
SM15T	24A	24CA	MEM	BEM	20.50	22.80	25.20	1	33.2	45.2	5
SM15T	27A	27CA	MEP	BEP	23.10	25.70	28.40	1	37.5	40.0	5
SM15T	30A	30CA	MER	BER	25.60	28.50	31.50	1	41.4	36.2	5
SM15T	33A	33CA	MET	BET	28.20	31.40	34.70	1	45.7	32.8	5
SM15T	36A	36CA	MEV	BEV	30.80	34.20	37.80	1	49.9	30.1	5
SM15T	39A	39CA	MEX	BEX	33.30	37.10	41.00	1	53.9	27.8	5
SM15T	68A	68CA	MFP	BFP	58.10	64.60	71.40	1	92.0	16.3	5
SM15T	100A	100CA	MFY	BFX	85.50	95.00	105.00	1	137.0	11.0	5
SM15T	150A	150CA	MGK	BGK	128.00	143.00	158.00	1	207.0	7.2	5
SM15T	200A	200CA	MGV	BGV	171.00	190.00	210.00	1	274.0	5.5	5
SM15T	220A	220CA	MGX	BGX	188.00	208.00	231.00	1	328.0	4.6	5

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double.

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