

# MDE Semiconductor, Inc.

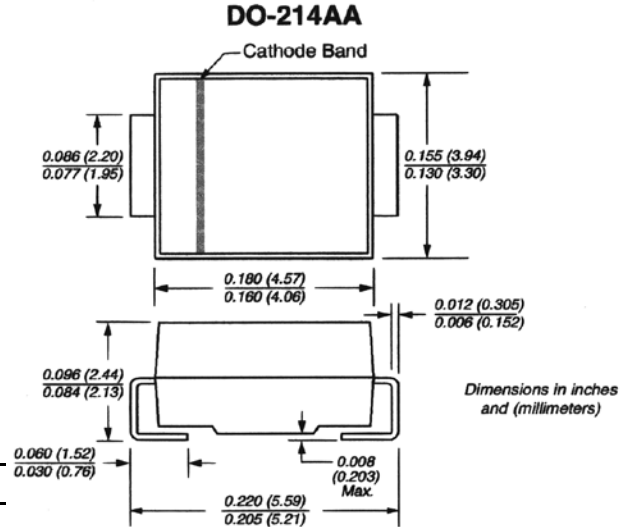
201 Shipyard Way, Unit C, Newport Beach, CA., USA 92663 Tel : 760-564-8656 • Fax : 760-564-2414  
1-800-831-4881 Email: sales@mdesemiconductor.com Web: www.mdesemiconductor.com

## SM6T SERIES

### SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR VOLTAGE-5.0 TO 220 Volts 600 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):0.01%
- Fast response time: typically less than 1.0 ps from 0 volts to BV for unidirectional types
- Typical IR less than 1μA above 10V
- High temperature soldering: 250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94 V-O



#### MECHANICAL DATA

Case: JEDEC DO214AA. Molded plastic over glass passivated junction  
 Terminals: Solder plated, solderable per MIL-STD-750, Method 2026  
 Polarity: Color band denoted positive end (cathode) except Bidirectional  
 Standard Packaging: 12mm tape (EIA STD RS-481)  
 Weight: 0.003 ounces, 0.093 grams

Dimensions in inches (millimeters)

#### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use CA Suffix for types SM6T6V8CA thru types SM6T220CA  
 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 10/1000 μs waveform (NOTE 1, 2, Fig.1)	P <sub>PPM</sub>	Minimum 600	Watts
Peak Pulse Current of on 10/1000 μs waveform (Note 1, Fig 3)	I <sub>PPM</sub>	SEE TABLE 1	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method)(Note2, 3)	I <sub>FSM</sub>	100	Amps
Operatings and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-55 +150	°C

#### NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °C per Fig.2.
2. Mounted on Copper Pad area of 0.8x0.8" (20x20mm) per Fig.5.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum.

Certified RoHS Compliant

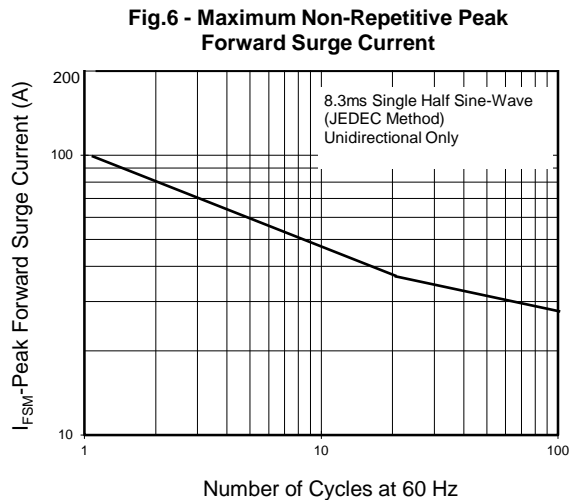
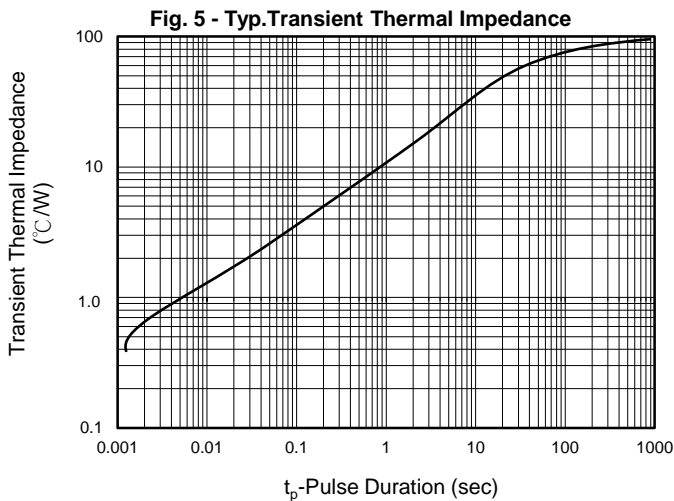
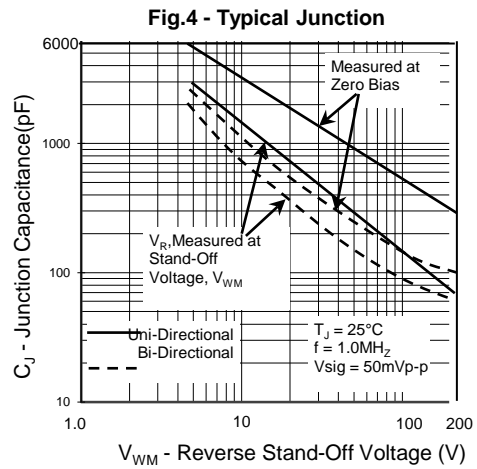
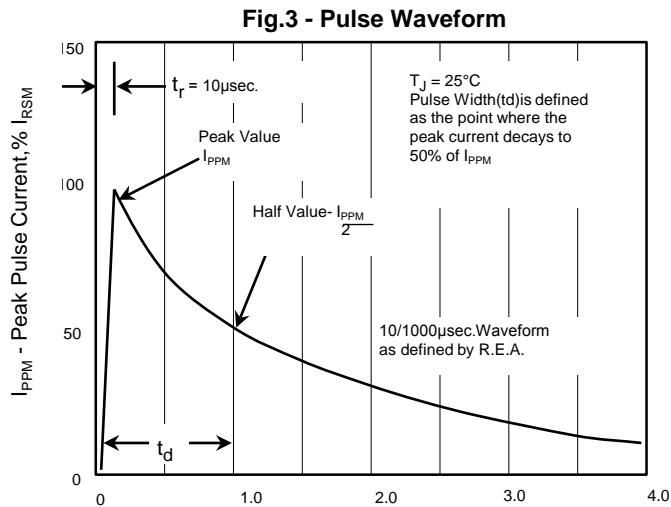
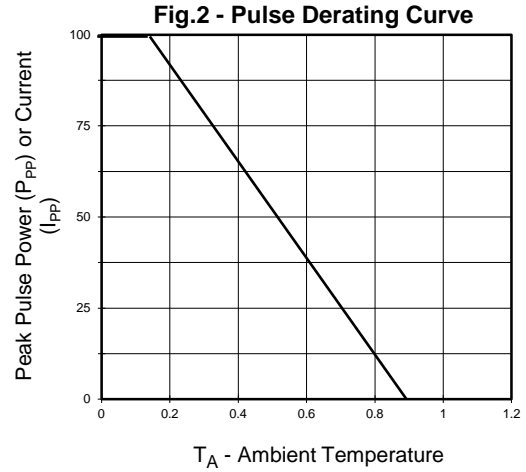
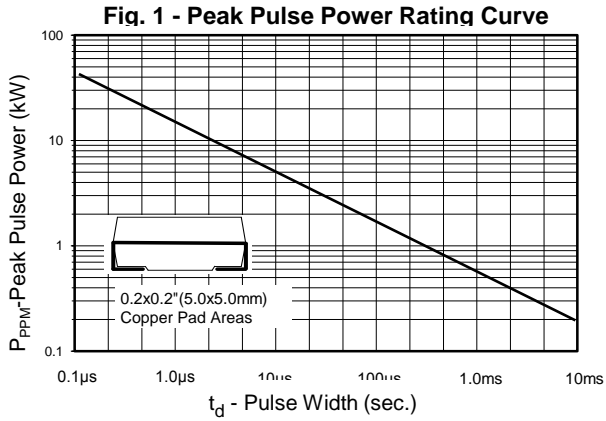
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## RATING AND CHARACTERISTIC CURVES SM6T SERIES



# **MDE Semiconductor, Inc.**

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## 600 Watt TVS

SM6T PART NUMBER			MARKING CODE		REVERSE STAND- OFF VOLTAGE V <sub>RWM</sub> (V)	BREAKDOWN VOLTAGE V <sub>BR</sub> (V) MIN. @I <sub>T</sub>	BREAKDOWN VOLTAGE V <sub>BR</sub> (V) MAX. @I <sub>T</sub>	TEST CURRENT I <sub>T</sub> (mA)	MAXIMUM CLAMPING VOLTAGE @I <sub>pp</sub> Vc(V)	PEAK PULSE CURRENT I <sub>pp</sub> (A)	REVERSE LEAKAGE @ VRWM IR(mA)
			UNI- POLAR	BI- POLAR							
SM6T	6V8A	6V8CA	DE	LE	5.80	6.45	7.14	10	10.5	57.0	1000
SM6T	7V5A	7V5CA	DG	LG	6.40	7.13	7.88	10	11.3	53.0	500
SM6T	10A	10CA	DP	LP	8.55	9.50	10.50	1	14.5	41.0	10
SM6T	12A	12CA	DT	LT	10.20	11.40	12.60	1	16.7	36.0	1
SM6T	15A	15CA	DX	LX	12.80	14.30	15.80	1	21.2	28.0	1
SM6T	18A	18CA	EE	ME	15.30	17.10	18.90	1	25.2	24.0	1
SM6T	22A	22CA	EK	MK	18.80	20.90	23.10	1	30.6	20.0	1
SM6T	24A	24CA	EM	MM	20.50	22.80	25.20	1	33.2	18.0	1
SM6T	27A	27CA	EP	MP	23.10	25.70	28.40	1	37.5	16.0	1
SM6T	30A	30CA	ER	MR	25.60	28.50	31.50	1	41.4	14.5	1
SM6T	33A	33CA	ET	MT	28.20	31.40	34.70	1	45.7	13.1	1
SM6T	36A	36CA	EV	MV	30.80	34.20	37.80	1	49.9	12.0	1
SM6T	39A	39CA	EX	MX	33.30	37.10	41.00	1	53.9	11.1	1
SM6T	68A	68CA	FQ	NQ	58.10	64.60	71.40	1	92.0	6.5	1
SM6T	100A	100CA	FY	NY	85.50	95.00	105.00	1	137.0	4.4	1
SM6T	150A	150CA	GL	OL	128.00	143.00	158.00	1	207.0	2.9	1
SM6T	200A	200CA	GU	OU	171.00	190.00	210.00	1	274.0	2.2	1
SM6T	220A	220CA	GW	OW	188.00	209.00	231.00	1	328.0	2.0	1

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

Certified RoHS Compliant

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