

Glass Passivated TVS

REVERSE VOLTAGE - 188 to 440 Volts

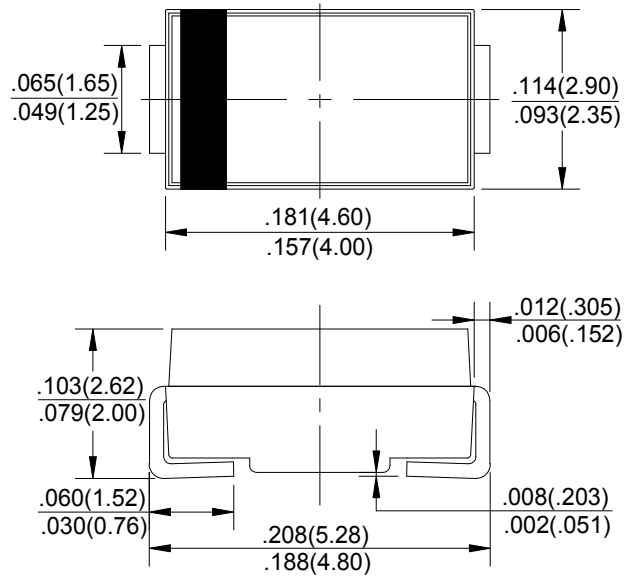
FEATURES

- For surface mounted applications in order to optimize board space
- Low profile space
- Glass passivated chip
- Low inductance
- Excellent clamping capability
- Very fast response time
- Typical I_D less than $1\mu A$ at V_{WM}
- 400 W peak pulse power capability with a 10/1000 μs waveform
- Component in accordance to RoHS 2002/95/1 and WEEE 2002/96/EC

MECHANICAL DATE

- Case: JEDEC DO-214AC molded plastic body over glass passivated chip
- Terminals: Solder plated, solderable per MIL-STD-750 Method 2026
- Polarity: For uni-directional types the band by laser denotes the cathode, which is positive with respect to the anode normal TVS operation under

SMA



Dimensions in inches and (millimeters)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

$T_A = 25^\circ C$ unless otherwise noted

CHARACTERISTICS	SYMBOL	VALUE	UNIT
Peak pulse power dissipation with a 10/1000 μs waveform (see fig. 1)	P_{PPM}	400	W
Peak pulse current with a waveform (see fig. 3 , single pulse)	I_{PPM}	See Next Table	A
Peak forward surge current 8.3ms single half sine-wave uni-directional only	I_{FSM}	40	A
Typical thermal resistance, junction to ambient ⁽¹⁾	$R_{\theta JC}$	120	$^\circ C/W$
Typical thermal resistance, junction to lead ⁽¹⁾	$R_{\theta JC}$	30	$^\circ C/W$
Operating Temperature Range	T_J	-55 to +150	$^\circ C$
Storage Temperature Range	T_{STG}	-55 to +150	$^\circ C$

NOTES: 1. Mounted on P.C.B. with 0.2 x 0.2" (5.0 x 5.0mm) copper pad areas.

2. The typical data above is for reference only(典型值仅供参考).

**Electrical Characteristics $T_A = 25^\circ\text{C}$ unless otherwise noted**

Device Type	Marking Code		Breakdown Voltage at IT (2)		Test Current	Stand-off Voltage	Maximum Reverse Leakage at V_{WM} (4)	Maximum Peak Pulse Surge Current (3)	Maximum Clamping Voltage at I_{PPM}
			$V_{(BR)}$ (V)						
UNI	UNI	BI	Min	Max	I_T (mA)	V_{WM} (V)	I_D (μA)	I_{PPM} (A)	V_C (V)
SMAJ188	SS	VS	209.00	255.0	1	188.0	1	1.1	344
SMAJ188A	ST	VT	209.00	231.0	1	188.0	1	1.2	328
SMAJ200A	SV	VV	224.0	247.0	1	200.0	1	1.2	324
SMAJ220A	SX	VX	246.0	272.0	1	220.0	1	1.1	356
SMAJ250A	SZ	VZ	279.0	309.0	1	250.0	1	1	405
SMAJ300A	TE	WE	335.0	371.00	1	300.0	1	0.8	486
SMAJ350A	TG	WG	391.00	432.00	1	350.0	1	0.7	567
SMAJ400A	TK	WK	447.00	494.00	1	400.0	1	0.6	648
SMAJ440A	TM	WM	492.00	543.00	1	440.0	1	0.6	713

Note 2: Pulse test : $T_p \leq 50\text{ms}$.

3: Surge current waveform Per Fig. 3 and derate Per Fig. 2.

4: For bi-directional types with V_{WM} of 10 V and less, the I_D limit is doubled

5: $V_F = 3.5\text{ V}$ at $I_F = 25\text{ A}$ (uni-directional only)

Fig. 1 -- Peak Pulse Power Rating Cure

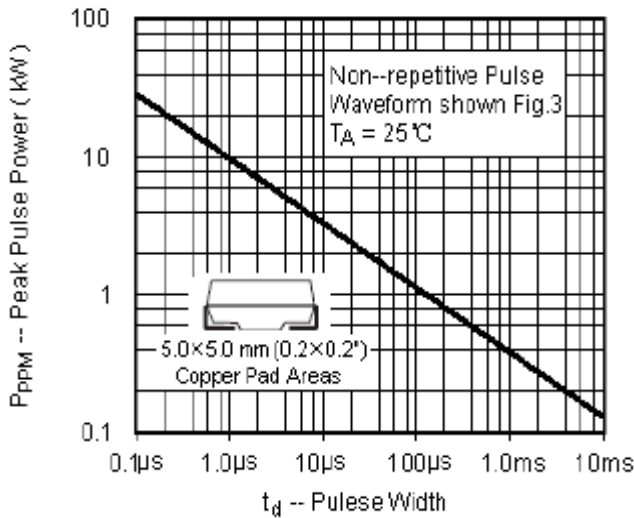


Fig.2-- Pulse Derating Cure

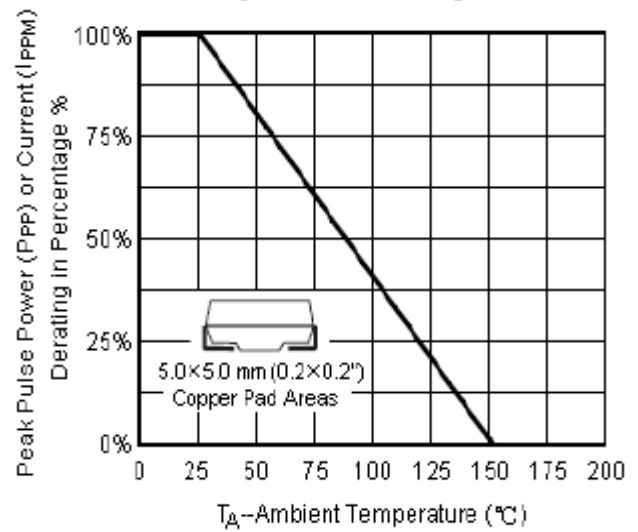


Fig. 3--Pulse Waveform

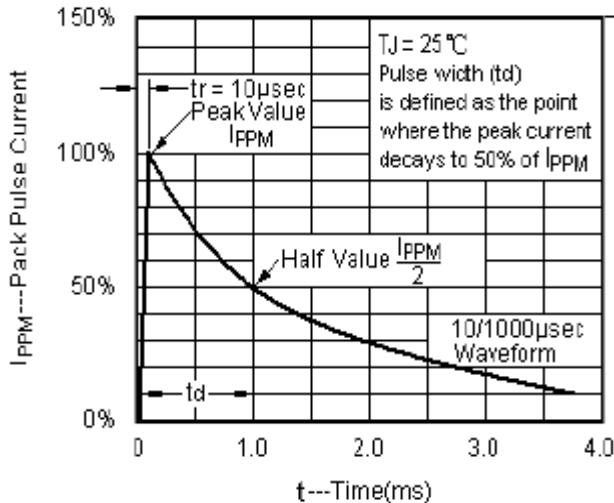


Fig. 4 -- Typical Junction Capacitance

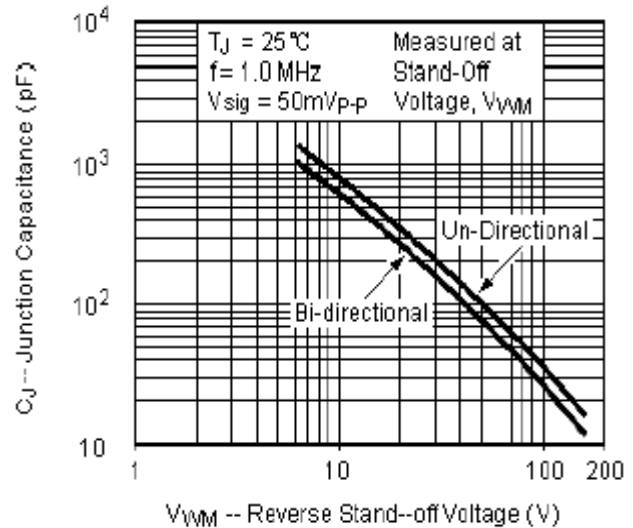


Fig. 5 -- Typical Transient Thermal Impedance

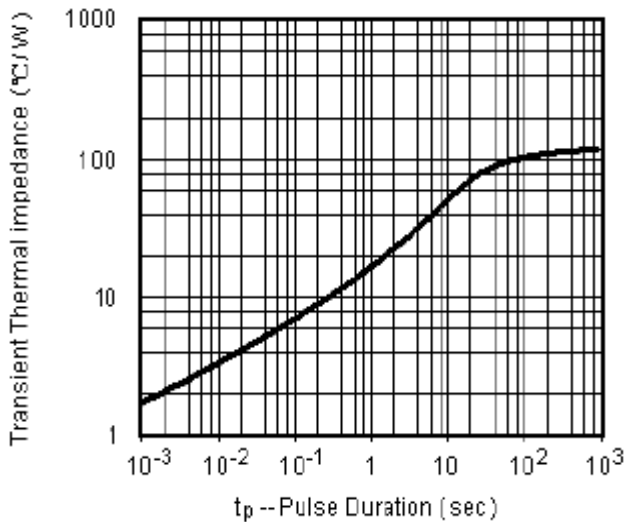


Fig. 6 -- Maximum Non-Repetitive Forward Surge Current (Uni-Directional Only)

