

Features

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Low profile package with built-in strain relief for surface mounted applications
- Glass passivated chip
- Low incremental surge resistance
- Excellent clamping capability
- 1500W peak pulse power capability on 10/1000μs waveform repetition rate (duty cycle): 0.01%
- Very Fast response time
- Typical I_D less than 1μA at above 10V
- AEC -Q101 qualified.



SMC (DO - 214AB)

Mechanical Data

- **Case:** JEDEC DO-214AB(SMC) molded plastic body over glass passivated chip
- **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026. High temperature soldering guaranteed: 250°C/10 seconds at terminals.
- **Polarity:** For uni-directional types the band denotes the cathode, which is positive with respect to the anode under normal TVS operation.

Major Ratings and Characteristics

P_{PPM}	1500 W
V_{RRM}	300 V to 540 V
I_{FSM}	200 A
$T_j \text{ max.}$	150 °C

Devices for Bidirectional Applications

- For bi-directional devices, use suffix C or CA (e.g. P15CT10C, P15CT10CA). Electrical characteristics apply in both directions.

Maximum Ratings & Thermal Characteristics

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Items	Symbol	Value	UNIT
Peak pulse power dissipation with a 10/1000μs waveform (see fig. 1)	P_{PPM}	1500	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}	200	A
Typical thermal resistance, junction to ambient ⁽¹⁾	$R_{\theta JA}$	75	°C / W
Typical thermal resistance, junction to lead ⁽¹⁾	$R_{\theta JL}$	15	°C / W
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	°C

Note 1: Mounted on P.C.B. with 0.32 x 0.32" (8.0 x 8.0mm) copper pad areas.

Electrical Characteristics

(T_A=25 °C unless otherwise noted)

Device Type		Breakdown Voltage at I _T ⁽²⁾ V _(BR) (V)		Test Current I _T (mA)	Stand-off Voltage V _{WM} (V)	Maximum Reverse Leakage at V _{WM} ⁽⁴⁾ I _D (μA)	Maximum Peak Pulse Surge Current ⁽³⁾ I _{PPM} (A)	Maximum Clamping Voltage at I _{PPM} V _C (V)
UNI	BI	Min	Max	I _T (mA)	V _{WM} (V)	I _D (μA)	I _{PPM} (A)	V _C (V)
1.5SMC300A	1.5SMC300CA	315	385	1	256	1	3.6	414
1.5SMC350A	1.5SMC350CA	333	368	1	300	1	3.1	482
1.5SMC400A	1.5SMC400CA	380	420	1	342	1	2.7	548
1.5SMC440A	1.5SMC440CA	418	462	1	376	1	2.5	602
1.5SMC480A	1.5SMC480CA	456	504	1	408	1	2.28	658
1.5SMC510A	1.5SMC510CA	485	535	1	434	1	2.15	698
1.5SMC540A	1.5SMC540CA	513	567	1	459	1	2.03	740

Note 2: Pulse test : T_p ≤ 50ms.

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

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

Note 5: V_F = 3.5 V at I_F = 100 A (uni-directional only)

Characteristic Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

Fig. 1--Peak Pulse Power Rating Cure

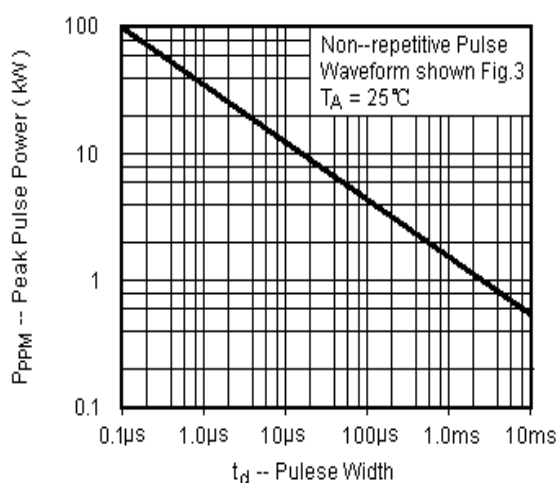


Fig.2--Pulse Derating Cure

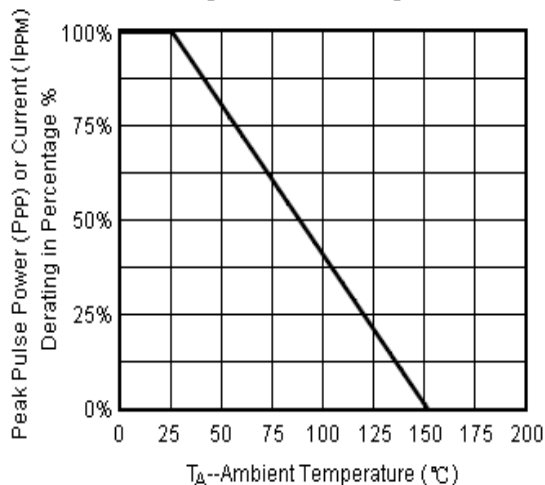


Fig. 3..Pulse Waveform

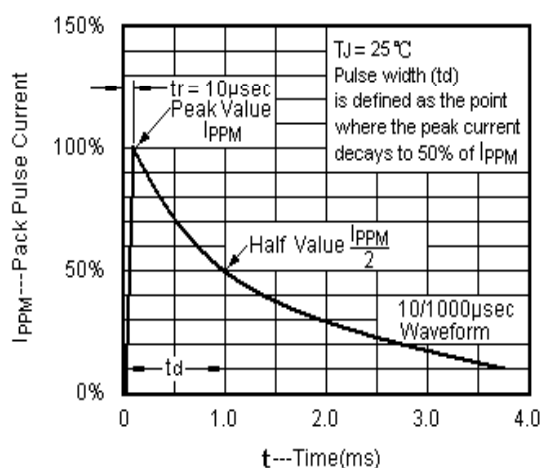


Fig. 4 -- Typical Junction Capacitance

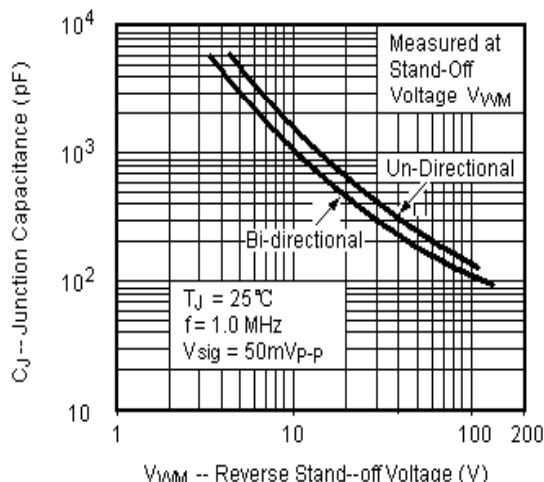


Fig. 5 -- Typical Tansient Thermal Impedance

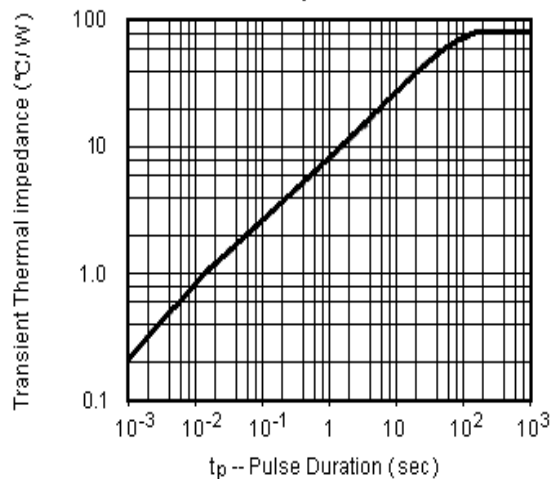
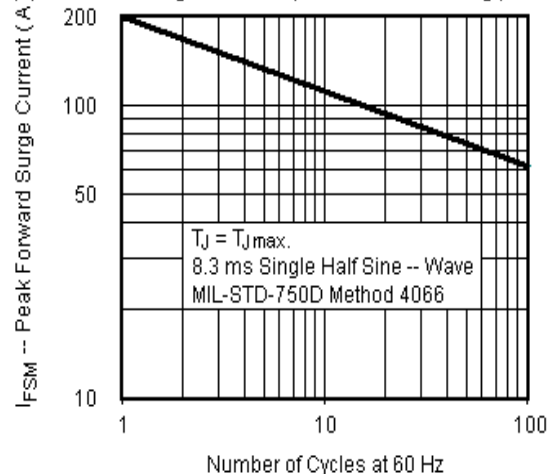


Fig. 6 -- Maximum Non-Repetitive Forward Surge Current (Uni-Directional Only)



Package Outline

