

SMAJ170A

Transient Voltage Suppressors

Pppm: 300W

IFSM: 40A



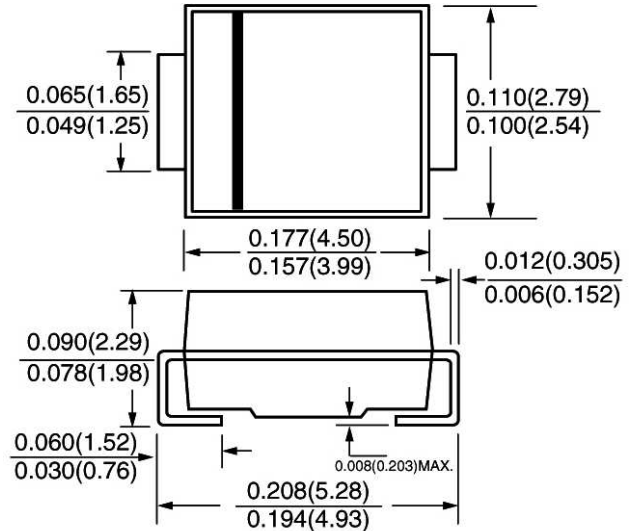
FEATURE

Low profile package
Ideal for surface mount pick and place applications
Excellent clamping capability
Very fast response time
Low incremental surge resistance
Glass passivated chip junction
High temperature soldering guaranteed
260°C/10sec/at terminals

MECHANICAL DATA

Terminal: Plated axial leads solderable per MIL-STD 202E, method 208C
Case: Molded with UL-94 Class V-0 recognized Flame Retardant Epoxy
Polarity: color band denotes cathode end
Mounting position: any

SMA/DO-214AC



Dimensions in inches and (millimeters)

MAXIMUM RATINGS (TA = 25 °C unless otherwise noted)

Parameter	Symbol	SMAJ170A	units
Peak pulse power dissipation with a 10/1000 μ s waveform ^(1,2) (Fig. 1)	PPPM	300	W
Peak pulse current with a waveform ⁽¹⁾	IPPM	1.09	A
Breakdown Voltage at $I_T=1$ mA	VBR	189min 209max	V
Maximum Reverse Leakage at $V_{WM}=170$ V	IR	1.0	μ A
Maximum Clamping Voltage at IPPM	VC	275	V
Peak forward surge current 8.3 ms single half sine-wave uni-directional only ⁽²⁾	IFSM	40	A
Maximum instantaneous forward voltage at 25A for uni-directional only	VF	3.5	V
Typical thermal resistance, junction-to-lead	Rth(jl)	30	°C/W
Typical thermal resistance, junction-to-ambient	Rth(ja)	120	°C/W
Operating junction and Storage temperature range	Tj,Tstg	-55 to +150	°C

Note:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above TA = 25 °C per Fig. 2. Rating is 300W above 78V
(2) Mounted on 0.2×0.2" (5.0×5.0mm) copper pads to each terminal

RATINGS AND CHARACTERISTIC CURVES SMAJ170A

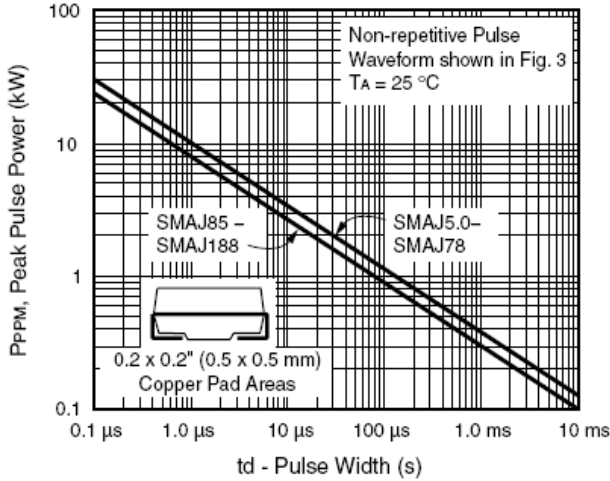


Figure 1. Peak Pulse Power Rating Curve

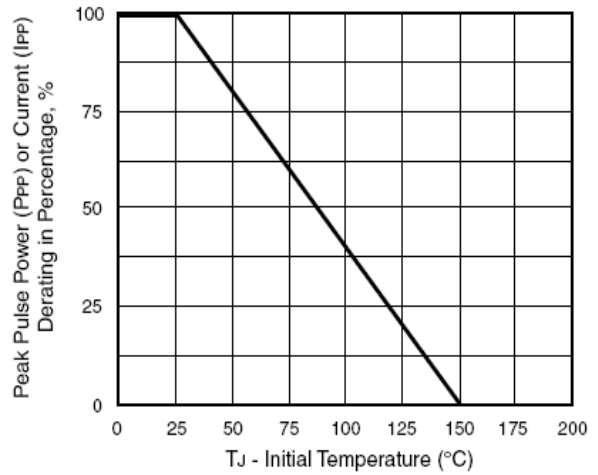


Figure 2. Pulse Power or Current versus Initial Junction Temperature

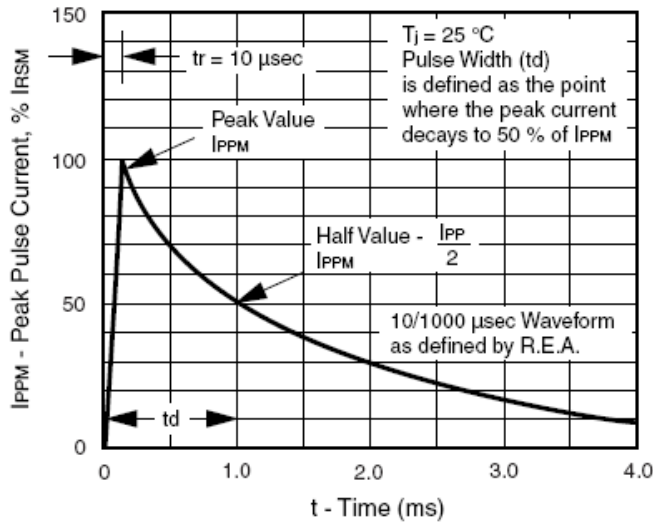


Figure 3. Pulse Waveform

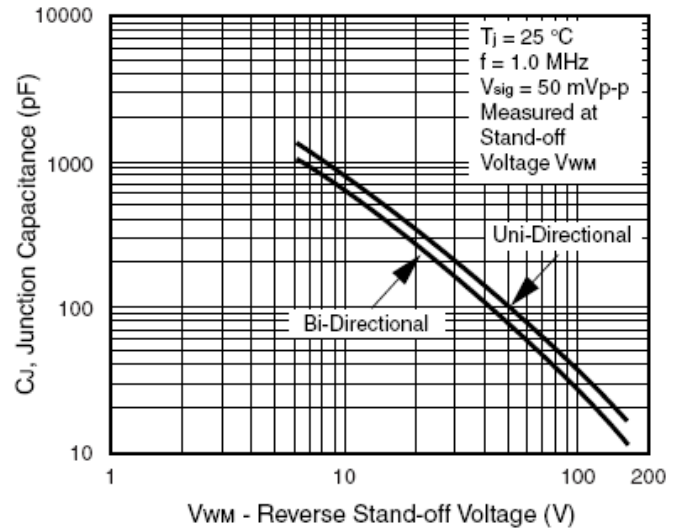


Figure 4. Typical Junction Capacitance

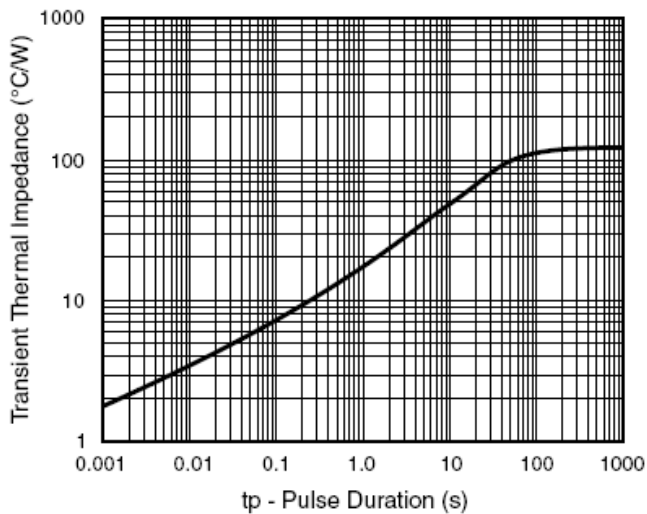


Figure 5. Typical Transient Thermal Impedance

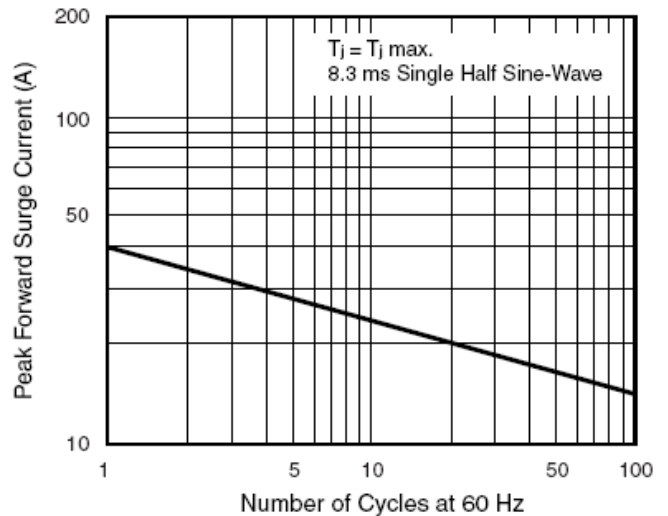


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only