SMBJ170A

Surface Mount
Transient Voltage Suppressors

Pppm：600W IFSM：100A

GULF SEMI

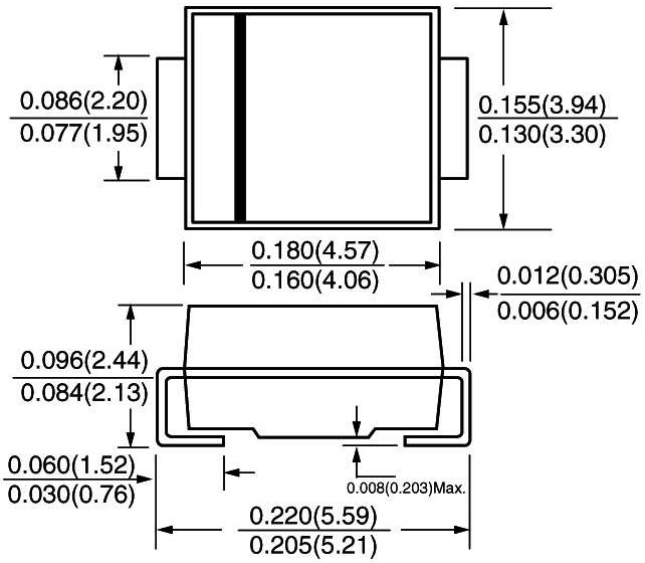
FEATURE

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℃/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

SMB/DO-214AA



Dimensions in inches and (millimeters)

MAXIMUM RATINGS
(TA = 25 ℃ unless otherwise noted)

Parameter	Symbol	SMBJ170A	units
Peak pulse power dissipation with a 10/1000 μs waveform (1,2) (Fig. 1)	P_{PPM}	600	W
Peak pulse current with a 10/1000 μs waveform (1)	I_{PPM}	2.2	A
Breakdown Voltage at I_T=1mA	V_{BR}	189min 209max	V
Maximum Reverse Leakage at V_{WM}=170V	I_R	1.0	μA
Maximum Clamping Voltage at I_{PPM}	V_C	275	V
Peak forward surge current 8.3 ms single half sine-wave uni-directional only(2)	I_{FSM}	100	A
Maximum instantaneous forward voltage at 50A for uni-directional only	V_F	3.5	V
Typical thermal resistance, junction-to-lead	Rth(jl)	20	℃/W
Typical thermal resistance, junction-to—ambient(3)	Rth(ja)	100	℃/W
Operating junction and Storage temperature range	Tj, Tstg	-55 to +150	℃

Note:
(1) Non-repetitive current pulse, per Fig. 3 and derated above TA = 25 ℃ per Fig. 2
(2) Mounted on 0.2×0.2″(5.0×5.0mm) copper pads to each terminal
(3) Mounted on minimum recommended pad layout

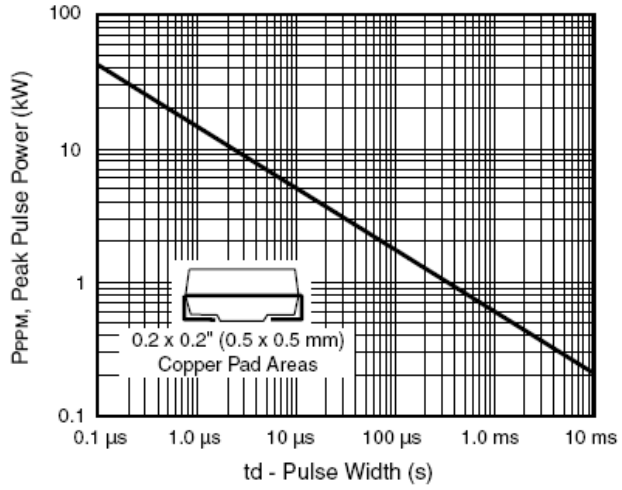


Figure 1. Peak Pulse Power Rating Curve

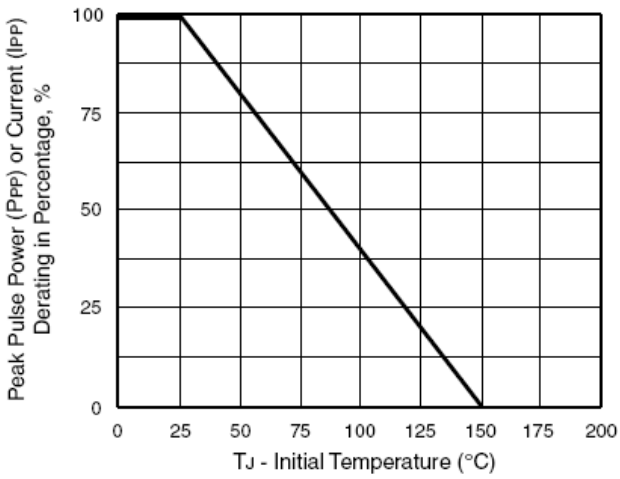


Figure 2. Pulse Power or Current versus Initial Junction Temperature

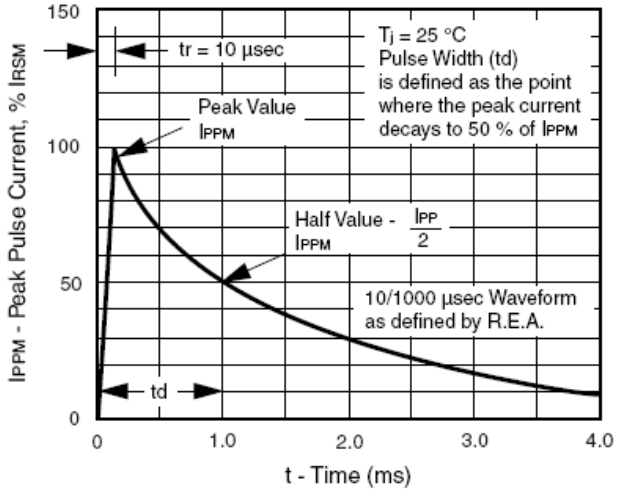


Figure 3. Pulse Waveform

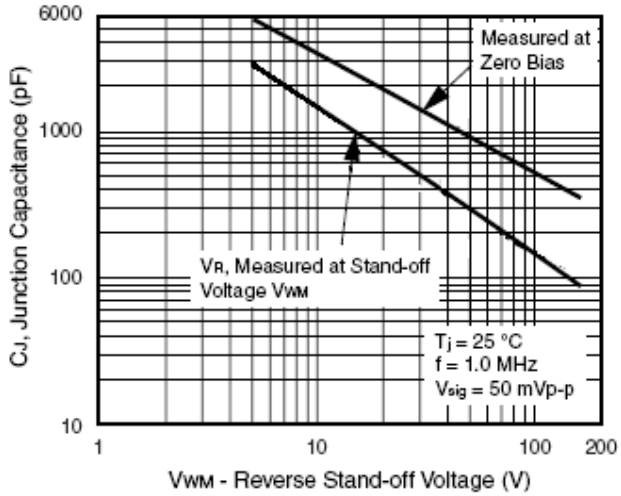


Figure 4. Typical Junction Capacitance

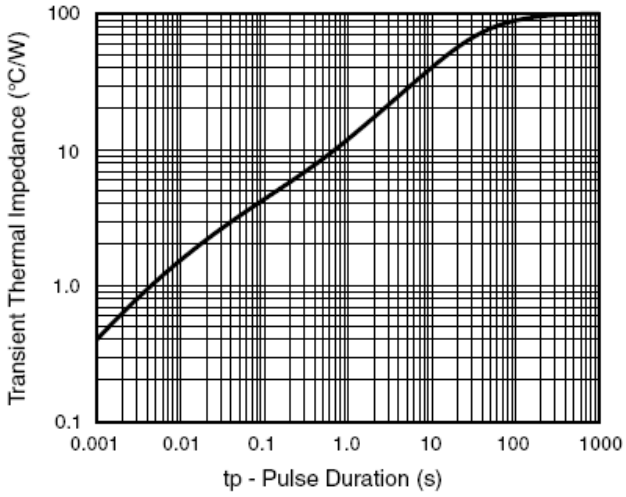


Figure 5. Typical Transient Thermal Impedance

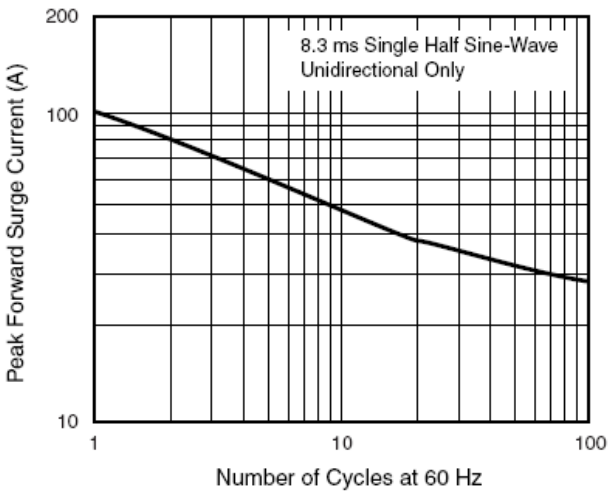


Figure 6. Maximum Non-Repetitive Peak Forward Surge Current