



Features

- 600W Peak Pulse Power Dissipation
- 6.8V - 550V Standoff Voltages
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Glass Passivated Die Construction
- Low inductance
- Fast Response Time
- Plastic Material: UL Flammability Classification
- Rating 94V-0



SMB
(DO-214AA)

Mechanical Data

- Case: SMB Molded plastic body
- Terminals: Solderable per MIL-STD-750, Method 2026

Applications

- I/O interface
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

Maximum Ratings (Ta=25°C unless otherwise noted)

Peak pulse power dissipation at 10/1000μs waveform (Note1, Note2, Fig.1)	P _{PPM}	600	W
Peak pulse current of at 10/1000μs waveform (Note 1, Fig.3)	I _{PPM}	57.1	A
Steady state power dissipation at T _A =50°C (Fig.5)	P _{M(AV)}	1	W
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load, (JEDEC Method) (Note3, Fig.6)	I _{FSM}	100	A
Operating junction and Storage Temperature Range.	T _J , T _{STG}	-55 to +150	°C
Typical thermal resistance junction to lead	R _{θJL}	30	°C/W
Typical thermal resistance junction to ambient	R _{θJA}	100	°C/W

Notes:1. Non-repetitive current pulse, per Fig.3 and derated above T_A=25°C per Fig.2.

2. Mounted on 5.0mm×5.0mm (0.03mm thick) copper pads to each terminal.

3. 8.3ms single half sine-wave, or equivalent square wave, duty cycle=4 pulses per minutes maximum.

Electrical Characteristics (Ta=25°C)

Part Number		Device Marking Code		Reverse Stand- Off Voltage	Breakdown Voltage @I _T	Test Current	Maximum Clamping Voltage @I _{PP}	Peak Pulse Current	Reverse Leakage @V _{RWM}
Unidirectional	Bidirectional	UNI	BI	V _{RWM} (V)	V _{BR} (V)	I _T (mA)	V _C (V)	I _{PP} (A)	I _R (μA)
SMBJ440A/TR13	SMBJ440CA/TR13	QM	FM	440.0	492.0-543.0	1	713.0	0.9	1



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

Figure 1. Peak Pulse Power Rating Curve

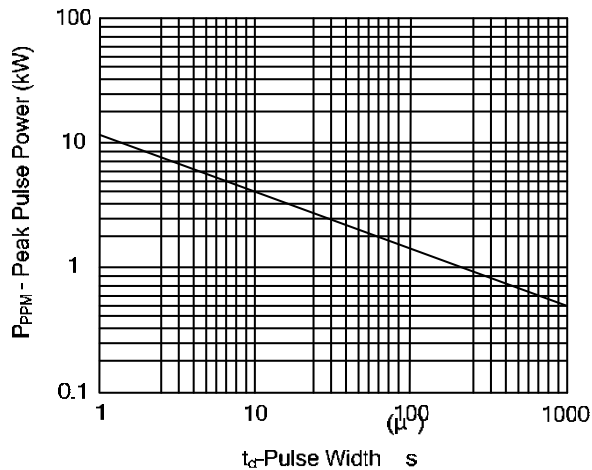


Figure 2. Pulse Derating Curve

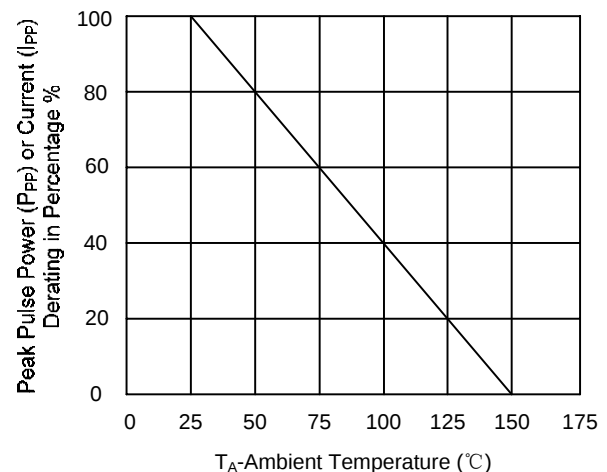


Figure 3. Pulse Waveform

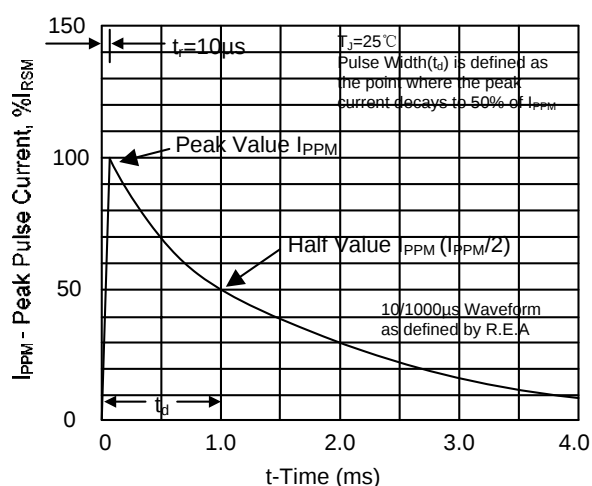


Figure 4. Typical Junction Capacitance

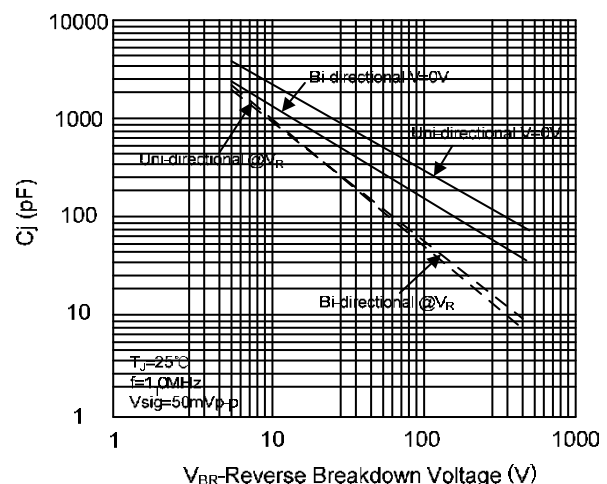


Figure 5. Steady State Power Dissipation Derating Curve

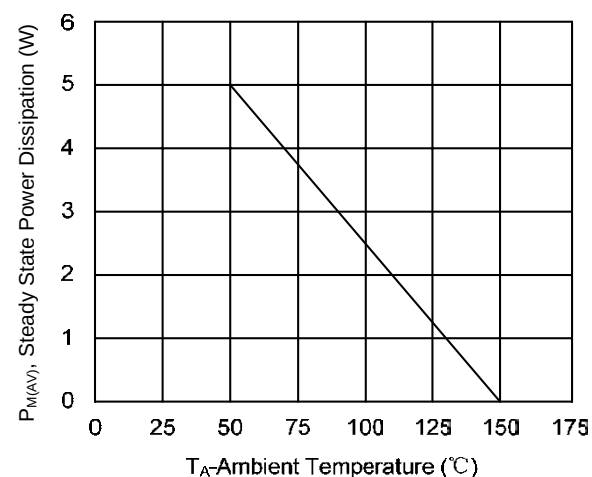
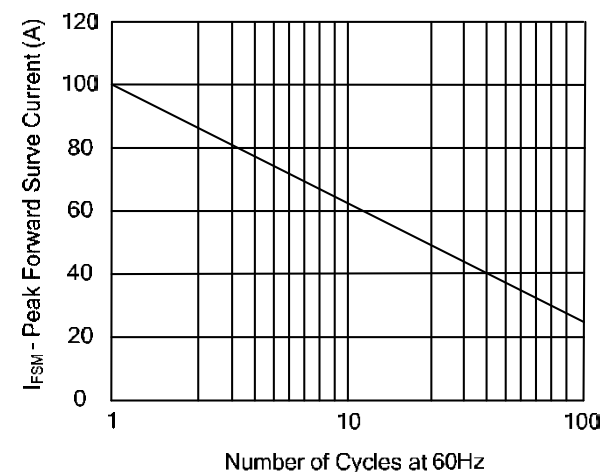


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only





Package Outline Dimensions

SMB(DO-214AA)



Dimensions in inches and (millimeters)



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