SURFACE MOUNT FAST RECOVERY RECTIFIER

FEATURES

- Glass Passivated Die Construction
- Low reverse leakage
- Low Forward Voltage Drop and High Current Capability
- Ideally Suited for Automated Assembly
- Plastic Material: UL Flammability Classification Rating 94V-0

SMB F

MECHANICAL DATA

- Case: SMBF Molded plastic
- Terminals: Pure tin plated, lead free
- Polarity: Indicated by cathode band
- Weight:57mg (approx.)

Cathode

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter		Symbol	RS3A BF	RS3B BF	RS3D BF	RS3G BF	RS3J BF	RS3K BF	RS3M BF	Unit
Maximum Repetitive Peak Reverse Voltage		V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage		V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage		V_{DC}	50	100	200	400	600	800	1000	V
Maximum Average Forward Rectified Current at T_A =75 °C		$I_{F(AV)}$	3.0							A
Peak Forward Surge Current 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC)		I_{FSM}	100.0							A
Maximum Instantaneous Forward Voltage at 3 A		V_F	1.3							V
Maximum DC Reverse Current at Rated DC Blocking Voltage	T_A = 25 °C T_A =100 °C	I_R	5.0 100.0							μA
Maximum reverse recovery time (NOTE1)		t_{rr}	150				250	500		nS
Typical Junction Capacitance (NOTE2)		C_J	60.0							pF
Maximum Thermal Resistance (NOTE3)		$R_{\theta JA}$	55.0							°C/W
Operating and Storage Temperature Range		$T_{J, TS}$	- 50 to + 150							°C

Note: 1.Reverse recovery condition I_F=0.5A,I_R=1.0A,Irr=0.25A
2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.
3.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas

Typical Characteristics

FIG. 1- FORWARD CURRENT DERATING CURVE

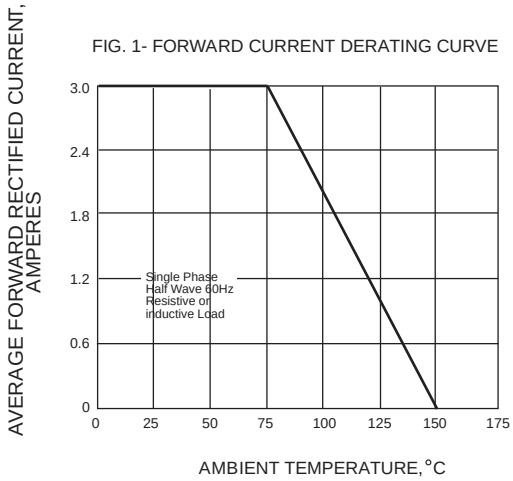


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

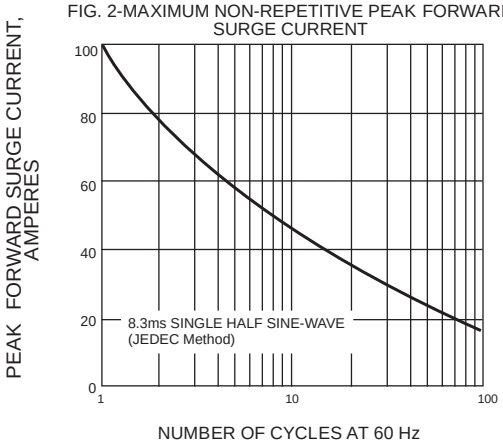


FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

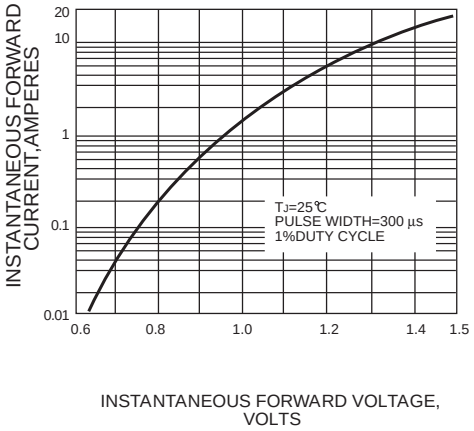


FIG. 4-TYPICAL REVERSE CHARACTERISTICS

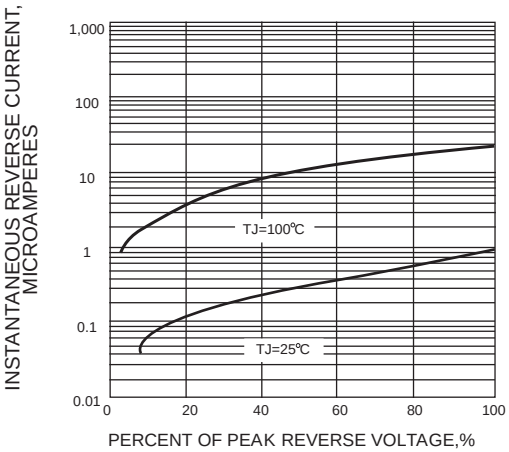


FIG. 5-TYPICAL JUNCTION CAPACITANCE

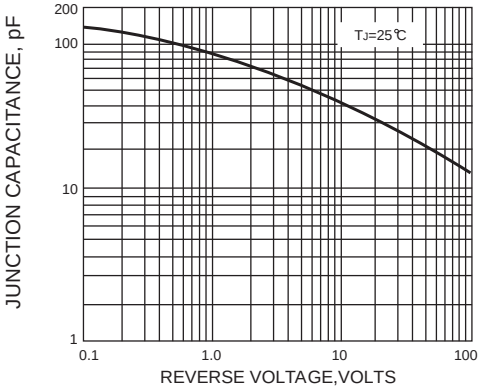
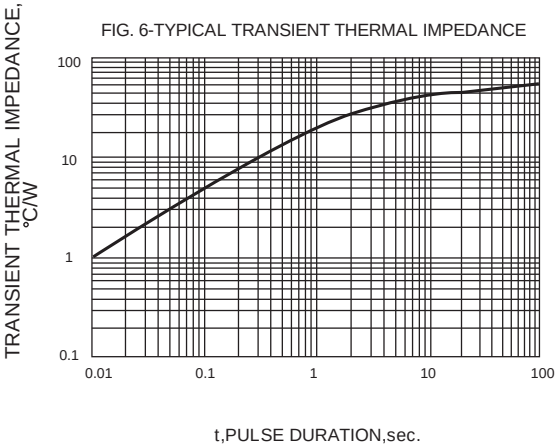
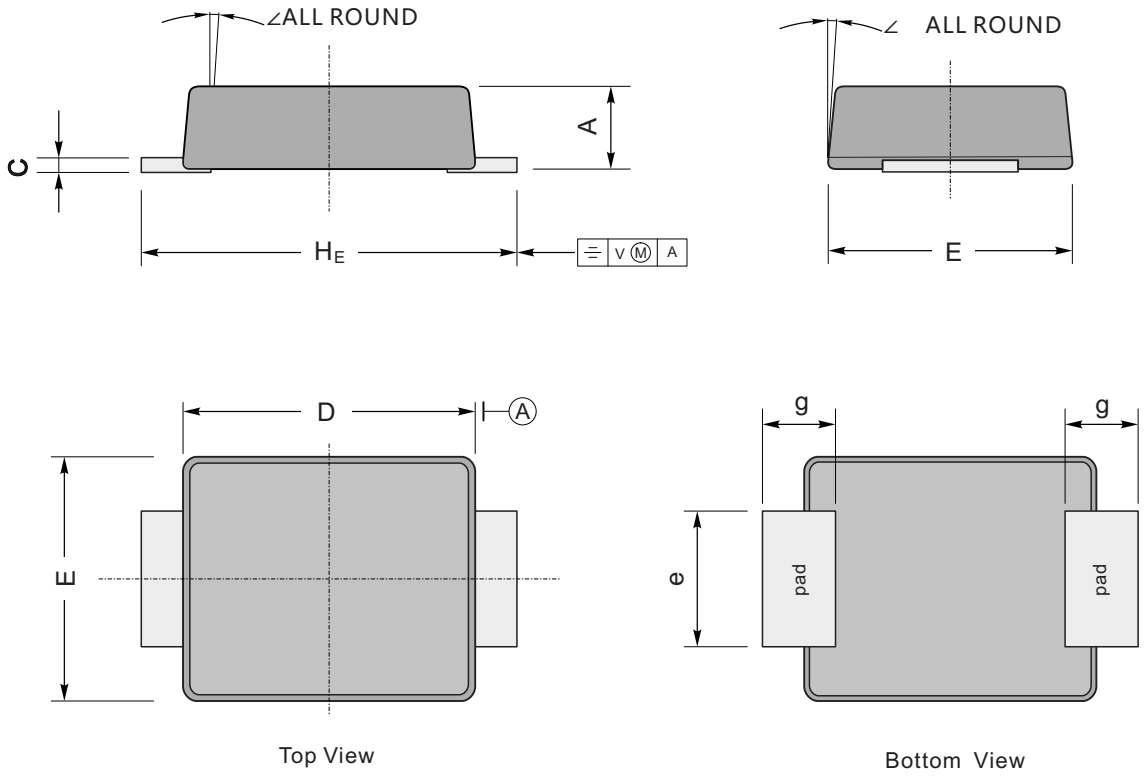


FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



SMBF Package Outline Dimensions



UNIT		A	C	D	E	H_E	e	g	∠
mm	max	1.3	0.26	4.4	3.7	5.5	2.2	1.0	9°
	min	1.1	0.18	4.2	3.5	5.1	1.9		
mil	max	51	10	173	146	216	86	40	
	min	43	7	165	138	200	75		