



ES2MB

2.0AMP Glass Passivated Super Fast Rectifiers



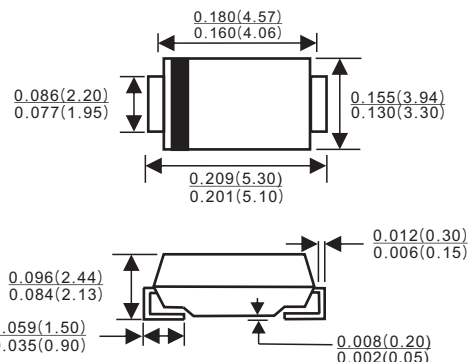
SMB

Features

- ◇ High efficiency, low VF
- ◇ High current capability
- ◇ High reliability
- ◇ High surge current capability
- ◇ Low power loss
- ◇ Low power loss, high efficiency
- ◇ High current capability
- ◇ For use in low voltage, high frequency inverter, free wheeling, and polarity protection application.

Mechanical Data

- ◇ Case: Molded plastic
- ◇ Epoxy: UL 94V-0 rated flame retardant
- ◇ Polarity: Color band denotes cathode
- ◇ High temperature soldering guaranteed:
260°C/10 seconds/.375", (9.5mm) lead
Lengths at 5 lbs., (2.3kg) tension
- ◇ Mounting position: ANY
- ◇ Weight: 0.093 gram



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%

Type Number	Symbol	ES2MB	UNITS
Maximum Recurrent Peak Reverse Voltage	V_{RRM}	1000	V
Maximum RMS voltage	V_{RMS}	700	V
Maximum DC blocking voltage	V_{DC}	1000	V
Maximum Average Forward Rectified Current .375(9.5mm) Lead Length @TA=90°C	$I_{F(AV)}$	2.0	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load(JEDEC method)	I_{FSM}	50	A
I^2t Rating for Fusing (t < 8.3ms)	I^2T	10.375	A ² s
Maximum Instantaneous Forward Voltage @1.0A	V_F	1.7	V
Maximum DC Reverse current @TA=25°C at Rated DC Blocking Voltage @ TA=125°C	I_R	5.0 100	μA
Maximum Reverse Recovery Time(IF=0.5A, IR=1.0A, IRR=0.25A)	T_{rr}	75	nS
Typical junction capacitance: VR=4.0v, f=1MHz	C_J	30	pF
Maximum thermal resistance (PCB mounted on 0.2x0.2"(5.0x5.0mm)copper pad area)	$R_{\theta JA}$	50	°C/W
	$R_{\theta JL}$	18	°C/W
Operating temperature range	T_J	-55 to +150	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Ratings AND Characteristic Curves

FIG.1 – FORWARD CURRENT DERATING CURVE

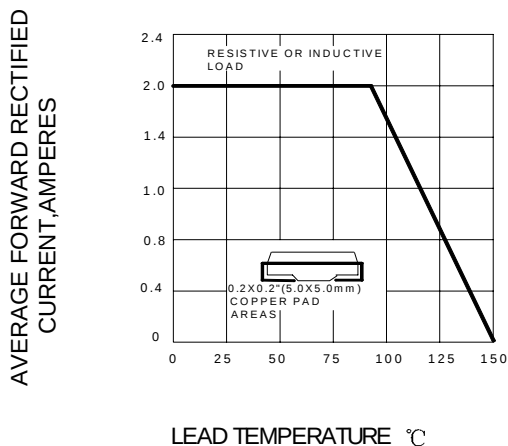


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

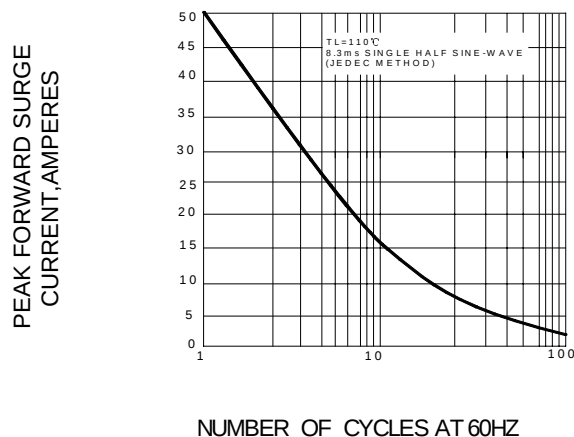


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

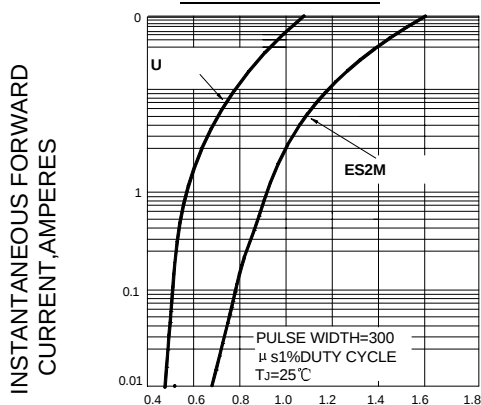


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

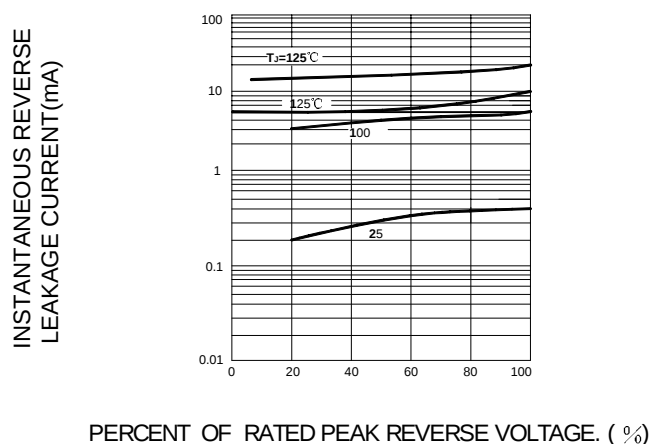


FIG.5 – TYPICAL JUNCTION CAPACITANCE

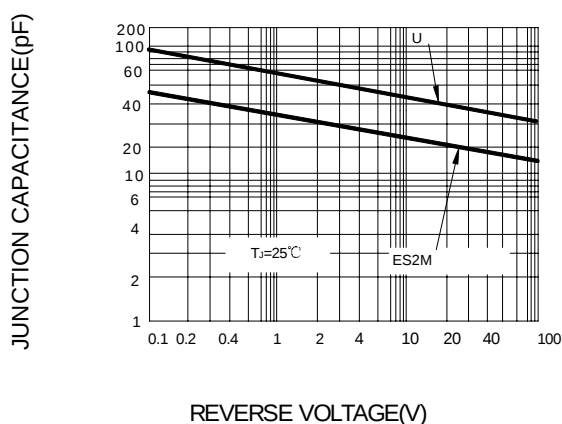
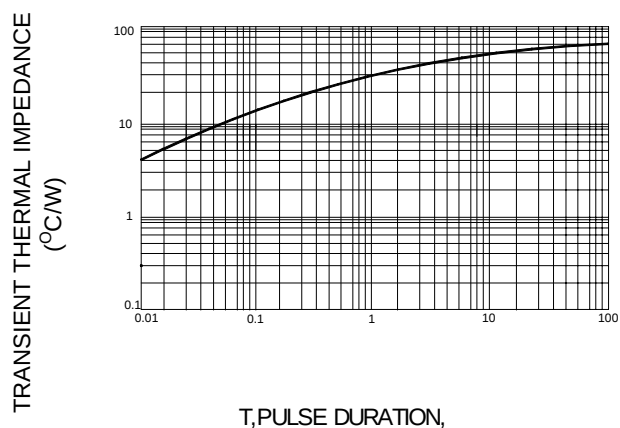


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE



PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SMB	3000/REEL	48000	36X35.8X36.5	12.00	11.00