

5A Surface Mount Glass Passivated Bridge Rectifier

Reverse Voltage - 1000 V

Forward Current – 5A

Features

- ◆High Surge Current Capability
- ◆Designed for Surface Mount Application
- ◆Glass Passivated Chip Junction
- ◆Lead free in comply with EU RoHS 2011/65/EU directives

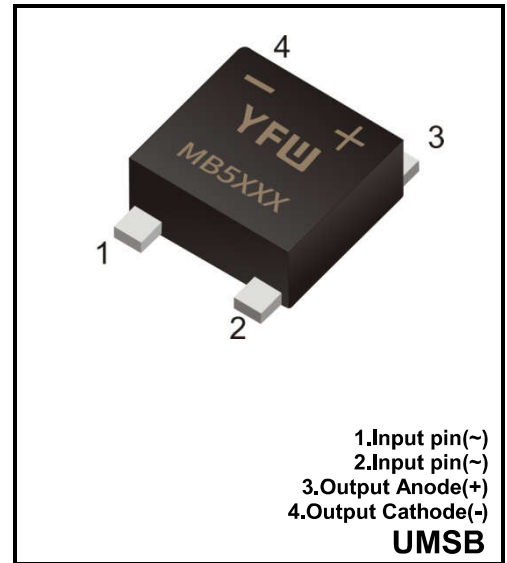
Mechanical Data

- ◆Case: UMSB
- ◆Terminals: Solderable per MIL-STD-750, Method 2026
- ◆Approx. Weight: 233.7mg /0.00824oz

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 current derate by 20 %.



Parameter	Symbols	MSB50M	Units
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	1000	V
Maximum RMS voltage	V_{RMS}	700	V
Maximum DC Blocking Voltage	V_{DC}	1000	V
Average Rectified Output Current	I_o	5.0	A
Peak Forward Surge Current 8.3 ms Single Half Sine-Wave Superimposed on Rated Load(JEDEC method)	I_{FSM}	150	A
$I^2 t$ Rating for Fusing	$I^2 t$	93.375	A ² S
Forward Voltage per element at 1.0A	V_F	0.83(typ.)	V
Forward Voltage per element at 5.0A	V_F	1.1	V
Maximum DC Reverse Current @TA=25°C at Rated DC Blocking Voltage @TA=125°C	I_R	5 100	μA
Typical Junction Capacitance (Note1)	C_j	60	pF
Typical Thermal Resistance (Note2)	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	60 10 12	°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) Mounted on glass epoxy PC board with 4×1.5"×1.5" (3.81×3.81 cm) copper pad.

Fig.1 Average Rectified Output Current Derating Curve

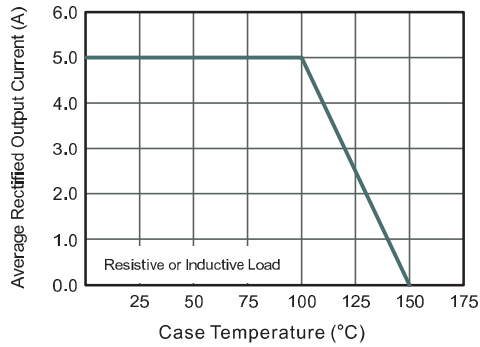


Fig.2 Typical Reverse Characteristics

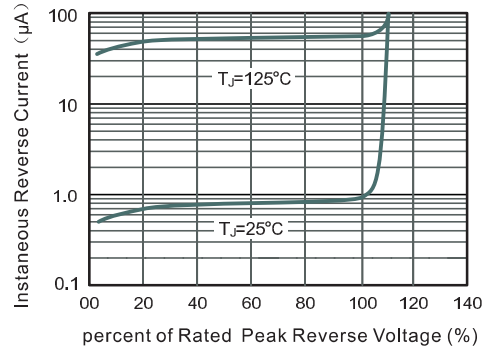


Fig.3 Typical Instantaneous Forward Characteristics

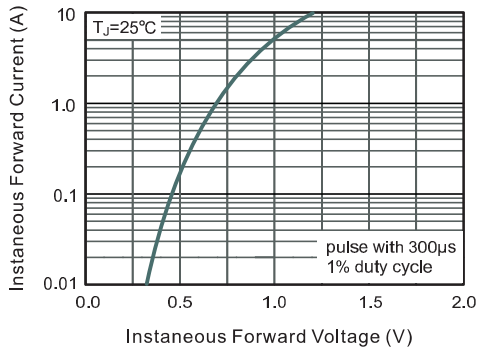


Fig.4 Typical Junction Capacitance

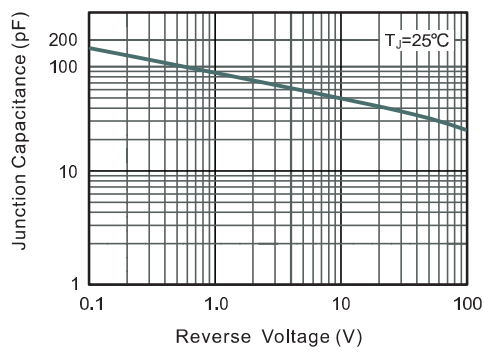


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

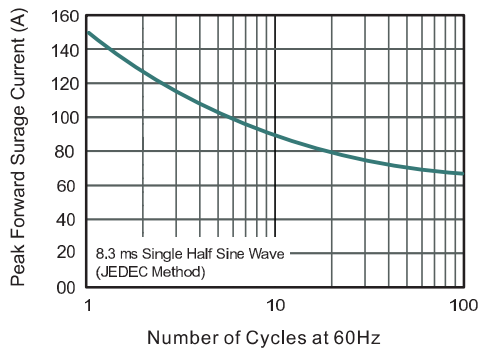
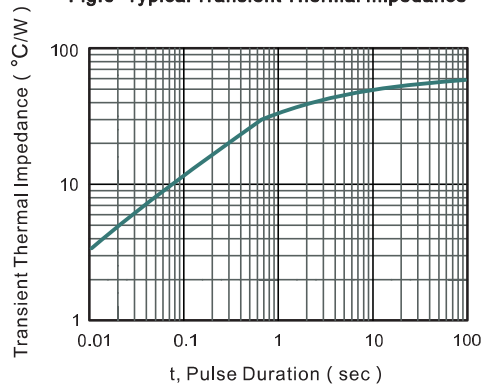
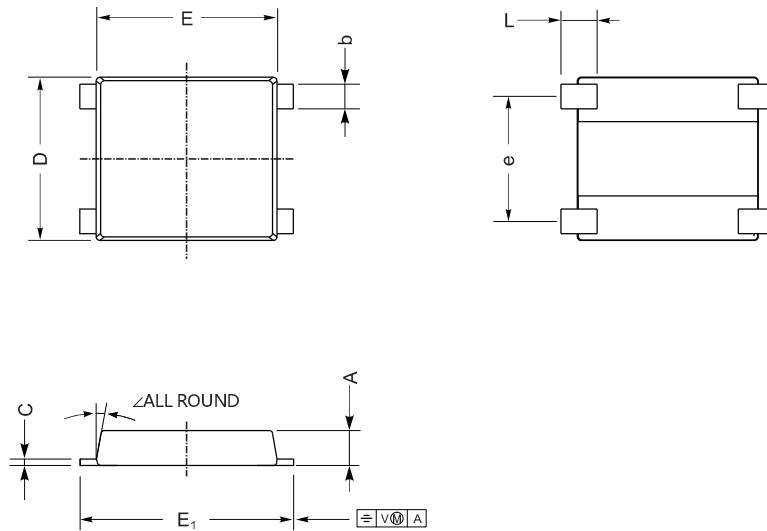


Fig.6- Typical Transient Thermal Impedance



Package Outline UMSB

Plastic surface mounted package; 4 leads



UNIT		A	C	D	E	E ₁	L	e	b	∠
mm	max	1.5	0.29	7.0	7.6	8.9	1.6	5.3	1.15	10°
	min	1.3	0.17	6.2	7.1	8.4	1.0	4.9	0.95	
mil	max	59	12	276	299	350	55	209	45	
	min	51	7	244	280	331	31.5	193	37	

The recommended mounting pad size



Unit: $\frac{\text{mm}}{\text{mil}}$

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
UMSB	Tape/Reel, 13" reel	3000	EIA-481-1