



5A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

FEATURES:

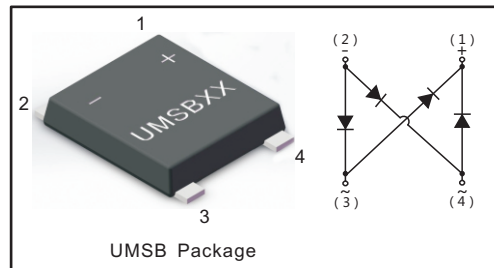
- Glass Passivated Chip Junction
- Reverse Voltage - 1000 V
- Forward Current - 5.0 A
- Fast reverse recovery time
- Designed for Surface Mount Application

MECHANICAL DATA

- Case: UMSB
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.234g / 0.00825oz

PINNING

PIN	DESCRIPTION
1	Output Anode (+)
2	Output Cathode (-)
3	Input Pin (~)
4	Input Pin (~)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

PARAMETER	SYMBOL	RYBS5010	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
Average Rectified Output Current at $T_c = 100^\circ\text{C}$	I_o	5.0	A
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	170	A
I^2t Rating for Fusing	I^2t	119.94	A^2S
Typical Thermal Resistance ⁽¹⁾	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	60 6 14	$^\circ\text{C}/\text{W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	$^\circ\text{C}$

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

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

PARAMETER	SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	Units
Instantaneous forward voltage	V_F	$I_F = 1\text{A}$ $T_J = 25^\circ\text{C}$	—	0.83	—	V
		$I_F = 5\text{A}$ $T_J = 25^\circ\text{C}$	—	0.95	1.0	
		$I_F = 1\text{A}$ $T_J = 125^\circ\text{C}$	—	0.70	—	
		$I_F = 5\text{A}$ $T_J = 125^\circ\text{C}$	—	0.85	—	
Reverse current at DC blocking voltage	I_R	$T_J = 25^\circ\text{C}$ $T_J = 125^\circ\text{C}$	— —	0.15 40	1 200	μA
Maximum Reverse Recovery Time	t_{rr}	Measured with $I_F = 0.5\text{A}$, $I_R = 1\text{A}$, $I_{rr} = 0.25\text{A}$.	—	—	500	ns
Typical Junction Capacitance	C_j	$f = 1\text{MHz}$, $V_R = 4\text{V DC}$ $T_J = 25^\circ\text{C}$	—	60	—	pF



Fig.1 Average Rectified Output Current Derating Curve

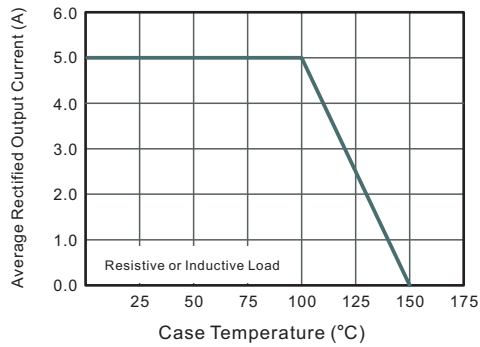


Fig.2 Typical Reverse Characteristics

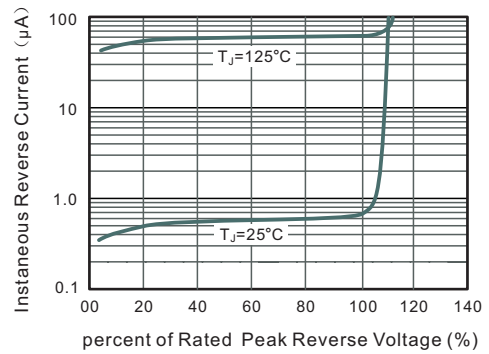


Fig.3 Typical Instantaneous Forward Characteristics

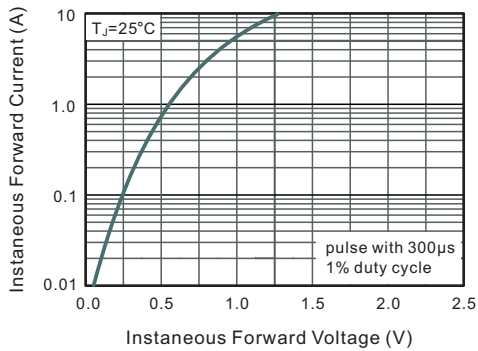


Fig.4 Typical Junction Capacitance

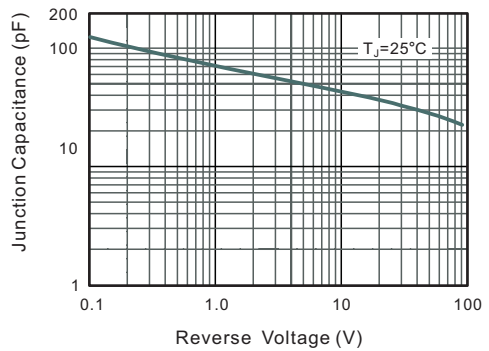


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

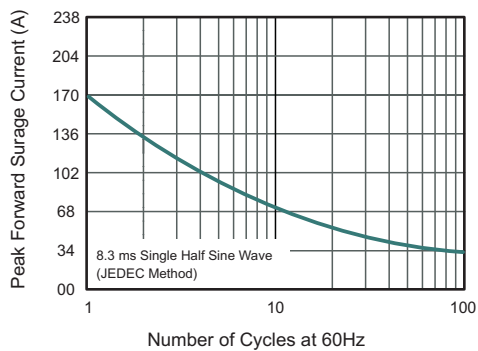
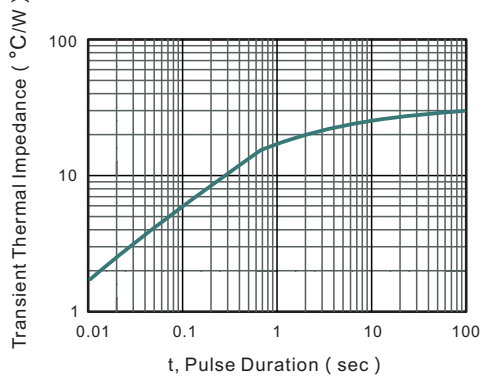


Fig.6- Typical Transient Thermal Impedance

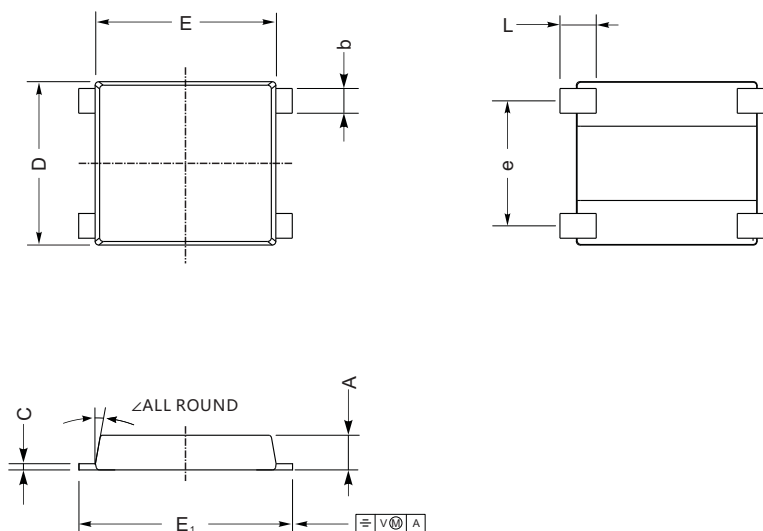




PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

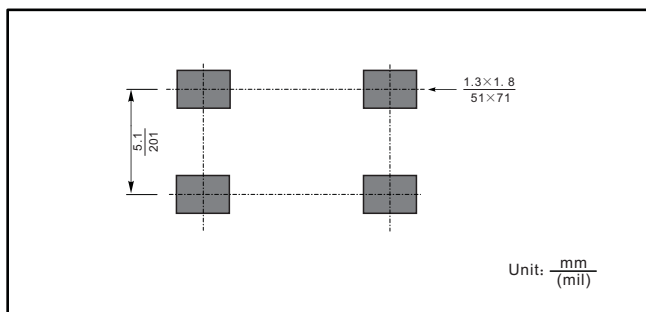
UMSB



UMSB mechanical data

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



Marking

Type number	Marking code
RYBS5010	RYBS5010