

2W005 THRU 2W10

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2W005 THRU 2W10

2.0A Silicon Passivated Single-Phase Bridge Rectifiers-50-1000V

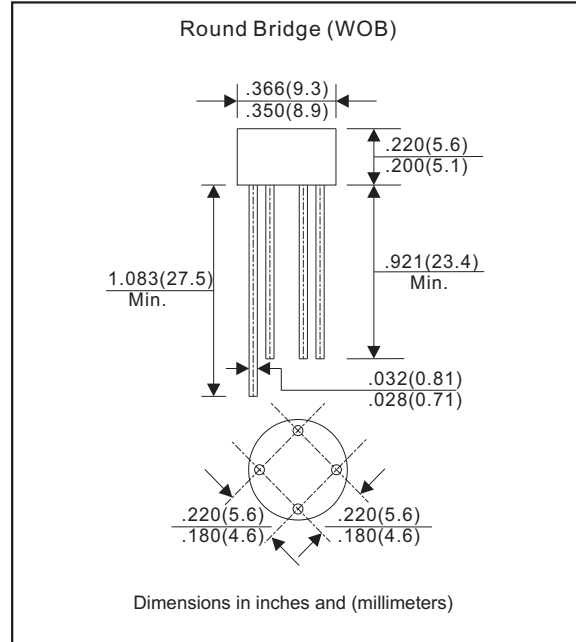
Features

- Surge overload rating 60 amperes peak
- Ideal for printed circuit board
- Reliable low cost construction utilizing molded plastic technique results in expensive product
- Lead-free parts for green partner, meet RoHS requirements
- Suffix "-H" indicates Halogen-free parts, ex. 2W005-H.

Mechanical data

- Case: Potted plastic round body
- Epoxy: UL94-V0 rated flame retardant
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: As marked
- Mounting Position: Any

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig. 1	I_o			2.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			60	A
Reverse current	$V_R = V_{RRM} T_J = 25^\circ\text{C}$	I_R			10.0	uA
	$V_R = V_{RRM} T_J = 100^\circ\text{C}$				1000	
I^2t Rating for fusing	$t < 8.3$ ms	I^2t			15	A^2s
Typical Junction capacitance	Note 1	C_J		30		pF
Storage temperature		T_{STG}	-65		+175	$^\circ\text{C}$

Note:

1. Measured at 1.0MHz and applied reverse voltage of 4.0V

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature $T_J, (^\circ\text{C})$
2W005	50	35	50	1.10	-55 to +125
2W01	100	70	100		
2W02	200	140	200		
2W04	400	280	400		
2W06	600	420	600		
2W08	800	560	800		
2W10	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage @ $I_F=2.0\text{A}$

Rating and characteristic curves (2W005 THRU 2W10)

Fig.1 - Forward Current Derating Curve

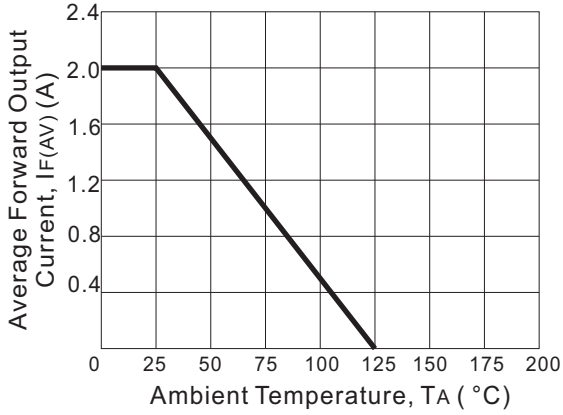


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

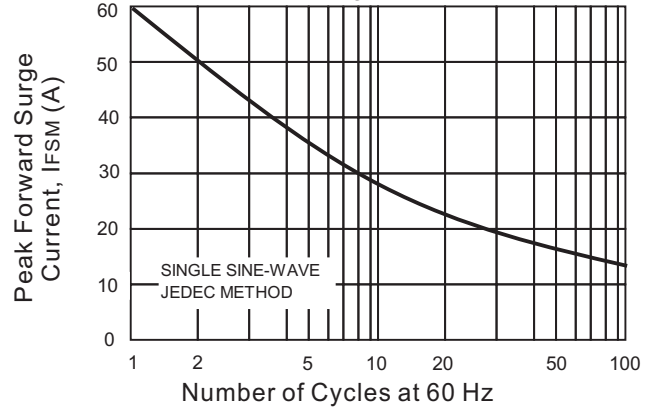


Fig. 3 - Typical Instantaneous Forward Characteristics (Per Leg)

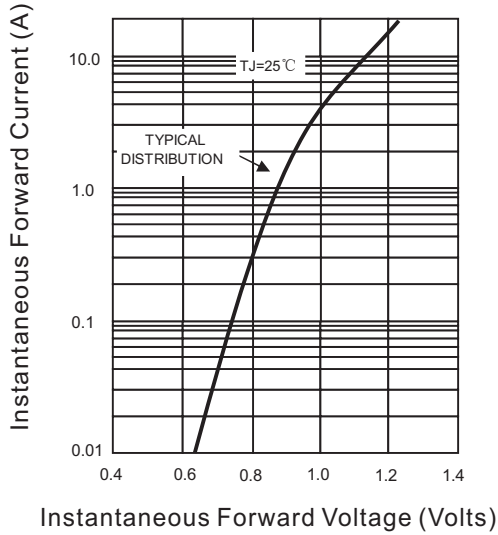


Fig. 4 - Typical Reverse Characteristics Per Leg

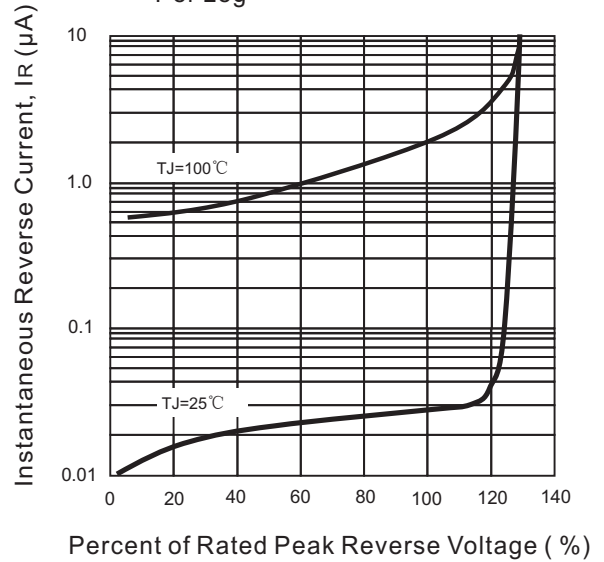
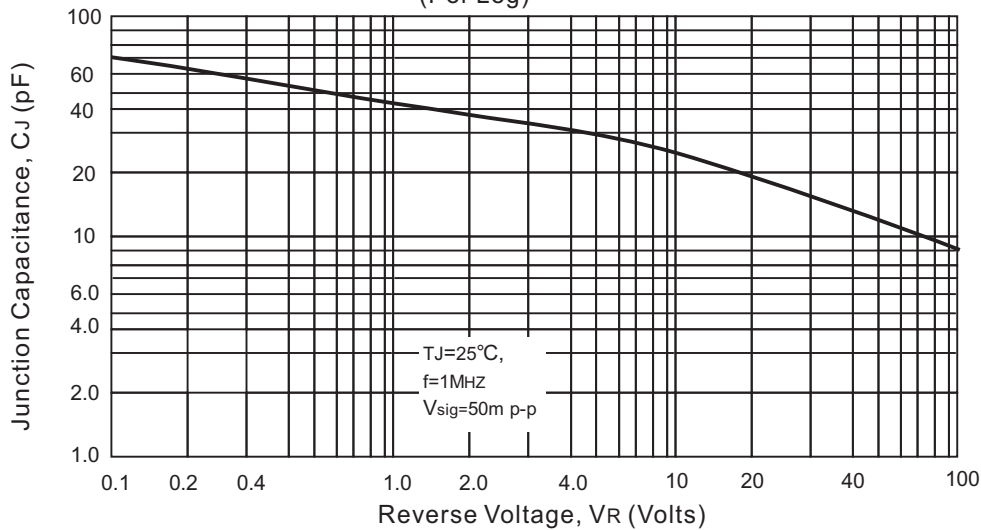

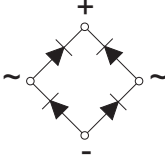


Fig. 5 - Typical Junction Capacitance (Per Leg)



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Pinning information

Simplified outline	Symbol
	

Marking

Type number	Marking code
2W005	2W005
2W01	2W01
2W02	2W02
2W04	2W04
2W06	2W06
2W08	2W08
2W10	2W10

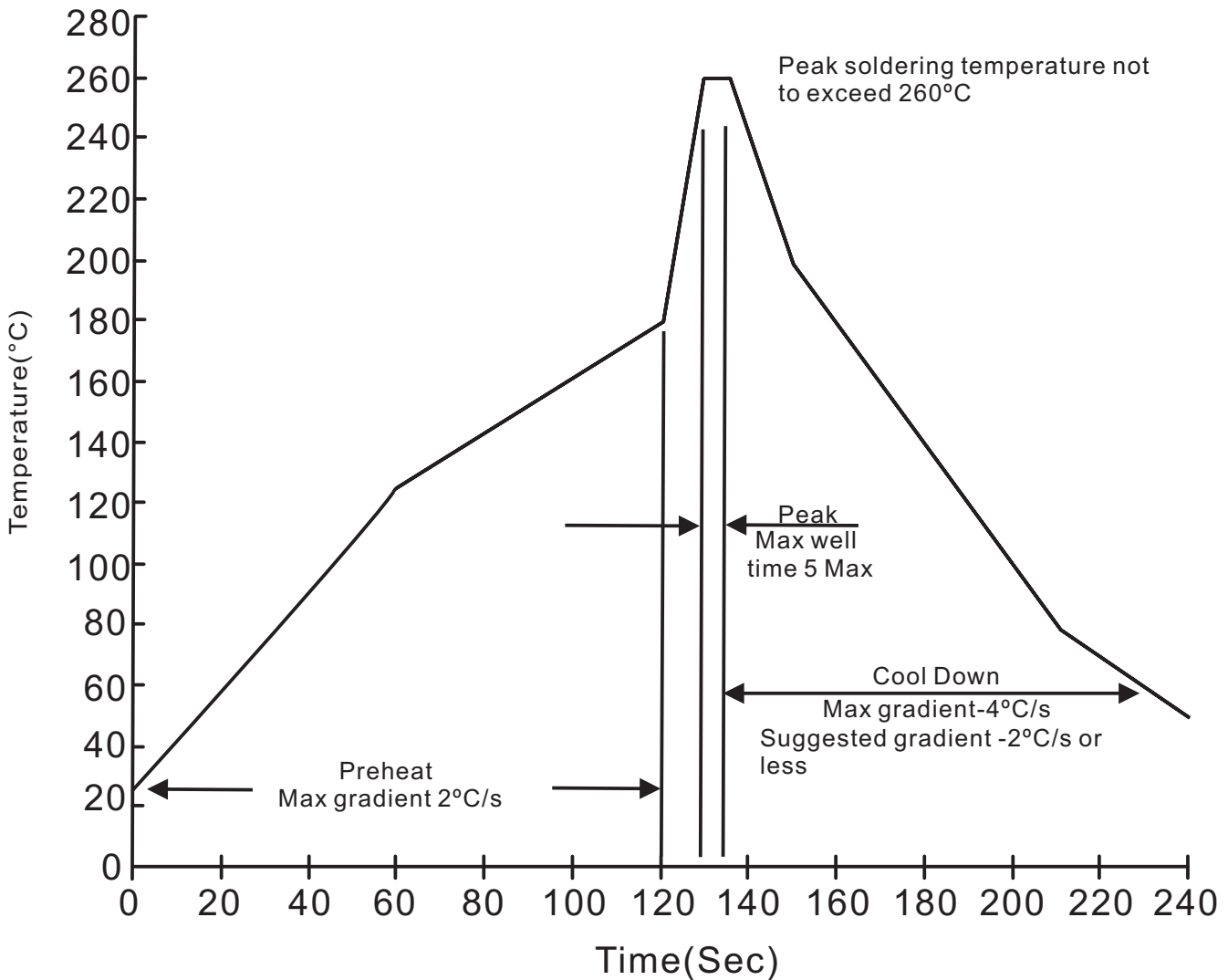
Bulk packing

PACKAGE	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
WOB	1000	230*230*54	490*240*310	10,000	14.0

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Suggested thermal profiles for soldering processes

1. Lead free temperature profile wave-soldering



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High reliability test capabilities

Item Test	Conditions	Reference
1. Solder Resistance	at $260\pm 5^{\circ}\text{C}$ for $10\pm 2\text{sec}$. immerse body into solder $1/16''\pm 1/32''$	MIL-STD-750D METHOD-2031
2. Solderability	at $245\pm 5^{\circ}\text{C}$ for 5 sec.	MIL-STD-202F METHOD-208
3. High Temperature Reverse Bias	$V_R=80\%$ rate at $T_J=125^{\circ}\text{C}$ for 168 hrs.	MIL-STD-750D METHOD-1038
4. Forward Operation Life	Rated average rectifier current at $T_A=25^{\circ}\text{C}$ for 500hrs.	MIL-STD-750D METHOD-1027
5. Intermittent Operation Life	$T_A = 25^{\circ}\text{C}$, $I_F = I_o$ On state: power on for 5 min. off state: power off for 5 min. on and off for 500 cycles.	MIL-STD-750D METHOD-1036
6. Pressure Cooker	$15P_{SIG}$ at $T_A=121^{\circ}\text{C}$ for 4 hrs.	JESD22-A102
7. Temperature Cycling	-55°C to $+125^{\circ}\text{C}$ dwelled for 30 min. and transferred for 5min. total 10 cycles.	MIL-STD-750D METHOD-1051
8. Forward Surge	8.3ms single half sine-wave , one surge.	MIL-STD-750D METHOD-4066-2
9. Humidity	at $T_A=85^{\circ}\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
10. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031