

BR10005 THRU BR1010

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BR10005 THRU BR1010

10.0A Silicon Passivated Single-Phase Bridge Rectifiers-50-1000V

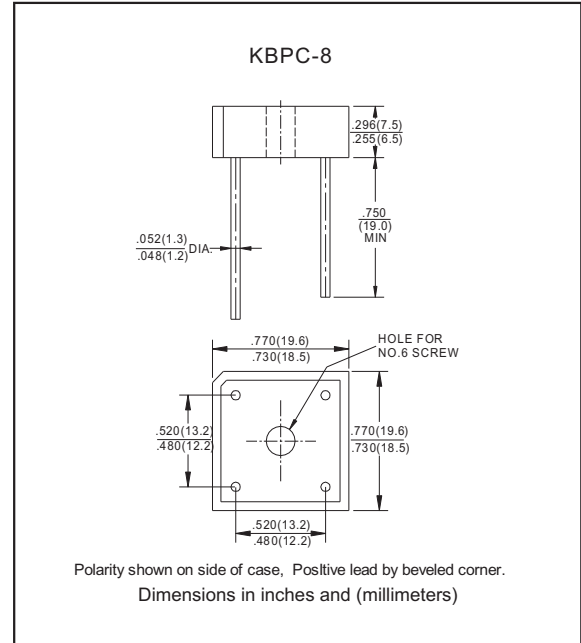
Package outline

Features

- Surge overload rating 240 amperes peak.
- Low forward voltage drop.
- Small size; simple installation.
- Silver plated copper leads.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free part, ex. BR10005-H.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, KBPC-8
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- Mounting Position : Any



Maximum ratings and Electrical Characteristics (AT T_A=25°C unless otherwise noted)

PARAMETER	CONDITIONS	Symbol	MIN.	TYP.	MAX.	UNIT
Forward rectified current	See Fig.1	I _O			10.0	A
Forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I _{FSM}			240	A
Reverse current	V _R = V _{RRM} T _J = 25°C	I _R			10.0	uA
	V _R = V _{RRM} T _J = 100°C				1000	
Storage temperature		T _{STG}	-65		+175	°C

SYMBOLS	V _{RRM} ^{*1} (V)	V _{RMS} ^{*2} (V)	V _R ^{*3} (V)	V _F ^{*4} (V)	Operating temperature T _J , (°C)
BR10005	50	35	50	1.0	-55 to +125
BR1001	100	70	100		
BR1002	200	140	200		
BR1004	400	280	400		
BR1006	600	420	600		
BR1008	800	560	800		
BR1010	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage
Per Bridge Element @ I_F=5.0A

Rating and characteristic curves (BR10005 THRU BR1010)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

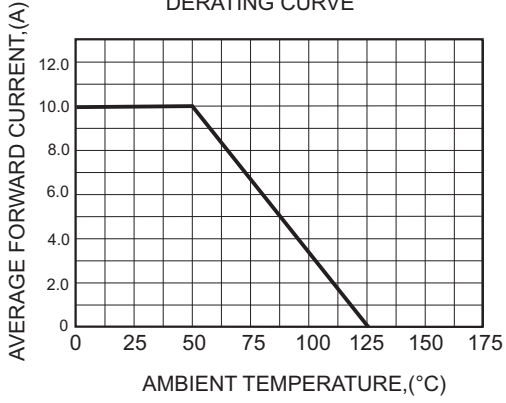


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

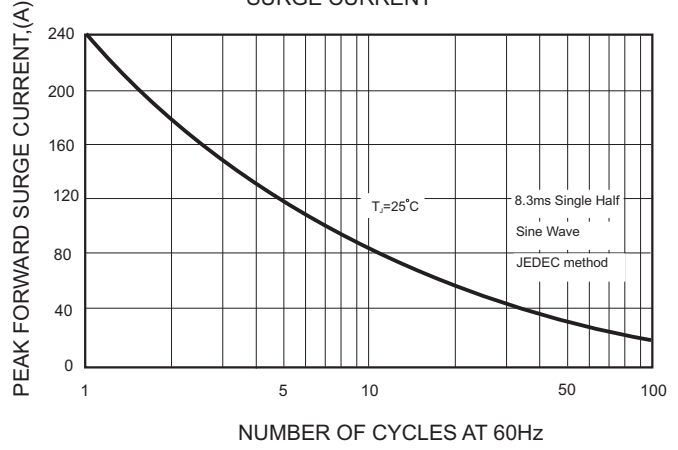


FIG.3-TYPICAL FORWARD CHARACTERISTICS

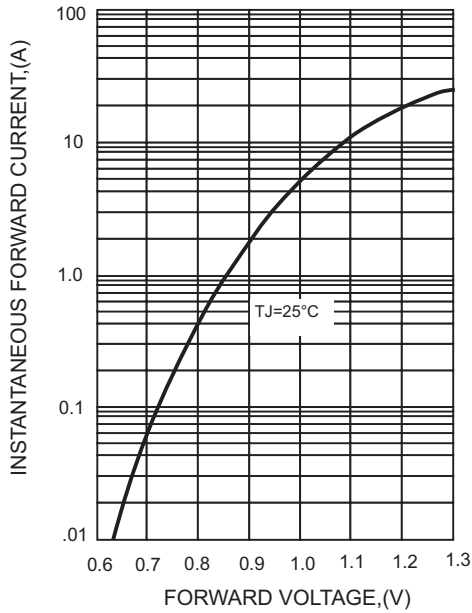
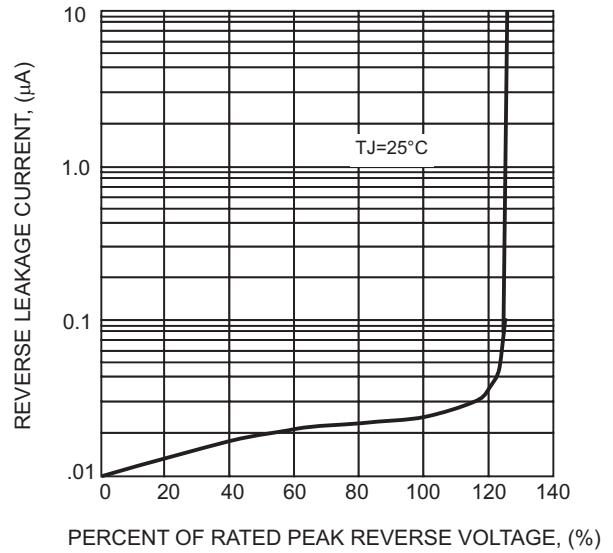
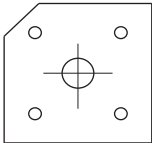
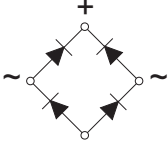


FIG.4-TYPICAL REVERSE CHARACTERISTICS



BR10005 THRU BR1010

Pinning information

Simplified outline	Symbol
	

Marking

Type number	Marking code
BR10005	BR10005
BR1001	BR1001
BR1002	BR1002
BR1004	BR1004
BR1006	BR1006
BR1008	BR1008
BR1010	BR1010

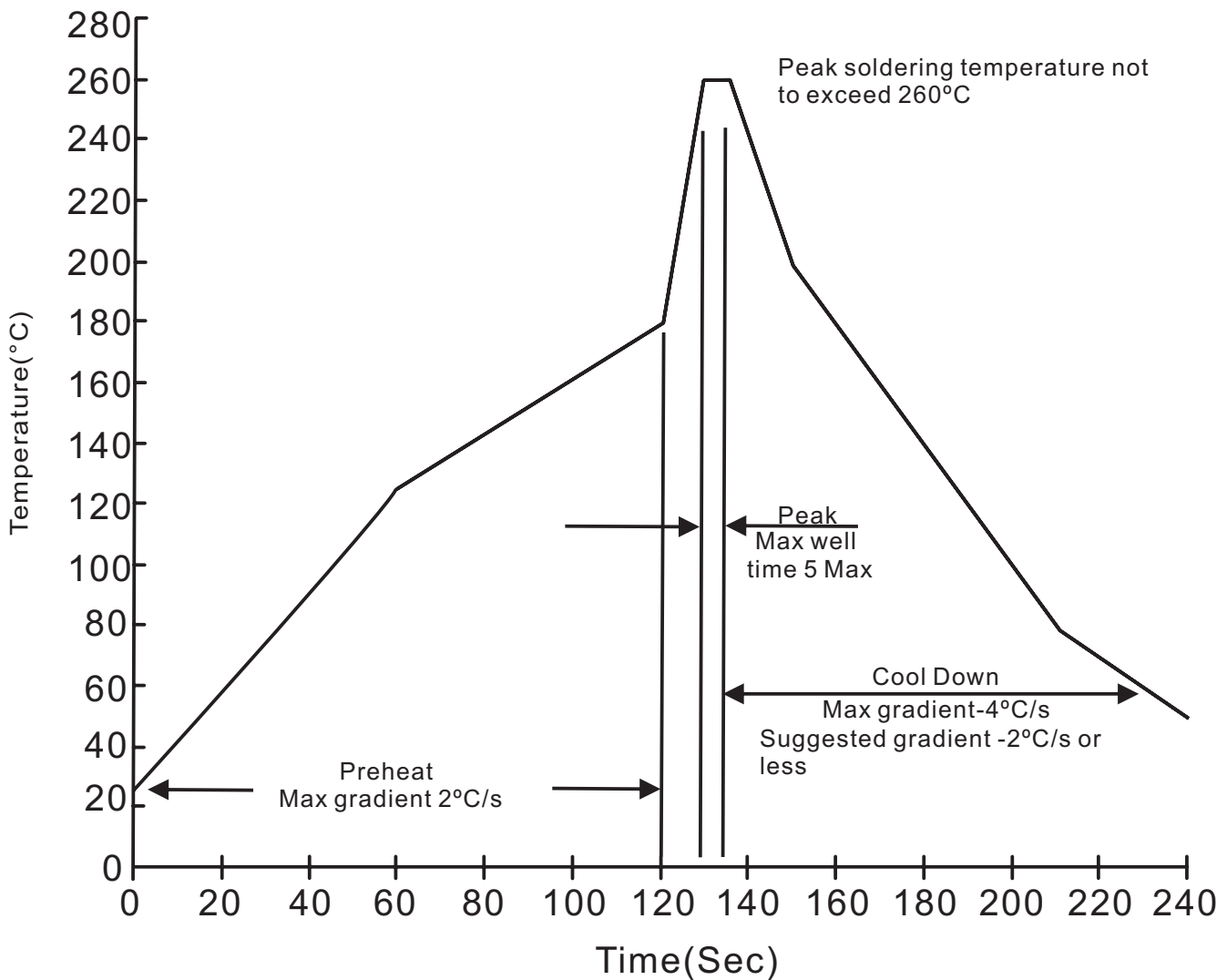
Bulk packing

PACKAGE	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
KBPC-8	200	203*203*44	490*240*310	2,000	15.0

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Suggested thermal profiles for soldering processes

1. Lead free temperature profile wave-soldering



BR10005 THRU BR1010**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. Thermal Shock	0°C for 5 min. rise to 100°C for 5 min. total 10 cycles.	MIL-STD-750D METHOD-1056
9. Forward Surge	8.3ms single half sine-wave superimposed on rated load, one surge.	MIL-STD-750D METHOD-4066-2
10. Humidity	at $T_A=85^{\circ}\text{C}$, RH=85% for 1000hrs.	MIL-STD-750D METHOD-1021
11. High Temperature Storage Life	at 175°C for 1000 hrs.	MIL-STD-750D METHOD-1031