

BR6005G THRU BR610G

List

List.....	1
Package outline.....	2
Features.....	2
Mechanical data.....	2
Maximum ratings and electrical characteristics	2
Rating and characteristic curves.....	3
Pinning information.....	4
Marking.....	4
Bulk packing.....	4
Suggested thermal profiles for soldering processes.....	5
High reliability test capabilities.....	6

BR6005G THRU BR610G

6.0A Glass Passivated Single-Phase
Bridge Rectifiers-50-1000V

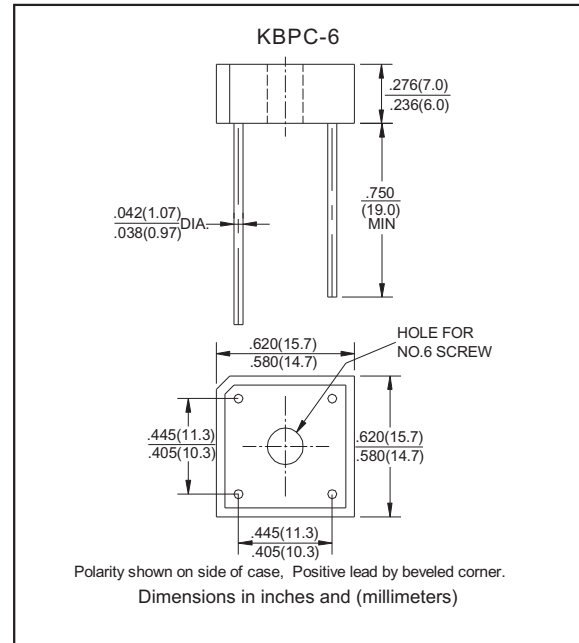
Features

- Surge overload rating 150 amperes peak.
- Low forward voltage drop.
- Small size; simple installation.
- Silver plated copper leads.
- Glass passivated chip junction.
- Lead-free parts meet RoHS requirements.
- Suffix "-H" indicates Halogen-free part, ex. BR6005G-H.

Mechanical data

- Epoxy: UL94-V0 rated flame retardant
- Case : Molded plastic, KBPC-6
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : marked on body
- 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			6.0	A
Forward surge current	8.3ms single half sine-wave (JEDEC methode)	I_{FSM}			150	A
Reverse current	$V_R = V_{RRM} \quad T_J = 25^\circ\text{C}$	I_R			10.0	uA
	$V_R = V_{RRM} \quad T_J = 100^\circ\text{C}$				1000	
Storage temperature		T_{STG}	-65		+175	$^\circ\text{C}$

SYMBOLS	V_{RRM}^{*1} (V)	V_{RMS}^{*2} (V)	V_R^{*3} (V)	V_F^{*4} (V)	Operating temperature $T_J, (^\circ\text{C})$
BR6005G	50	35	50	1.1	-55 to +150
BR601G	100	70	100		
BR602G	200	140	200		
BR604G	400	280	400		
BR606G	600	420	600		
BR608G	800	560	800		
BR610G	1000	700	1000		

*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage
Per Bridge Element@ $I_F=3.0A$

Rating and characteristic curves (BR6005G THRU BR610G)

FIG.1-TYPICAL FORWARD CURRENT DERATING CURVE

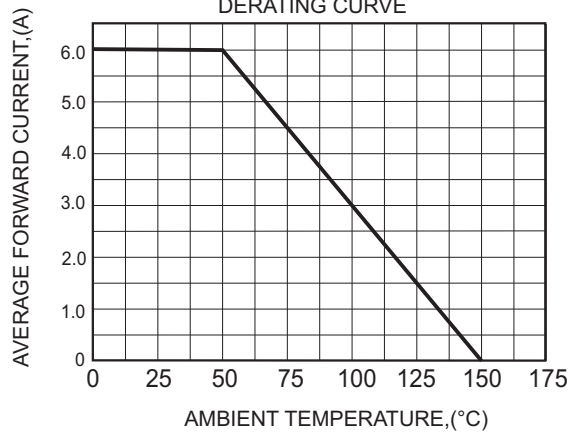


FIG.2-MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

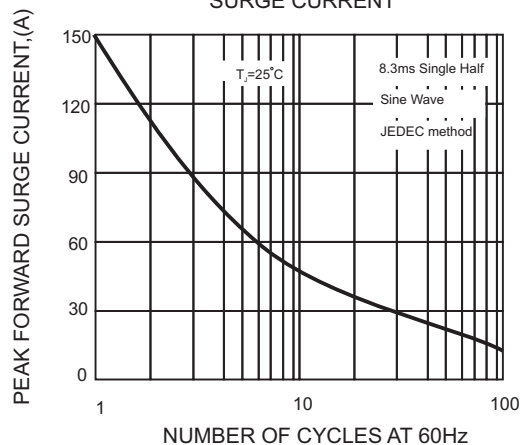


FIG.3-TYPICAL FORWARD CHARACTERISTICS

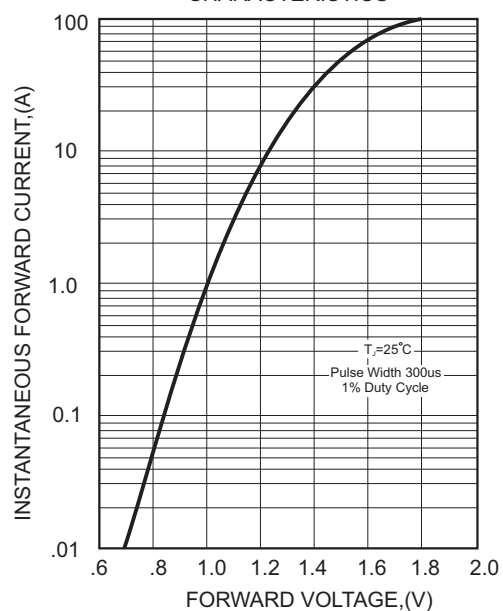
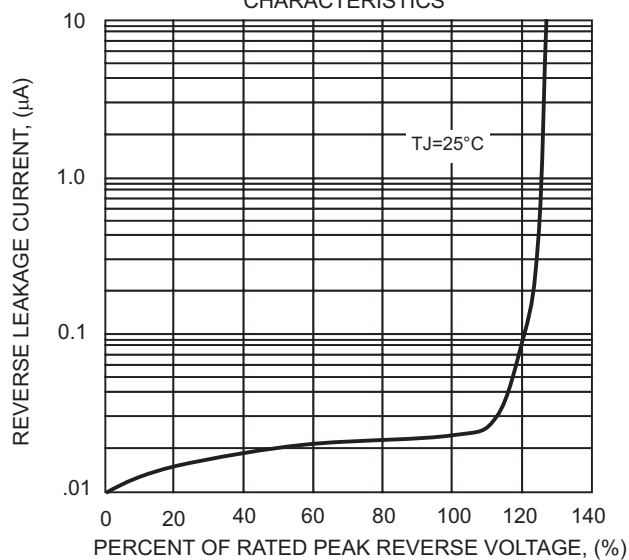
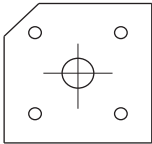
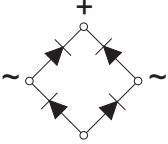


FIG.4-TYPICAL REVERSE CHARACTERISTICS



BR6005G THRU BR610G**Pinning information**

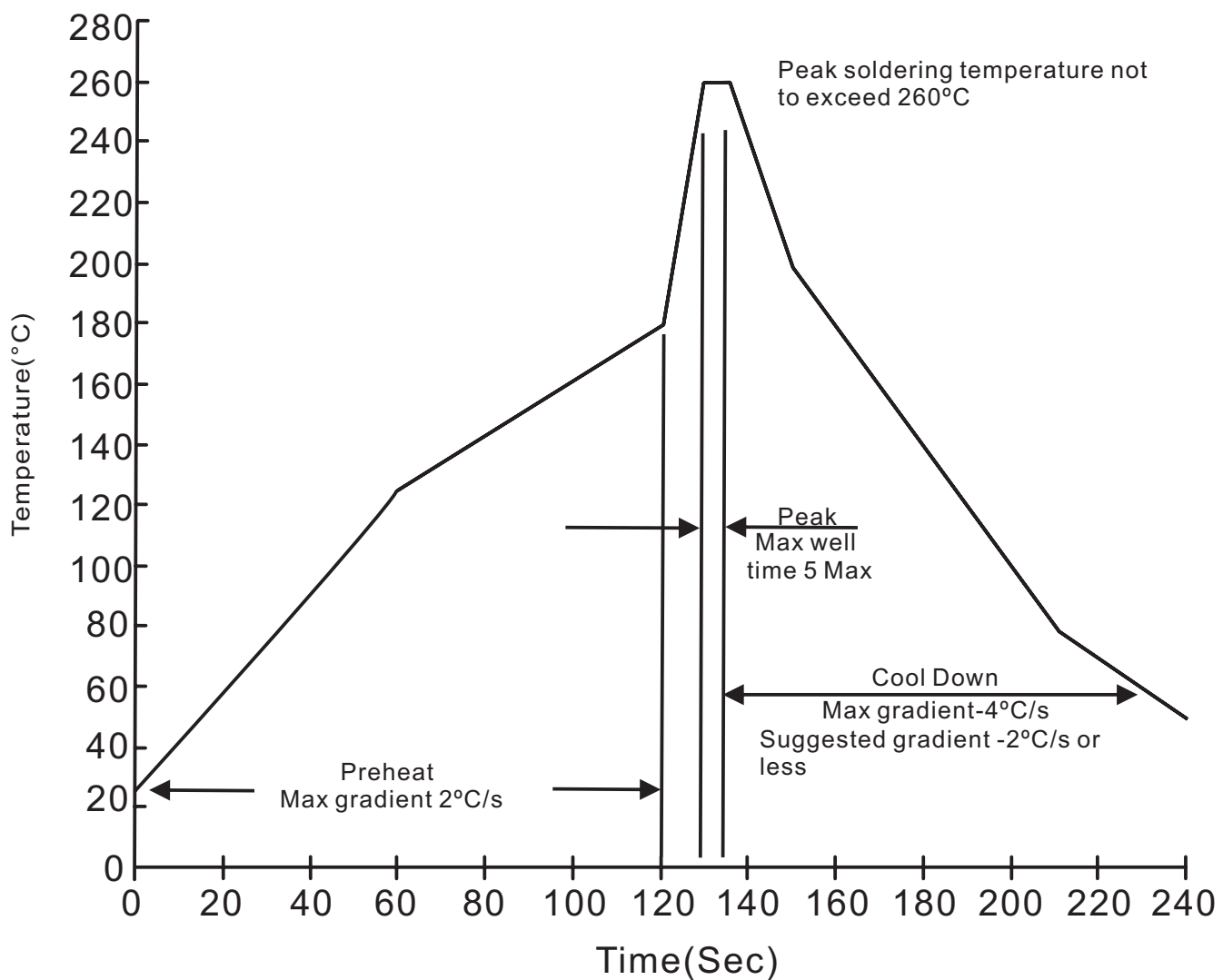
Simplified outline	Symbol
	

Marking

Type number	Marking code
BR6005G	BR6005G
BR601G	BR601G
BR602G	BR602G
BR604G	BR604G
BR606G	BR606G
BR608G	BR608G
BR610G	BR610G

Bulk packing

PACKAGE	BOX (pcs)	INNER BOX (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
KBPC-6	200	203*203*44	435*215*260	2,000	8.7

BR6005G THRU BR610G**Suggested thermal profiles for soldering processes****1. Lead free temperature profile wave-soldering**

BR6005G THRU BR610G

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 $T_J = 150^{\circ}\text{C}$ 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