

KBP3005G THRU KBP310G

List

List..... 1

Package outline..... 2

Features..... 2

Mechanical data..... 2

Maximum ratings 2

Rating and characteristic curves..... 3

Pinning information..... 4

Marking..... 4

Tube packing & Bulk packing..... 4

Suggested thermal profiles for soldering processes..... 5

High reliability test capabilities..... 6

KBP3005G THRU KBP310G

3.0A Glass Passivated Single Phase Bridge Rectifiers-50-1000V

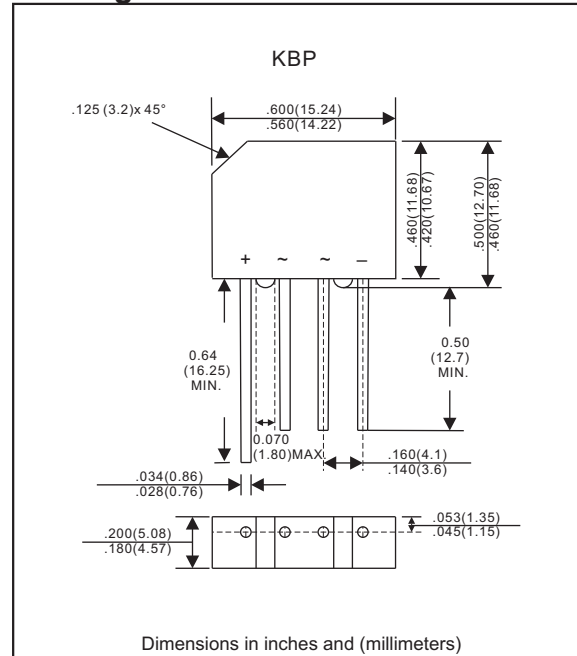
Features

- Surge overload ratings to 80 amperes peak
- Ideal for printed circuit board
- Reliable low cost construction technique
- Lead-free parts for green partner, meet RoHS requirements
- UL recognized file # E321971.
- Suffix "-H" indicates Halogen free parts, ex. KBP3005G-H.

Mechanical data

- Case: Potted plastic round body KBP
- Epoxy: UL94-V0 rated flame retardant
- Terminals: Solderable per MIL-STD-750 Method 2026
- Polarity: As marked
- Mounting Position: Any
- Weight: Approximated 1.70 grams

Package outline



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 | | | 3.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | I _{FSM} | | | 80 | A |
| Reverse current | V _R = V _{RRM} T _J = 25°C | I _R | | | 5.0 | uA |
| | V _R = V _{RRM} T _J = 125°C | | | | 500 | |
| I ² t Rating for fusing | t < 8.3 ms | I ² t | | | 27 | A ² s |
| 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) |
|----------|---------------------------------------|---------------------------------------|-------------------------------------|-------------------------------------|--|
| KBP3005G | 50 | 35 | 50 | 1.10 | -55 to +150 |
| KBP301G | 100 | 70 | 100 | | |
| KBP302G | 200 | 140 | 200 | | |
| KBP304G | 400 | 280 | 400 | | |
| KBP306G | 600 | 420 | 600 | | |
| KBP308G | 800 | 560 | 800 | | |
| KBP310G | 1000 | 700 | 1000 | | |

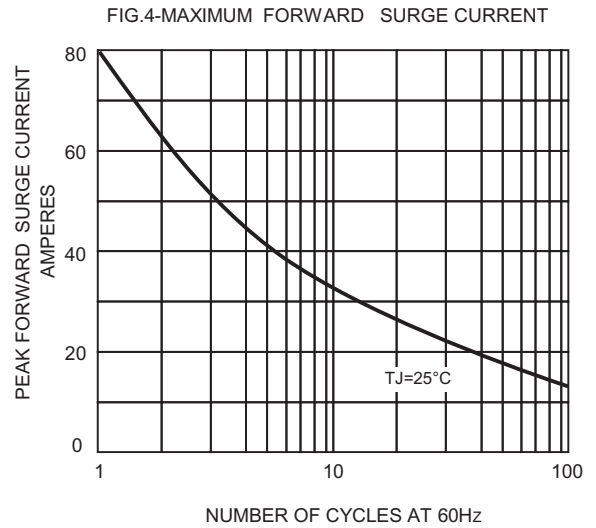
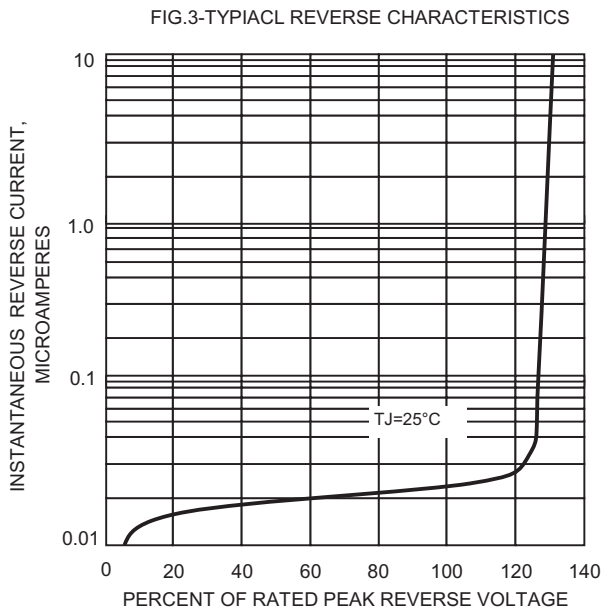
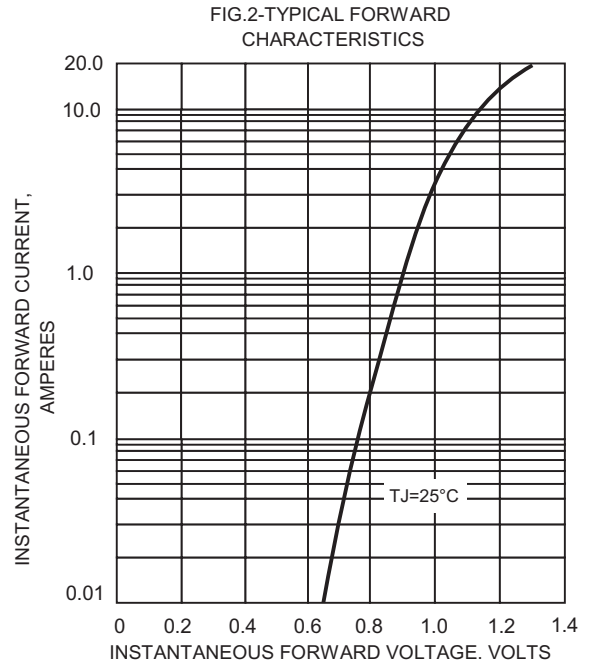
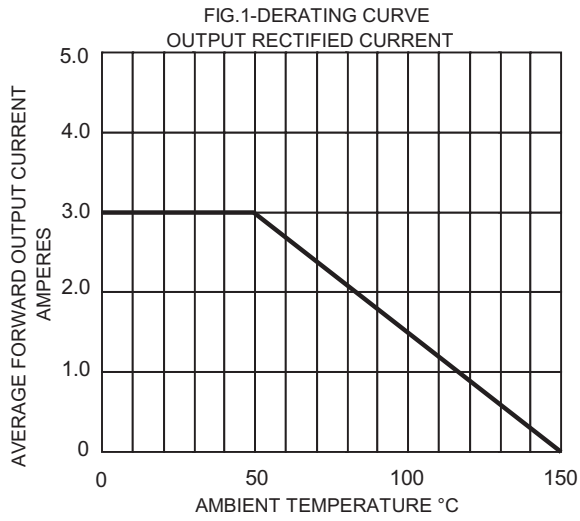
*1 Repetitive peak reverse voltage

*2 RMS voltage

*3 Continuous reverse voltage

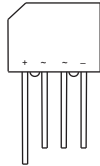
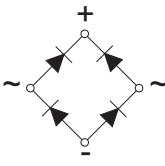
*4 Maximum forward voltage @I_F=3.0A

Rating and characteristic curves (KBP3005G THRU KBP310G)



KBP3005G THRU KBP310G

Pinning information

| Simplified outline | Symbol |
|---|---|
|  |  |

Marking

| Type number | Marking code |
|-------------|--------------|
| KBP3005G | KBP3005G |
| KBP301G | KBP301G |
| KBP302G | KBP302G |
| KBP304G | KBP304G |
| KBP306G | KBP306G |
| KBP308G | KBP308G |
| KBP310G | KBP310G |

Tube packing

| PACKAGE | TUBE (pcs) | TUBE SIZE (m/m) | BOX (pcs) | INNER BOX (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---------|------------|-----------------|-----------|-----------------|-------------------|--------------|---------------------------|
| KBP | 30 | 470*37.4*7.4 | 1,200 | 490*145*85 | 505*325*195 | 4,800 | 17.2 |

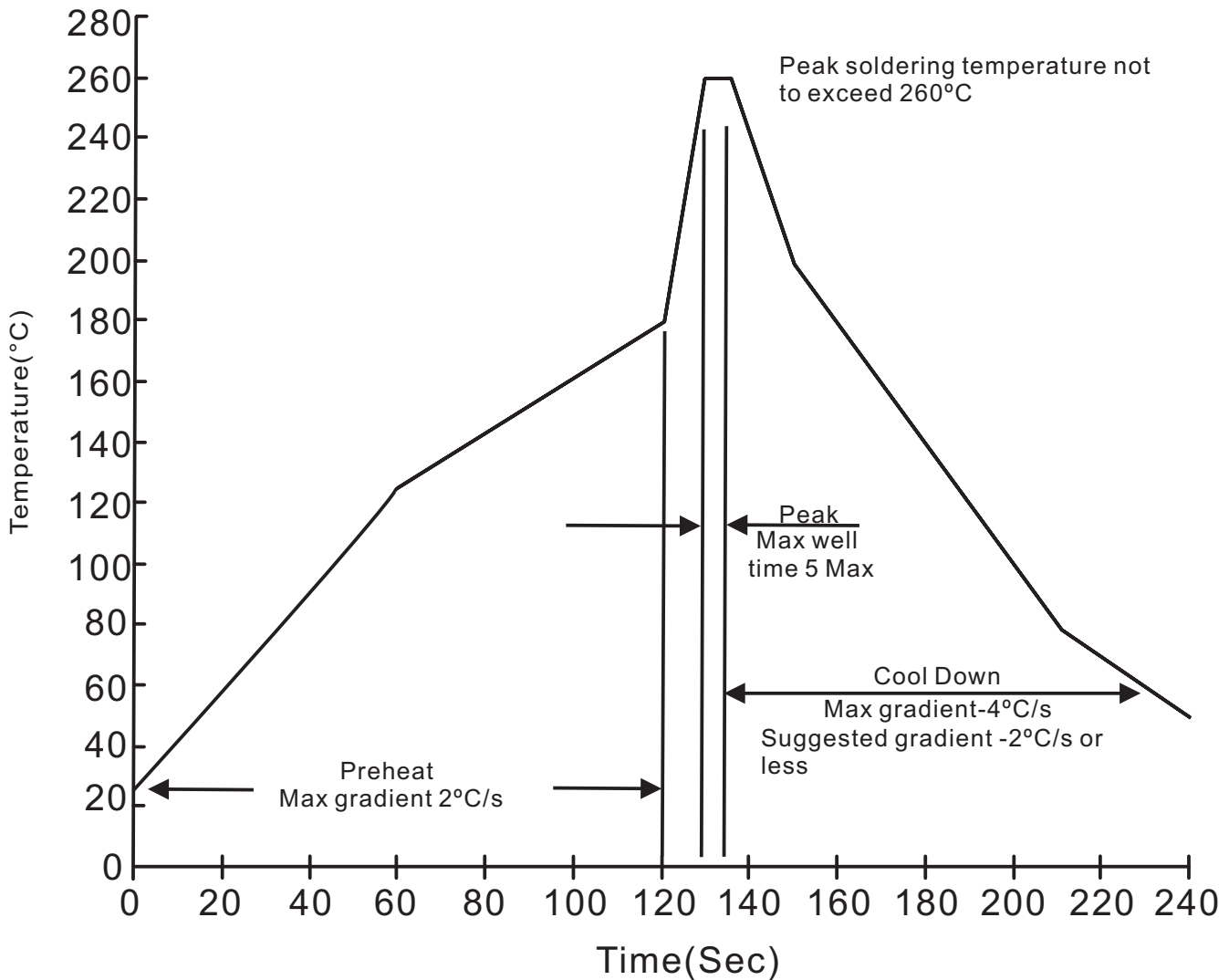
Bulk packing

| PACKAGE | BOX (pcs) | INNER BOX (m/m) | CARTON SIZE (m/m) | CARTON (pcs) | APPROX. GROSS WEIGHT (kg) |
|---------|-----------|-----------------|-------------------|--------------|---------------------------|
| KBP | 500 | 180*180*35 | 390*190*200 | 5,000 | 11.4 |

KBP3005G THRU KBP310G

Suggested thermal profiles for soldering processes

1. Lead free temperature profile wave-soldering



KBP3005G THRU KBP310G

High reliability test capabilities

| Item Test | Conditions | Reference |
|-----------------------------------|--|-------------------------------|
| 1. Solder Resistance | at 260±5°C for 10±2sec. immerse body into solder 1/16"±1/32" | MIL-STD-750D METHOD-2031 |
| 2. Solderability | at 245±5°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°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 |