



E502650

Features

- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- Superior Thermal Conductivity
- Low Forward Voltage Drop
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 2)("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings @ 25°C (Unless Otherwise Specified)

| Parameter | Symbol | Value | Unit |
|---|-------------|--------|----------------------|
| Peak Repetitive Reverse Voltage | V_{RRM} | 800 | V |
| Working Peak Reverse Voltage | V_{RWM} | | |
| DC Blocking Voltage | V_R | | |
| RMS Reverse Voltage | V_{RMS} | 560 | V |
| Average Rectified Forward Current @ $T_C=120^\circ\text{C}$ (With Heatsink) | $I_{F(AV)}$ | 50 | A |
| Average Rectified Forward Current @ $T_A=25^\circ\text{C}$ (Without Heatsink) | | 4.5 | |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | I_{FSM} | 500 | A |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave | | 1000 | |
| I^2t Rating for Fusing @ $1\text{ms} \leq t \leq 8.3\text{ms}$ | I^2t | 1037.5 | A^2s |
| Dielectric strength @ Terminals to Case, AC 1 Minute | V_{dis} | 2.5 | KV |

Internal Structure

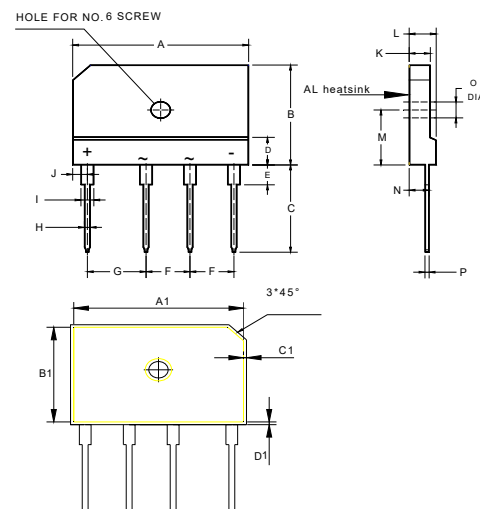
| Simplified Outline | Graphic Symbol |
|--------------------|----------------|
| | |

Note:

1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.

50 Amp Low VF Bridge Rectifiers 800 Volts

PB



DIMENSIONS

| DIM | INCHES | | MM | | NOTE |
|-----|--------|-------|-------|-------|------|
| | MIN | MAX | MIN | MAX | |
| A | 1.169 | 1.193 | 29.70 | 30.30 | |
| B | 0.776 | 0.799 | 19.70 | 20.30 | |
| C | 0.669 | 0.709 | 17.00 | 18.00 | |
| D | 0.189 | 0.228 | 4.80 | 5.80 | |
| E | 0.150 | 0.165 | 3.80 | 4.20 | |
| F | 0.287 | 0.303 | 7.30 | 7.70 | |
| G | 0.386 | 0.402 | 9.80 | 10.20 | |
| H | 0.035 | 0.043 | 0.90 | 1.10 | |
| I | 0.079 | 0.094 | 2.00 | 2.40 | |
| J | 0.091 | 0.106 | 2.30 | 2.70 | |
| K | 0.134 | 0.150 | 3.40 | 3.80 | |
| L | 0.173 | 0.189 | 4.40 | 4.80 | |
| M | 0.425 | 0.441 | 10.80 | 11.20 | |
| N | 0.122 | 0.146 | 3.10 | 3.70 | |
| O | 0.122 | 0.134 | 3.10 | 3.40 | |
| P | 0.024 | 0.031 | 0.60 | 0.80 | |
| A1 | 1.136 | 1.144 | 28.85 | 29.05 | |
| B1 | 0.742 | 0.750 | 18.85 | 19.05 | |
| C1 | 0.016 | 0.024 | 0.40 | 0.60 | |
| D1 | 0.016 | 0.024 | 0.40 | 0.60 | |

Thermal characteristics

| Symbol | Parameter | Conditions | Min | Typ | Max | Unit |
|---------------|---|------------------|-----|-----|-----|------|
| T_J | Operating Junction Temperature Range | | -55 | | 150 | °C |
| T_{stg} | Storage Temperature Range | | -55 | | 150 | °C |
| $R_{th(J-C)}$ | Thermal Resistance from Junction to Case | Note 1 | | 0.6 | | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Without Heatsink | | 18 | | °C/W |

Note:

1. Device mounted on 75mm x 45mm x 5.5mm Aluminum Plate Heatsink.

Mechanical Data

Recommended Mounting Torque: 5 in·lbs

Electrical Characteristics @ 25°C Unless Otherwise Specified(Per Diode)

| Parameter | Symbol | Test Conditions | Min | Typ | Max | Unit |
|----------------------|--------|---|-----|------|----------|---------|
| Forward Voltage | V_F | $I_F=25A; T_J=25^{\circ}C$ | | 0.95 | 0.97 | V |
| Reverse Current | I_R | at Rated $V_R; T_J=25^{\circ}C$ at Rated $V_R; T_J=125^{\circ}C$ | | | 5 200 | μA |
| Junction Capacitance | C_J | $V_R=4V; f=1MHz; T_J=25^{\circ}C$ | | 275 | | pF |

Curve Characteristics

Fig. 1 - Forward Current Derating Curve

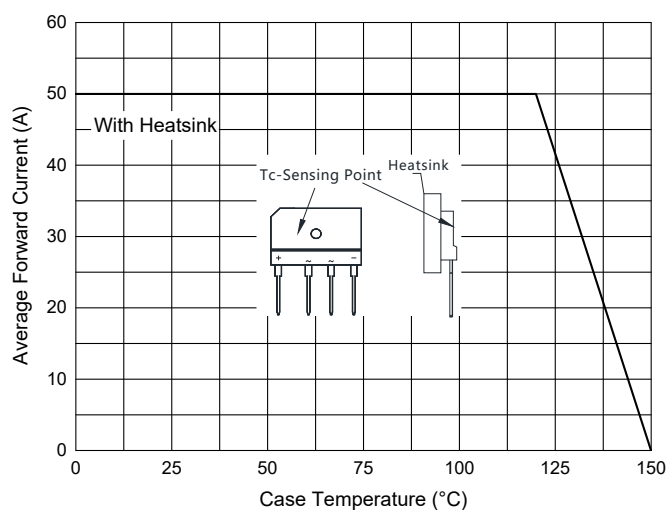


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current(Per Diode)

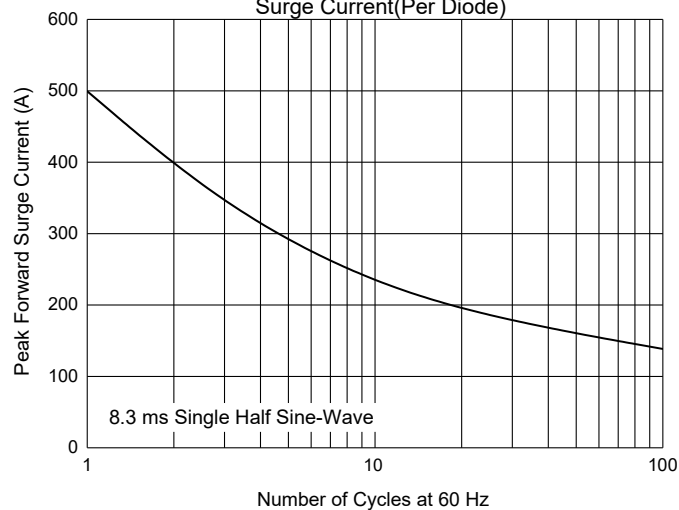


Fig. 3 - Typical Forward Characteristics(Per Diode)

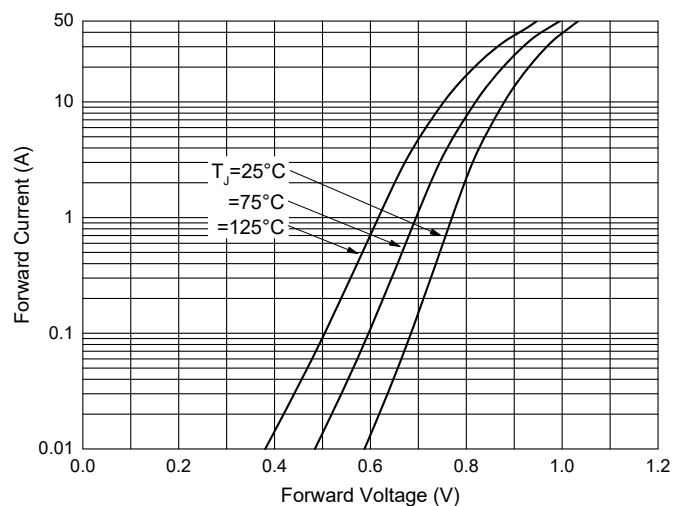


Fig. 4 - Typical Reverse Leakage Characteristics (Per Diode)

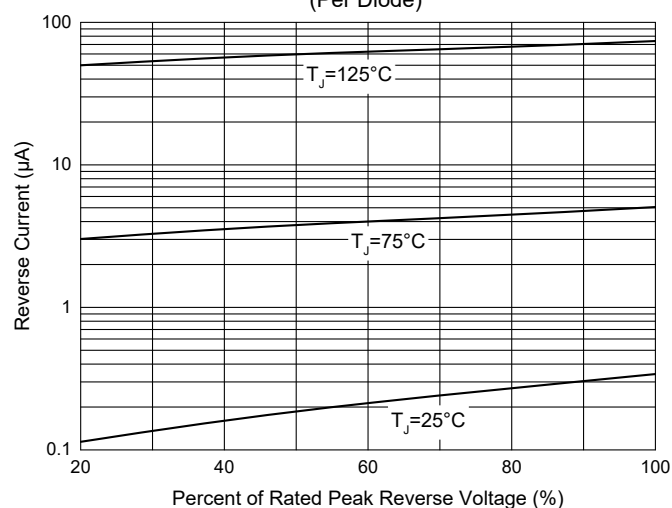
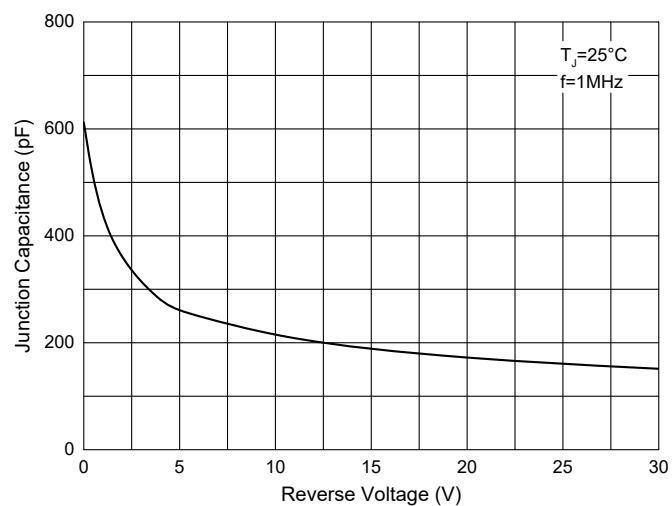


Fig. 5 - Typical Capacitance Characteristics(Per Diode)



Ordering Information

| Device | Packing |
|------------|---|
| PB5008L-BP | Bulk:15pcs/Tube,750pcs/Box,1500pcs/Carton |

Note : Adding "-HF" Suffix For Halogen Free, eg. PB5008L-BP-HF

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