



E502650

## Features

- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- Low Forward Voltage Drop, High Current Capability
- 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 @ $T_C=87^\circ\text{C}$ (With Heatsink) | $I_{F(AV)}$ | 35    | A                    |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave                   | $I_{FSM}$   | 450   | A                    |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave                        |             | 900   |                      |
| $I^2t$ Rating for Fusing @ $1\text{ms} \leq t \leq 8.3\text{ms}$           | $I^2t$      | 840   | $\text{A}^2\text{s}$ |
| Dielectric strength @ Terminals to Case, AC 1 Minute                       | $V_{dis}$   | 2.5   | KV                   |

## Internal Structure

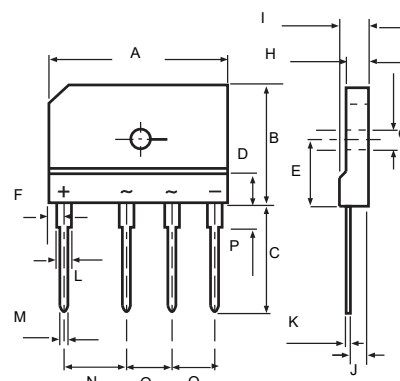
| Simplified Outline | Graphic Symbol |
|--------------------|----------------|
|                    |                |

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.

# 35 Amp Low VF Bridge Rectifier 800 Volts

GBJ



| DIMENSIONS |        |       |       |       |      |
|------------|--------|-------|-------|-------|------|
| DIM        | INCHES |       | MM    |       | NOTE |
|            | MIN    | MAX   | MIN   | MAX   |      |
| A          | 1.170  | 1.190 | 29.70 | 30.30 |      |
| B          | 0.780  | 0.800 | 19.70 | 20.30 |      |
| C          | 0.670  | 0.710 | 17.00 | 18.00 |      |
| D          | 0.190  | 0.190 | 4.70  | 4.90  |      |
| E          | 0.430  | 0.440 | 10.80 | 11.20 |      |
| F          | 0.090  | 0.110 | 2.30  | 2.70  |      |
| G          | 0.120  | 0.130 | 3.10  | 3.40  |      |
| H          | 0.130  | 0.150 | 3.40  | 3.80  |      |
| I          | 0.170  | 0.190 | 4.40  | 4.80  |      |
| J          | 0.100  | 0.110 | 2.50  | 2.90  |      |
| K          | 0.020  | 0.030 | 0.60  | 0.80  |      |
| L          | 0.080  | 0.090 | 2.00  | 2.40  |      |
| M          | 0.040  | 0.040 | 0.90  | 1.10  |      |
| N          | 0.390  | 0.400 | 9.80  | 10.20 |      |
| O          | 0.290  | 0.300 | 7.30  | 7.70  |      |
| P          | 0.150  | 0.170 | 3.80  | 4.20  |      |

## 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           |     | 1   |     | °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: 5in·lbs(#6 Screw)

## Electrical Characteristics @ 25°C Unless Otherwise Specified

| Parameter            | Symbol | Test Conditions                                                     | Min | Typ | Max      | Unit    |
|----------------------|--------|---------------------------------------------------------------------|-----|-----|----------|---------|
| Forward Voltage      | $V_F$  | $I_F=17.5A; T_J=25^{\circ}C$                                        |     |     | 0.95     | V       |
| Reverse Current      | $I_R$  | at Rated $V_R; T_J=25^{\circ}C$<br>at Rated $V_R; T_J=125^{\circ}C$ |     |     | 5<br>500 | $\mu A$ |
| Junction Capacitance | $C_J$  | $V_R=4V; f=1MHz; T_J=25^{\circ}C$                                   |     | 275 |          | pF      |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

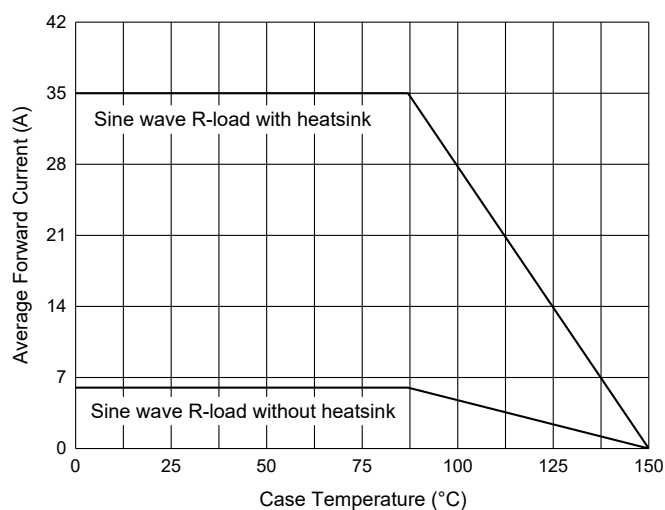


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

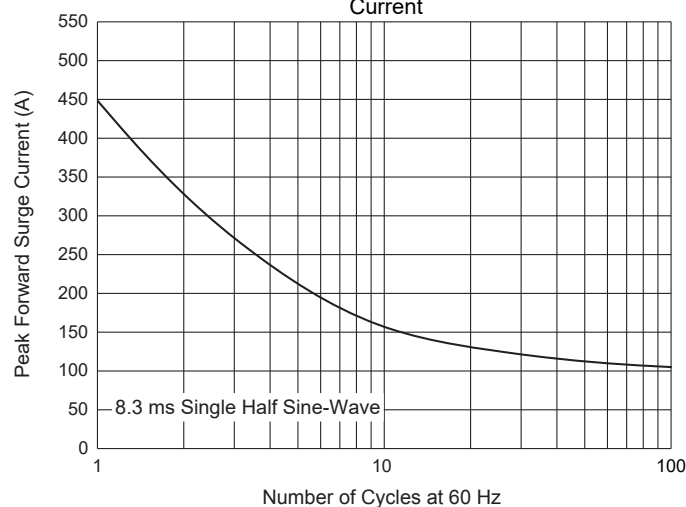


Fig. 3 - Typical Forward Characteristics

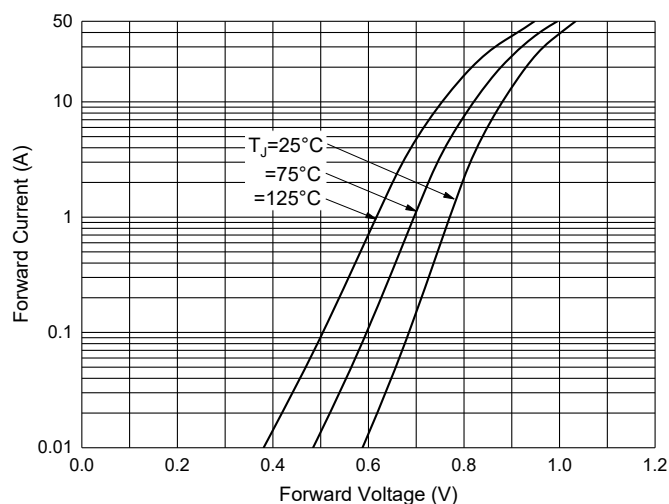


Fig. 4 - Typical Reverse Leakage Characteristics

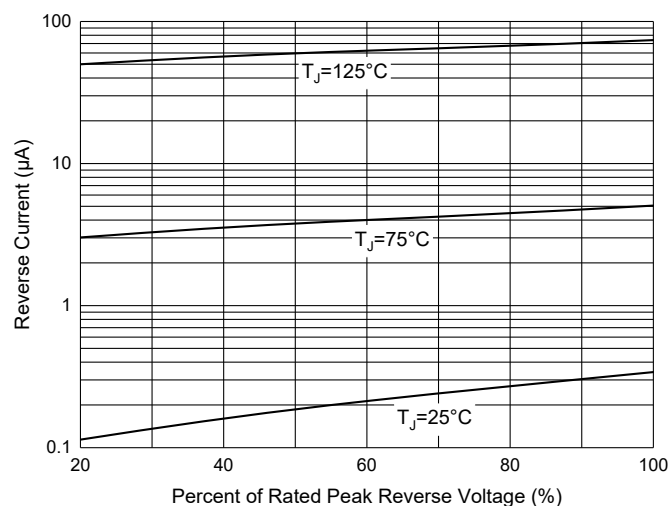
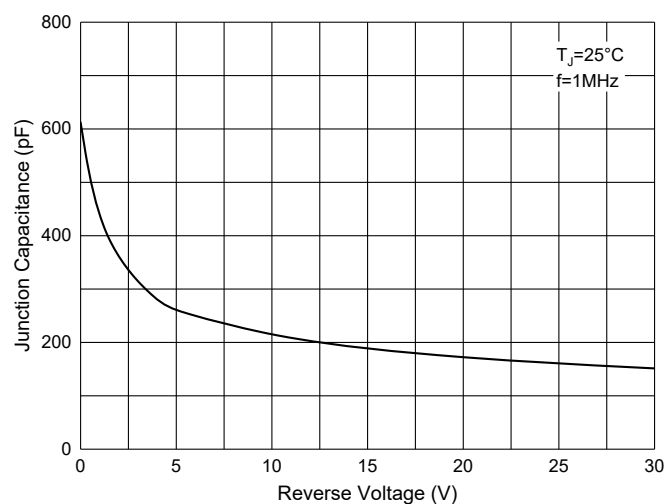


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

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

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