



E502650

## Features

- Halogen Free. "Green" Device (Note 1)
- Glass Passivated Chip Junction
- High Forward Surge 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             |
|----------------------------------------------------------|--------------------|--------|--------|--------|--------|--------|--------|--------|------------------|
|                                                          |                    | DB 101 | DB 102 | DB 103 | DB 104 | DB 105 | DB 106 | DB 107 |                  |
| Peak Repetitive Reverse Voltage                          | V <sub>RRM</sub>   | 50     | 100    | 200    | 400    | 600    | 800    | 1000   | V                |
| Working Peak Reverse Voltage                             | V <sub>RWM</sub>   |        |        |        |        |        |        |        |                  |
| DC Blocking Voltage                                      | V <sub>R</sub>     |        |        |        |        |        |        |        |                  |
| RMS Reverse Voltage                                      | V <sub>RMS</sub>   | 35     | 70     | 140    | 280    | 420    | 560    | 700    | V                |
| Average Rectified Forward Current @ T <sub>A</sub> =40°C | I <sub>F(AV)</sub> | 1      |        |        |        |        |        |        | A                |
| Non-Repetitive Peak Surge Current @ 8.3ms Half Sine Wave | I <sub>FSM</sub>   | 30     |        |        |        |        |        |        | A                |
| Non-Repetitive Peak Surge Current @ 1ms Square Wave      |                    | 60     |        |        |        |        |        |        |                  |
| Current Squared Time @1ms≤t≤8.3ms                        | I <sup>2</sup> t   | 3.735  |        |        |        |        |        |        | A <sup>2</sup> s |

## Marking Code

| Part Number | Marking Code |
|-------------|--------------|
| DB101       | DB101        |
| DB102       | DB102        |
| DB103       | DB103        |
| DB104       | DB104        |
| DB105       | DB105        |
| DB106       | DB106        |
| DB107       | DB107        |

## Internal Structure

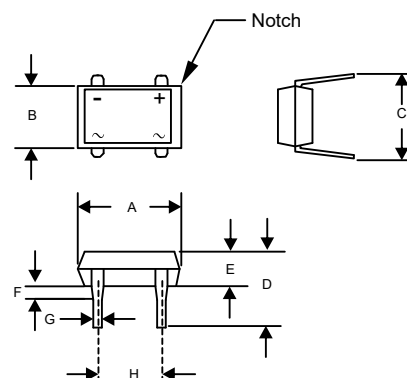
| Simplified Outline          | Graphic Symbol |
|-----------------------------|----------------|
| <p>XXXXX = Marking Code</p> |                |

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.

# 1 Amp Single Phase Bridge Rectifier 50 to 1000 Volts

DB-1



| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.316  | 0.335 | 8.05 | 8.51 |      |
| B   | 0.245  | 0.255 | 6.20 | 6.50 |      |
| C   | 0.300  | 0.350 | 7.60 | 8.90 |      |
| D   | 0.236  | 0.299 | 6.01 | 7.60 |      |
| E   | 0.102  | 0.130 | 2.60 | 3.30 |      |
| F   | 0.060  |       | 1.50 |      | Typ  |
| G   | 0.016  | 0.022 | 0.41 | 0.56 | Typ  |
| H   | 0.195  | 0.205 | 5.00 | 5.20 |      |

## 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   |
| $R_{th(J-L)}$ | Thermal Resistance from Junction to Lead    | Note 1     |     | 15  |     | °C/W |
| $R_{th(J-A)}$ | Thermal Resistance from Junction to Ambient | Note 1     |     | 40  |     | °C/W |

Note:

1. Device mounted on P.C.B with 35mm\*25mm\*1.7mm.

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

| Parameter            | Symbol | Test Conditions                                                     | Min | Typ | Max      | Unit    |
|----------------------|--------|---------------------------------------------------------------------|-----|-----|----------|---------|
| Forward Voltage      | $V_F$  | $I_F=0.5A; T_J=25^{\circ}C$                                         |     |     | 1.0      | 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>100 | $\mu A$ |
| Junction Capacitance | $C_J$  | $V_R=4V; f=1MHz; T_J=25^{\circ}C$                                   |     | 12  |          | pF      |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

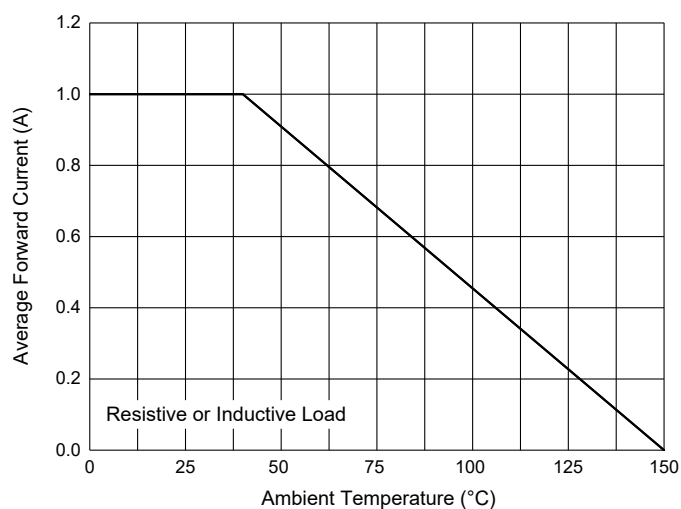


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

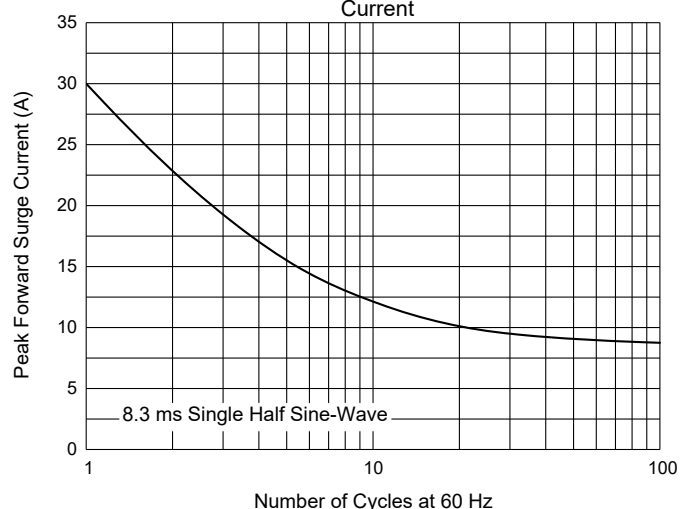


Fig. 3 - Typical Forward Characteristics

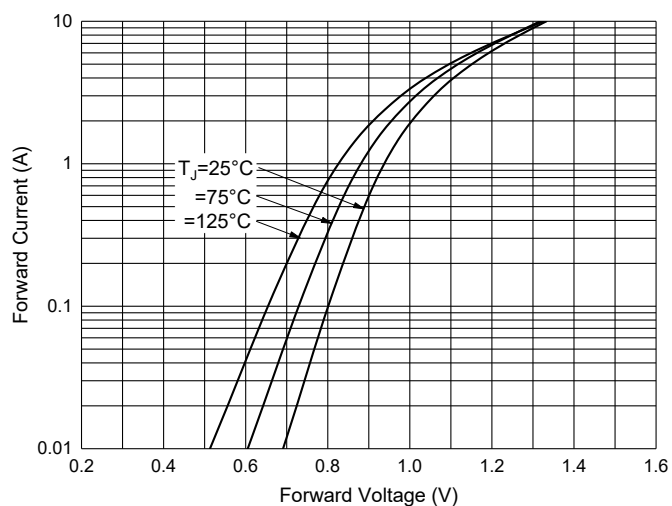


Fig. 4 - Typical Reverse Leakage Characteristics

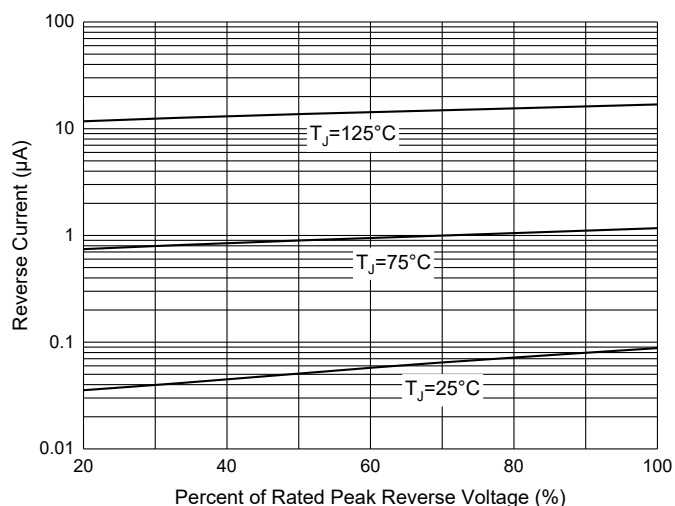
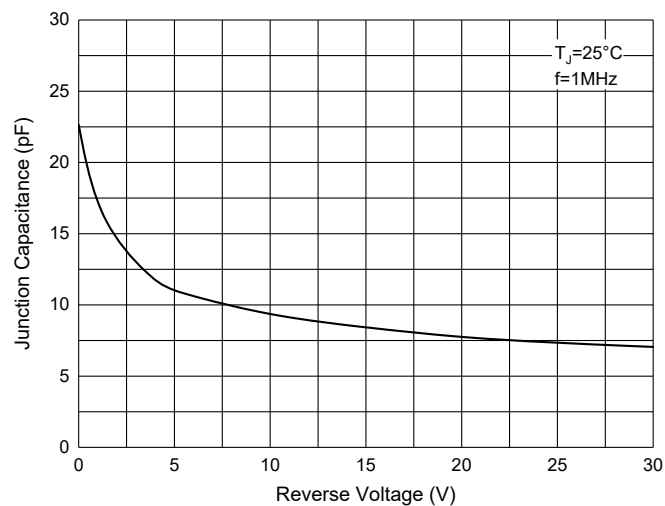


Fig. 5 - Typical Capacitance Characteristics



## Ordering Information

| Device         | Packing                                   |
|----------------|-------------------------------------------|
| Part Number-BP | Bulk:50pcs/Tube,2500pcs/Box,10Kpcs/Carton |

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