

## Features

- Multilayer Metal -Silicon Potential Structure
- Guardring for Over Voltage Protection
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates Compliant. See Ordering Information)

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance: 0.5 °C/W Junction to Case

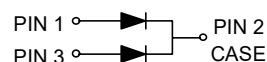
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|---------------------|-----------------------------|
| MBR4045PT       | MBR4045PT      | 45V                                    | 31.5V               | 45V                         |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                                                 |             |                                        |                                                                                                                                   |
|---------------------------------------------------------------------------------|-------------|----------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Average Rectified Forward Current (Rated VR-20Khz Square Wave) - 50% Duty Cycle | $I_{F(AV)}$ | 40A                                    | $T_C=110^{\circ}\text{C}$                                                                                                         |
| Peak Forward Surge Current                                                      | $I_{FSM}$   | 250A                                   | 8.3ms, Half Sine                                                                                                                  |
| Maximum Instantaneous Forward Voltage                                           | $V_F$       | 0.56V(Typ)<br>0.61V(Max)<br>0.51V(Max) | $I_F=20\text{A}; T_J=25^{\circ}\text{C}$<br>$I_F=20\text{A}; T_J=25^{\circ}\text{C}$<br>$I_F=20\text{A}; T_J=125^{\circ}\text{C}$ |
| Maximum Reverse Current at Rated DC Blocking Voltage                            | $I_R$       | 0.1mA<br>15mA                          | $T_J=25^{\circ}\text{C}$<br>$T_J=125^{\circ}\text{C}$                                                                             |

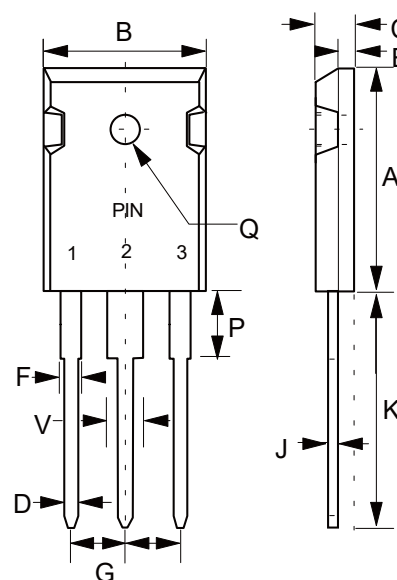
Note:1. High Temperature Solder Exemptions Applied, see EU Directive Annex 7a.

## Internal Structure



# 40 Amp Schottky Barrier Rectifier 45 Volts

## TO-247



| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | 0.787  | 0.866 | 20.00 | 22.00 |      |
| B   | 0.598  | 0.638 | 15.20 | 16.20 |      |
| C   | 0.185  | 0.208 | 4.70  | 5.30  |      |
| D   | 0.035  | 0.059 | 0.90  | 1.50  |      |
| E   | 0.059  | 0.094 | 1.50  | 2.40  |      |
| F   | 0.067  | 0.091 | 1.70  | 2.30  |      |
| J   | 0.019  | 0.031 | 0.48  | 0.80  |      |
| K   | 0.748  | 0.833 | 19.00 | 21.15 |      |
| P   | 0.122  | 0.189 | 3.10  | 4.80  |      |
| Q   | 0.118  | 0.150 | 3.00  | 3.80  | Φ    |
| V   | 0.106  | 0.134 | 2.70  | 3.40  |      |
| G   | 0.197  | 0.224 | 5.00  | 5.70  |      |

## Curve Characteristics

Fig. 1 - Forward Current Derating Curve

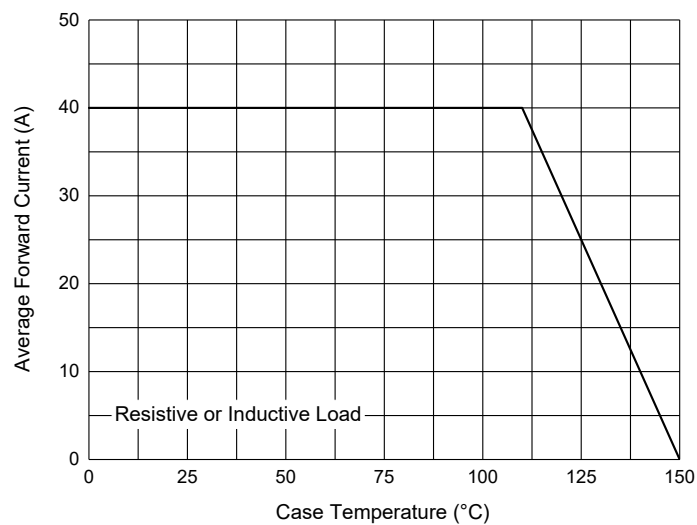


Fig. 2 - Typical Instantaneous Forward Characteristics

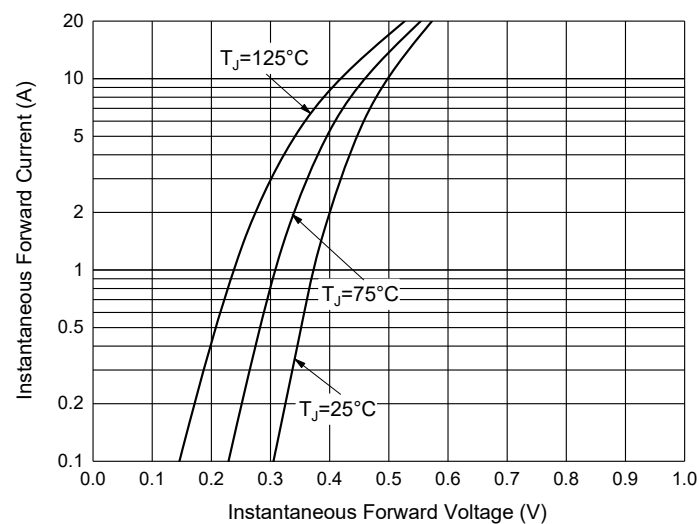
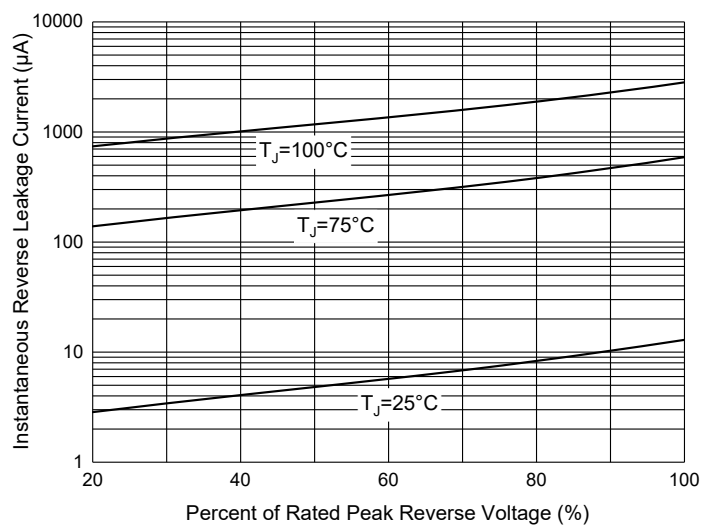


Fig. 3 - Typical Reverse Leakage Characteristics



## Ordering Information

| Device         | Packing                               |
|----------------|---------------------------------------|
| Part Number-BP | Tube:30pcs/Tube, 360pcs/Box,1.8K/Ctn; |

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

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