

## Features

- High Current Capability and High Efficiency
- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- Lead Free Finish/RoHS Compliant(Note 1) ("P" Suffix Designates RoHS 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: 2 °C/W Junction to Case

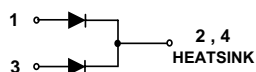
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| MBRB3030CT      | MBRB3030CT     | 30V                                    | 21V                 | 30V                         |
| MBRB3040CT      | MBRB3040CT     | 40V                                    | 28V                 | 40V                         |
| MBRB3045CT      | MBRB3045CT     | 45V                                    | 31.5V               | 45V                         |
| MBRB3060CT      | MBRB3060CT     | 60V                                    | 42V                 | 60V                         |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

|  |             |                |   |
|--|-------------|----------------|---|
| Average Forward Current  | $I_{F(AV)}$ | 30A            | $T_C=110^\circ\text{C}$                           |
| Peak Forward Surge Current   | $I_{FSM}$   | 250A           | 8.3ms, Half Sine                                  |
| Maximum Instantaneous Forward Voltage<br>MBRB3030CT-3045CT<br>MBRB3060CT | $V_F$       | 0.60V<br>0.72V | $I_{FM}=15A$ ;<br>$T_J=25^\circ\text{C}$          |
| Maximum DC Reverse Current at Rated DC Blocking Voltage                  | $I_R$       | 0.1mA<br>10mA  | $T_J=25^\circ\text{C}$<br>$T_J=125^\circ\text{C}$ |
| Typical Junction Capacitance   | $C_J$       | 420pF          | Measured at 1.0MHz, $V_R=4.0V$                    |

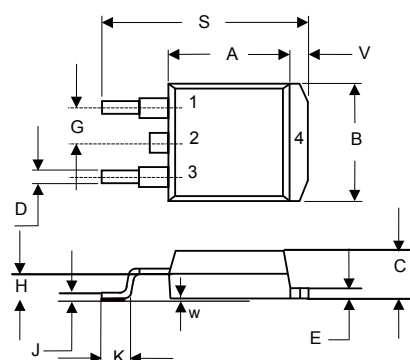
Note:1. High Temperature Solder Exemptions Applied, See EU Directive Annex Notes 7a.

## Internal Structure



# 30 Amp Schottky Barrier Rectifier 30 to 60 Volts

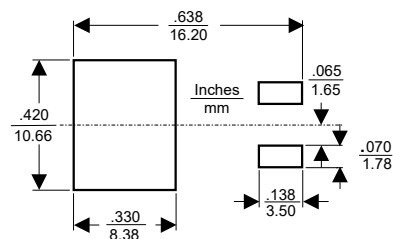
## D<sup>2</sup>-PAK



## DIMENSIONS

| DIM | INCHES |       | MM    |       | NOTE |
|-----|--------|-------|-------|-------|------|
|     | MIN    | MAX   | MIN   | MAX   |      |
| A   | 0.331  | 0.370 | 8.40  | 9.40  |      |
| B   | 0.378  | 0.417 | 9.60  | 10.60 |      |
| C   | 0.165  | 0.189 | 4.20  | 4.80  |      |
| D   | 0.027  | 0.037 | 0.68  | 0.94  |      |
| E   | 0.045  | 0.055 | 1.14  | 1.40  |      |
| G   | 0.010  |       | 2.54  |       | TYP. |
| H   | 0.096  | 0.134 | 2.43  | 3.40  |      |
| J   | 0.011  | 0.025 | 0.28  | 0.64  |      |
| K   | 0.071  | 0.131 | 1.80  | 3.32  |      |
| S   | 0.575  | 0.625 | 14.60 | 15.87 |      |
| V   | 0.042  | 0.058 | 1.07  | 1.47  |      |
| W   | 0.000  | 0.010 | 0.00  | 0.25  |      |

## Suggested Solder Pad Layout



**Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

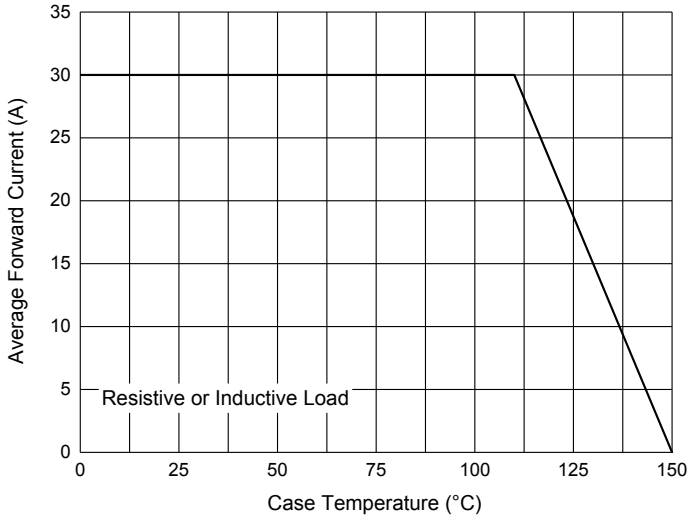


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

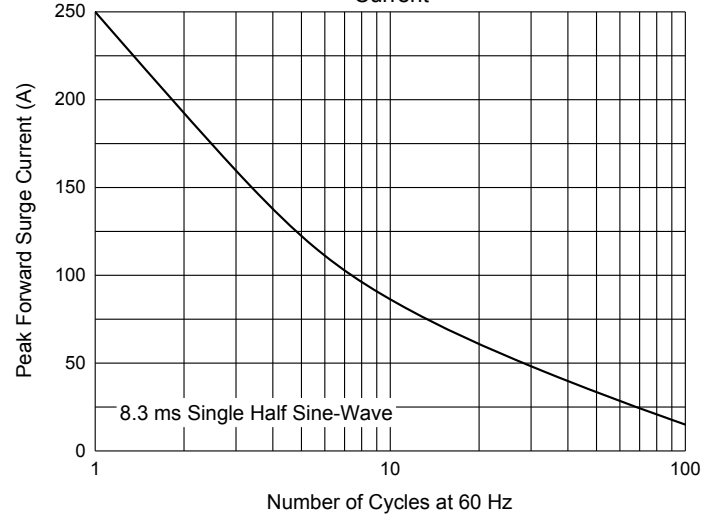


Fig. 3 - Typical Instantaneous Forward Characteristics

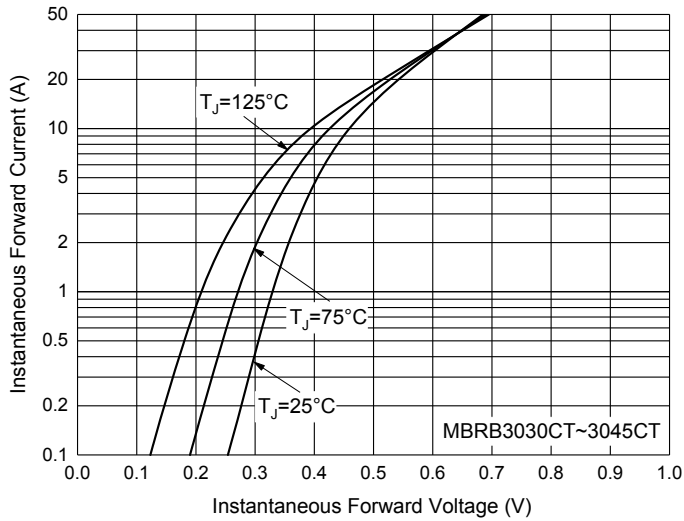


Fig. 4 - Typical Instantaneous Forward Characteristics

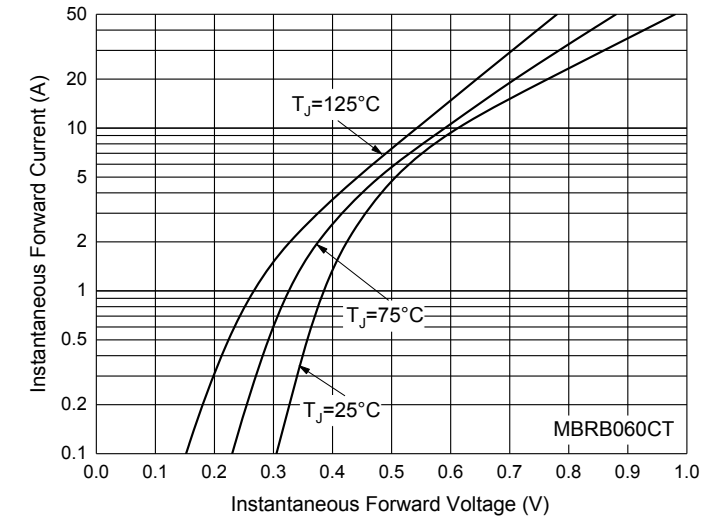


Fig. 5 - Typical Reverse Leakage Characteristics

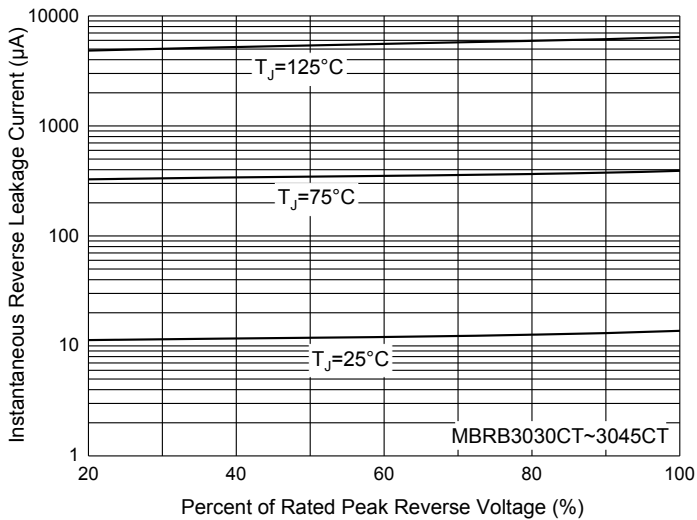
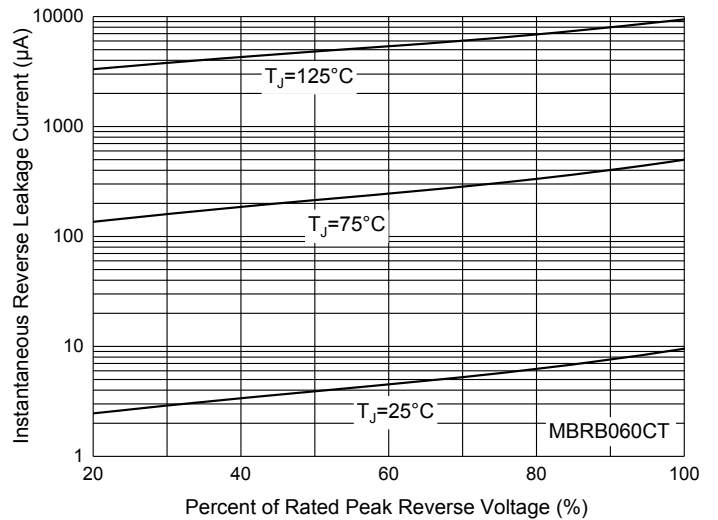


Fig. 6 - Typical Reverse Leakage Characteristics



## Ordering Information

| Device         | Packing                |
|----------------|------------------------|
| Part Number-TP | Tape&Reel: 800pcs/Reel |
| Part Number-BP | Tube: 5Kpcs/Ctn        |

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

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