



# THE DATASHEET OF MBRB1545CT-TP



**Features**

- Halogen Free Available Upon Request By Adding Suffix "-HF"
- Low Forward Voltage Drop
- High Current Capability, High Efficiency
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1
- 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 +175°C
- Typical Thermal Resistance: 2.0°C/W Junction to Case

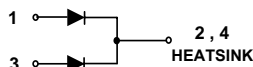
| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| MBRB1520CT      | MBRB1520CT     | 20V                                    | 14V                 | 20V                         |
| MBRB1530CT      | MBRB1530CT     | 30V                                    | 21V                 | 30V                         |
| MBRB1535CT      | MBRB1535CT     | 35V                                    | 24.5V               | 35V                         |
| MBRB1540CT      | MBRB1540CT     | 40V                                    | 28V                 | 40V                         |
| MBRB1545CT      | MBRB1545CT     | 45V                                    | 31.5V               | 45V                         |
| MBRB1560CT      | MBRB1560CT     | 60V                                    | 42V                 | 60V                         |
| MBRB1580CT      | MBRB1580CT     | 80V                                    | 56V                 | 80V                         |
| MBRB15100CT     | MBRB15100CT    | 100V                                   | 70V                 | 100V                        |

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

|  |             |                |  |
|--|-------------|----------------|--|
| Average Forward Current                        | $I_{F(AV)}$ | 15A            | $T_C=105^\circ\text{C}$                    |
| Peak Forward Surge Current                     | $I_{FSM}$   | 150A           | 8.3ms, Half Sine                           |
| Maximum Instantaneous Forward Voltage          | $V_F$       | 1520CT-1545CT  | $I_{FM}=7.5A;$<br>$T_J=25^\circ\text{C}^*$ |
| 1560CT   |             | 0.65V          |  |
| 1580CT-15100CT                                 |             | 0.75V          |  |
| Maximum Instantaneous Forward Voltage          | $V_F$       | 1520CT-1545CT  | $I_{FM}=15A;$<br>$T_J=25^\circ\text{C}^*$  |
| 1560CT   |             | 0.84V          |  |
| 1580CT-15100CT                                 |             | 0.90V          |  |
| Maximum Reverse Current at DC Blocking Voltage | $I_R$       | 1520CT-1560CT  | $T_J=25^\circ\text{C}$                     |
| 1580CT-15100CT                                 |             | 0.1mA          |  |
| 1520CT-1560CT                                  |             | 0.01mA         | $T_J=125^\circ\text{C}$                    |
| 1580CT-15100CT                                 |             | 20mA           |  |
|  |             | 1580CT-15100CT | 2mA  |

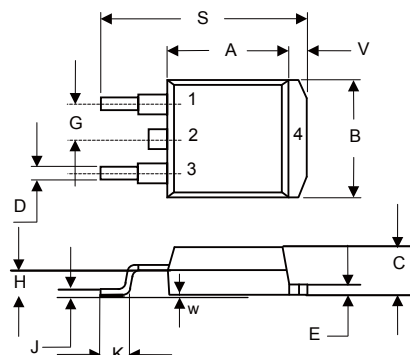
\*Pulse Test: Pulse Width 300µsec, Duty Cycle 2%  
Note:1. High Temperature Solder Exemptions Applied, see EU Directive Annex Notes 7a.

**Internal Structure**



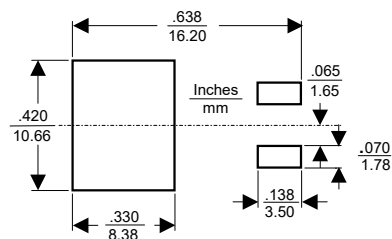
**15 Amp Schottky Barrier Rectifier 20 to 100 Volts**

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



| 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

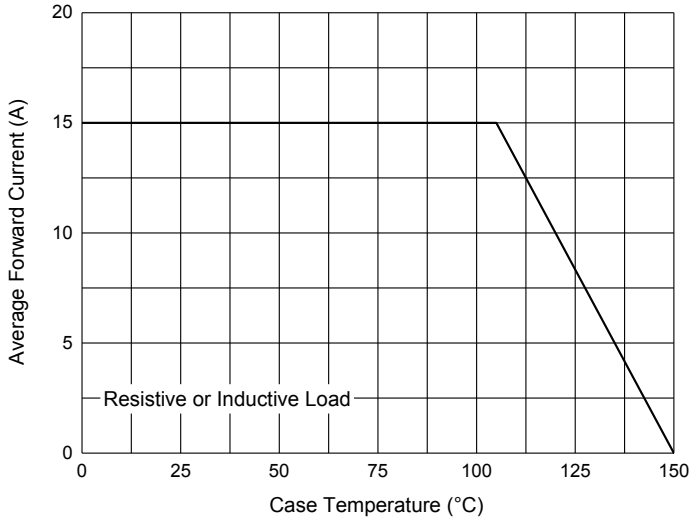


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

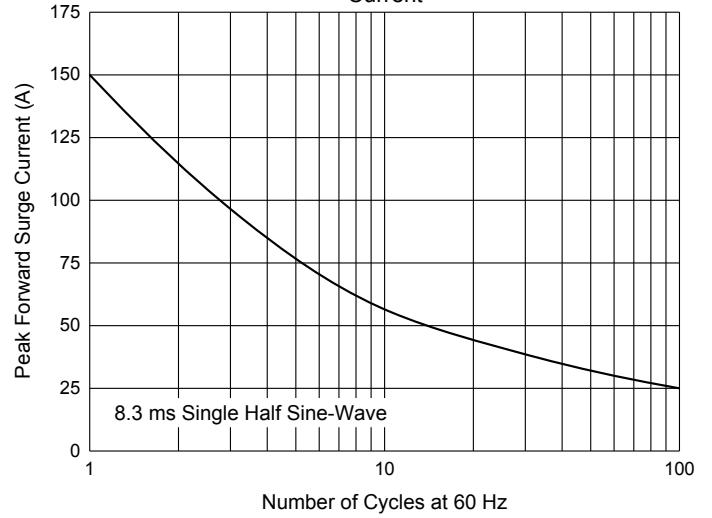


Fig. 3 - Typical Instantaneous Forward Characteristics

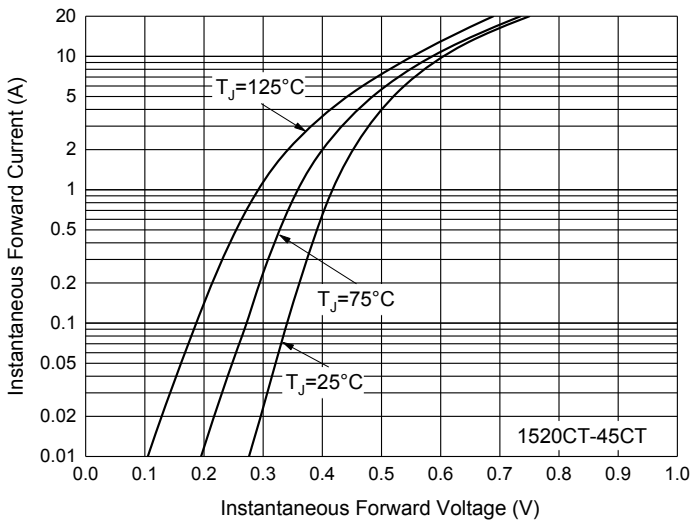


Fig. 4 - Typical Instantaneous Forward Characteristics

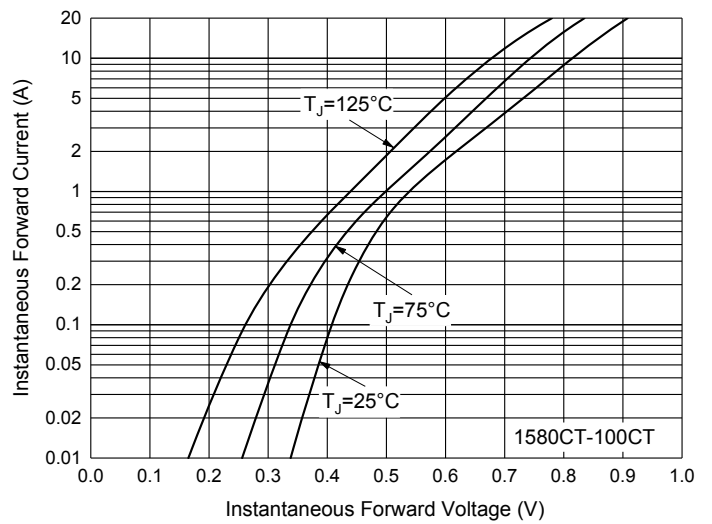


Fig. 5 - Typical Reverse Leakage Characteristics

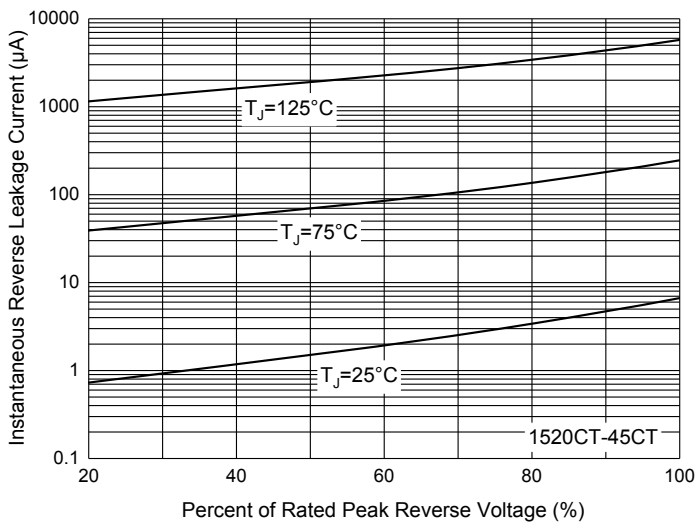
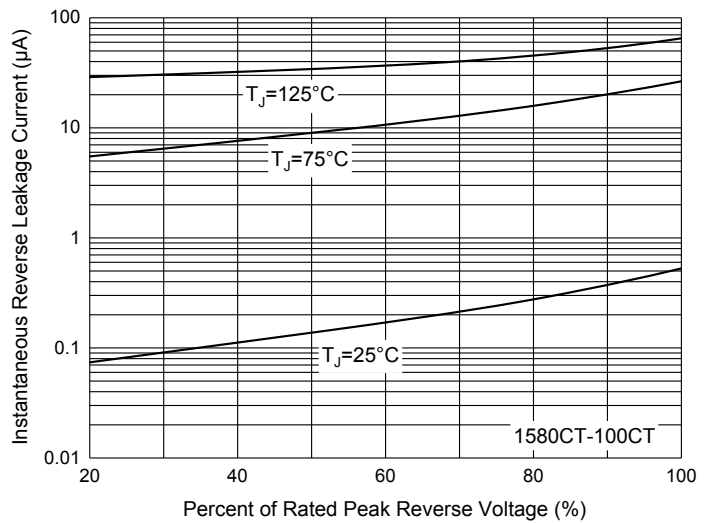


Fig. 6 - Typical Reverse Leakage Characteristics



## 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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