

## Features

- Halogen Free. "Green" Device (Note 1)
- Low Forward Voltage Drop
- Super Long Operating Life
- Lead Free Finish/RoHS Compliant(Note 2)("P" Suffix Designates Compliant. See Ordering Information)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1

## Maximum Ratings

- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance: 27°C/W Junction to Ambient<sup>(Note 3)</sup>
- Typical Thermal Ambient: 3°C/W Junction to Lead<sup>(Note 4)</sup>

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|--|---------------------|-----------------------------|
| MBR12120LPS     | 12120L         | 120V                                   | 84V                 | 120V                        |

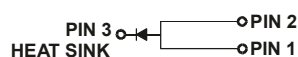
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                              |             |  |                                      |
|------------------------------|-------------|--|--------------------------------------|
| Average Forward Current      | $I_{F(AV)}$ | 12A  | $T_L = 120^\circ\text{C}$            |
| Peak Forward Surge Current   | $I_{FSM}$   | 200A   | 8.3ms, Half Dine                     |
| Forward Voltage              | $V_F$       | 0.8V(Max)  | $I_F = 12A$ $T_J = 25^\circ\text{C}$ |
| Reverse Current              | $I_R$       | 40 $\mu\text{A}$ (Typ)<br>70 $\mu\text{A}$ (Max) | $T_J = 25^\circ\text{C}$             |
| Typical Junction Capacitance | $C_J$       | 500pF  | Measured at 1.0MHz, $V_R = 4.0V$     |

Note: 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.

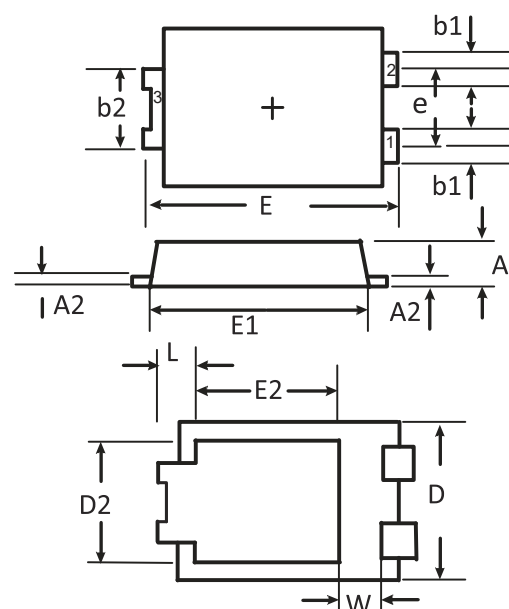
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Mounted on FR-4 P.C.B with 30\*30mm Copper Pad Area.
4. On Aluminum Substrate PCB with Recommended copper Pad Area(Soldered to Cathode).

## Internal Structure



# 12 Amp Low VF Schottky Barrier Rectifier 120 Volts

## TO-277B



### DIMENSIONS

| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.039  | 0.047 | 1.00 | 1.20 |      |
| A2  | 0.006  | 0.017 | 0.15 | 0.43 |      |
| b1  | 0.030  | 0.041 | 0.75 | 1.05 |      |
| b2  | 0.065  | 0.077 | 1.65 | 1.95 |      |
| D   | 0.148  | 0.169 | 3.75 | 4.30 |      |
| D2  | 0.110  | 0.126 | 2.80 | 3.20 |      |
| E   | 0.250  | 0.264 | 6.35 | 6.70 |      |
| e   | 0.065  | 0.077 | 1.65 | 1.95 |      |
| E1  | 0.207  | 0.228 | 5.25 | 5.80 |      |
| E2  | 0.120  | 0.142 | 3.05 | 3.60 |      |
| L   | 0.028  | 0.051 | 0.70 | 1.30 |      |
| W   | 0.031  | 0.056 | 0.80 | 1.42 |      |

**Curve Characteristics**

Fig. 1 - Forward Current Derating Curve

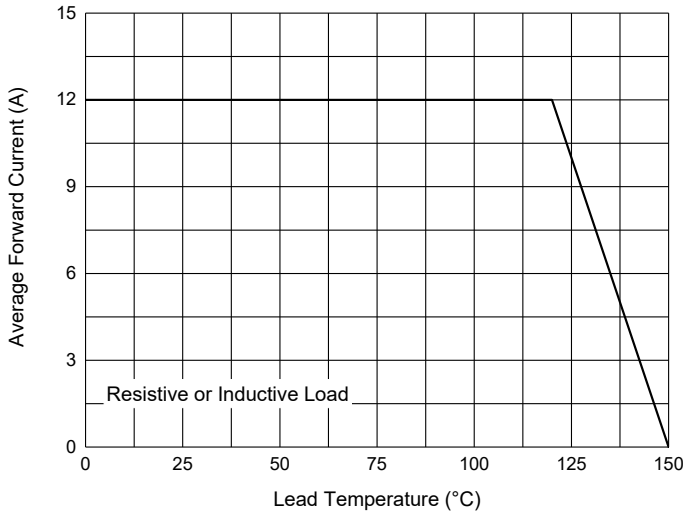


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

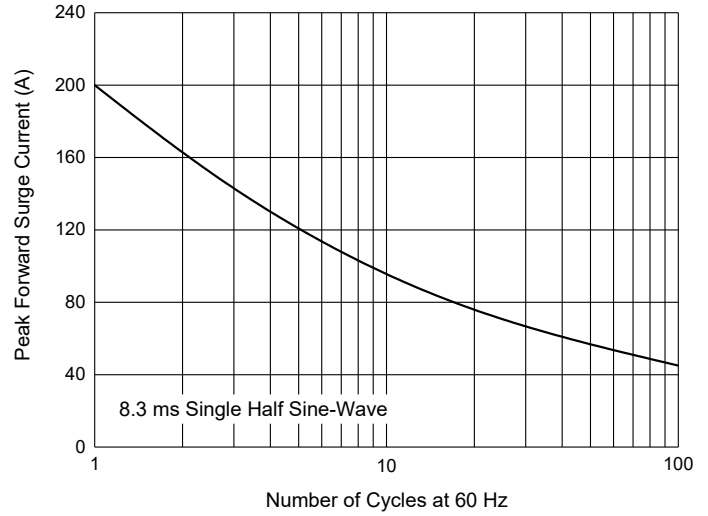


Fig. 3 - Typical Instantaneous Forward Characteristics

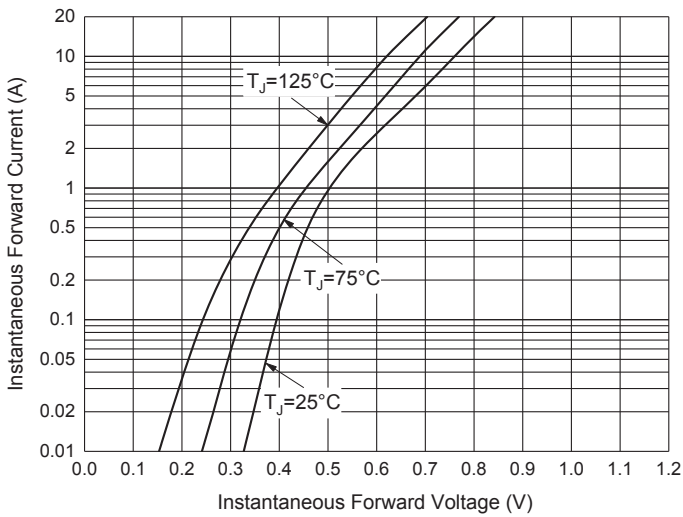


Fig. 4 - Typical Reverse Leakage Characteristics

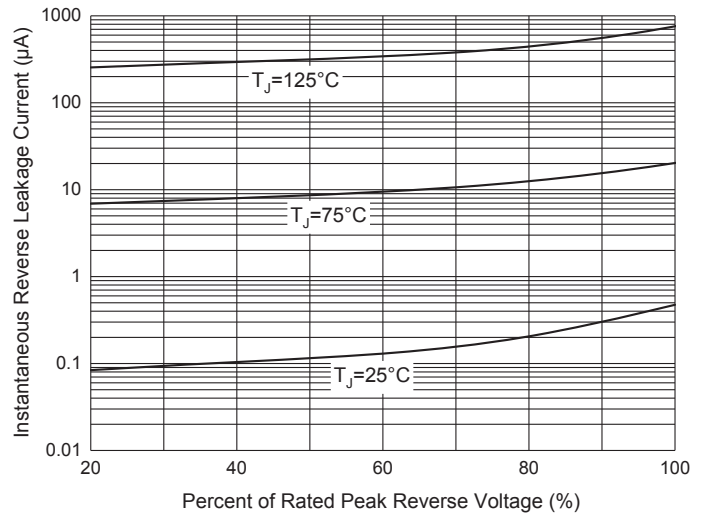
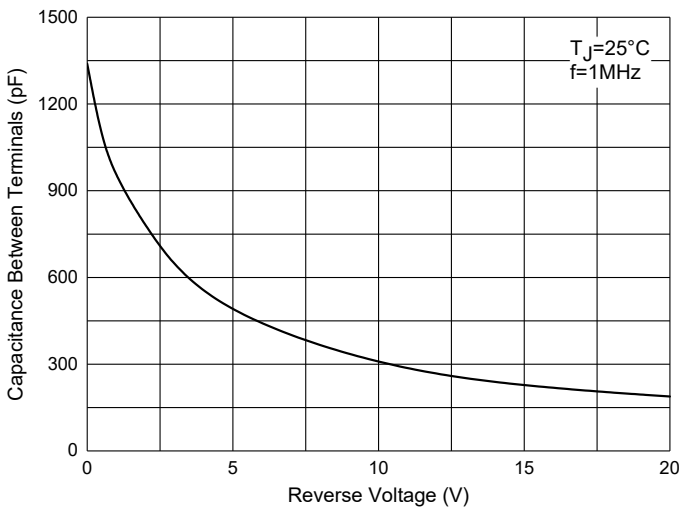


Fig. 5 - Capacitance Characteristics



## Ordering Information

| Device         | Packing              |
|----------------|----------------------|
| Part Number-TP | Tape&Reel:5Kpcs/Reel |

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