

## Features

- Lead Free Finish/RoHS Compliant ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- For Surface Mount Application
- Low Forward Voltage and Extremely Low Thermal Resistance
- Halogen Free. "Green" Device (Note 1)
- Epoxy Meets UL 94 V-0 Flammability Rating
- Moisture Sensitivity Level 1

## Maximum Ratings

- Operating Junction Temperature Range: -65°C to +125°C
- Storage Temperature Range: -65°C to +150°C
- Maximum Thermal Resistance: 305°C/W Junction to Ambient

| MCC Part Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-----------------|----------------|----------------------------------------|---------------------|-----------------------------|
| MBR0520L        | SD             | 20V                                    | 14V                 | 20V                         |
| MBR0530L        | SE             | 30V                                    | 21V                 | 30V                         |
| MBR0540L        | SF             | 40V                                    | 28V                 | 40V                         |

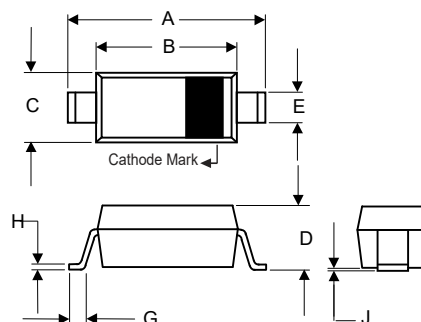
## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                         |             |                     |                                                      |
|---------------------------------------------------------|-------------|---------------------|------------------------------------------------------|
| Average Forward Current                                 | $I_{F(AV)}$ | 0.5A                |                                                      |
| Peak Forward Surge Current                              | $I_{FSM}$   | 5.5A                | 8.3ms Half Sine                                      |
| Maximum Forward Voltage                                 | $V_F$       | 0.3V<br>0.385V      | $I_F=0.1A$<br>$I_F=0.5A$                             |
|                                                         |             | 0.375V<br>0.43V     | $I_F=0.1A$<br>$I_F=0.5A$                             |
|                                                         |             | 0.51V<br>0.62V      | $I_F=0.5A$<br>$I_F=1.0A$                             |
| Maximum DC Reverse Current At Rated DC Blocking Voltage | $I_R$       | 75μA<br>250μA       | $V_R=10V$<br>$V_R=20V$                               |
|                                                         |             | 20μA<br>130μA       | $V_R=15V$<br>$V_R=30V$                               |
|                                                         |             | 10μA<br>20μA<br>5mA | $V_R=20V$<br>$V_R=40V$<br>$T_J=100^\circ C, V_R=40V$ |
| Typical Junction Capacitance                            | $C_J$       | 170pF               | $V_R=0, f=1MHz$                                      |
| Power Dissipation                                       | $P_D$       | 330mW               |                                                      |

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

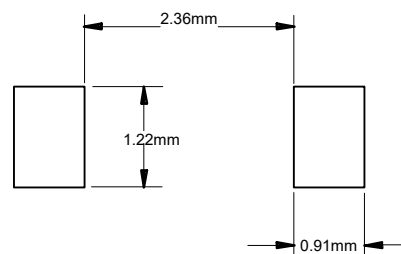
# 0.5 Amp Low VF Schottky Rectifier 20 to 40 Volts

## SOD-123



| DIM | INCHES |       | MM   |      | NOTE |
|-----|--------|-------|------|------|------|
|     | MIN    | MAX   | MIN  | MAX  |      |
| A   | 0.140  | 0.152 | 3.55 | 3.85 |      |
| B   | 0.100  | 0.112 | 2.55 | 2.85 |      |
| C   | 0.055  | 0.071 | 1.40 | 1.80 |      |
| D   | ----   | 0.053 | ---- | 1.35 |      |
| E   | 0.018  | 0.026 | 0.45 | 0.65 |      |
| G   | 0.006  | ----  | 0.15 | ---- |      |
| H   | ----   | 0.010 | ---- | 0.25 |      |
| J   | ----   | 0.006 | ---- | 0.15 |      |

## Suggested Solder Pad Layout



## Internal Structure and Marking Code



MBR0520L



MBR0530L



MBR0540L

## Curve Characteristics

### MBR0520L

Fig. 1 - Forward Characteristics

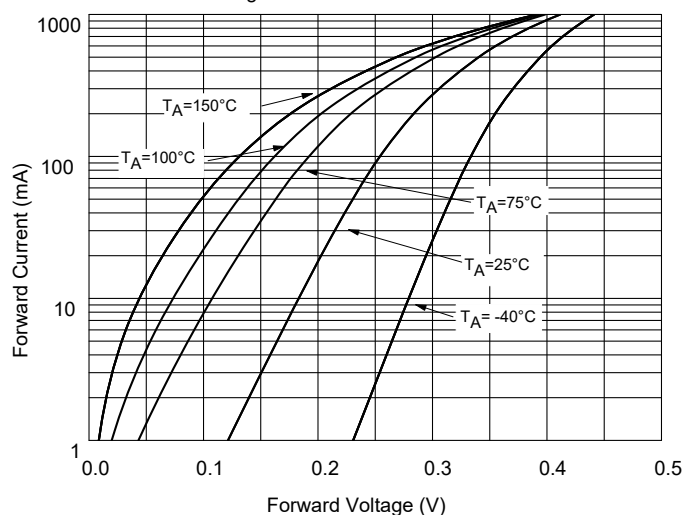


Fig. 2 - Typical Reverse Leakage Characteristics

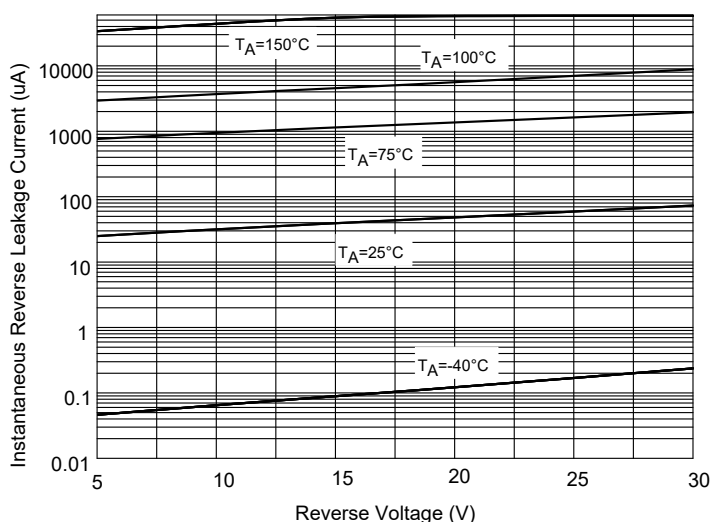


Fig. 3 - Capacitance Characteristics

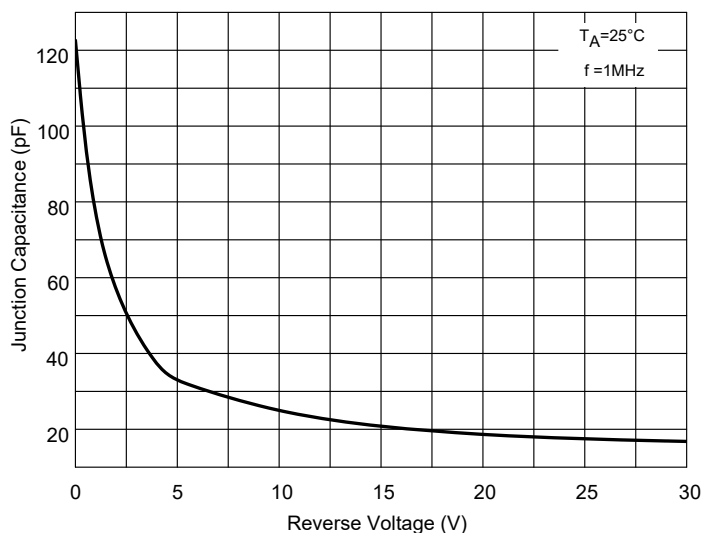
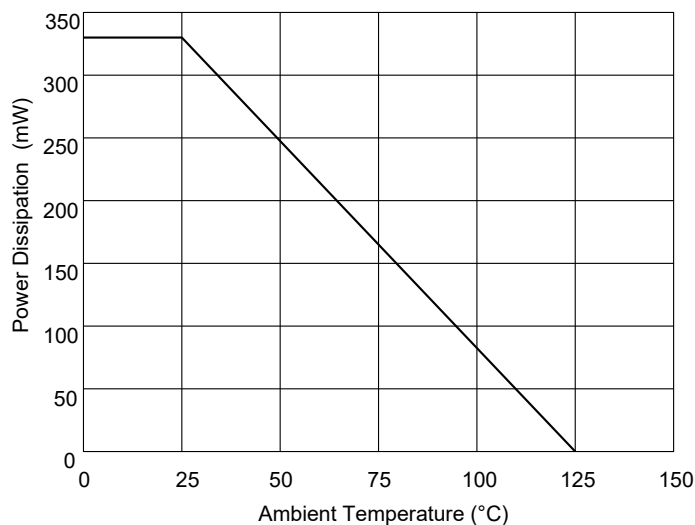


Fig. 4 - Power Derating Curve



MBR0530L

Fig. 1 - Forward Characteristics

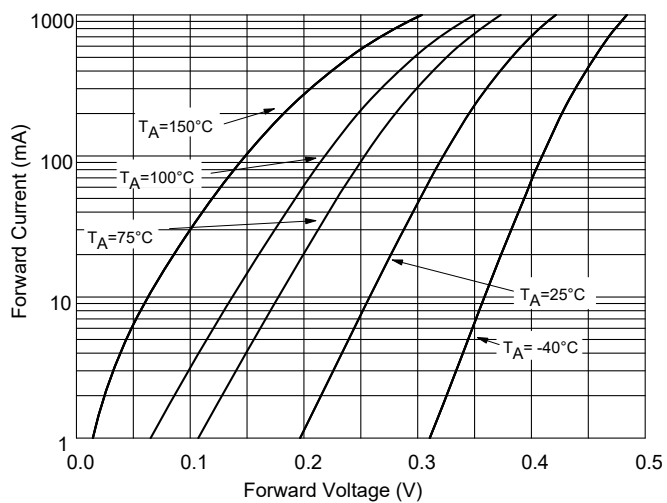


Fig. 2 - Typical Reverse Leakage Characteristics

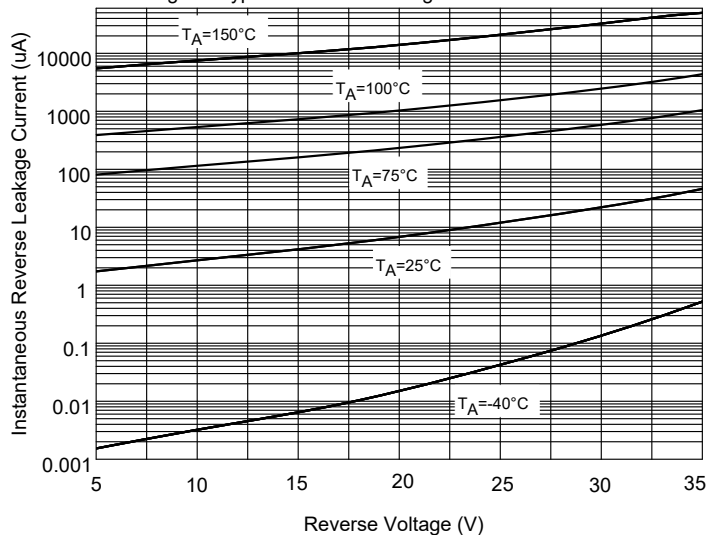


Fig. 3 - Capacitance Characteristics

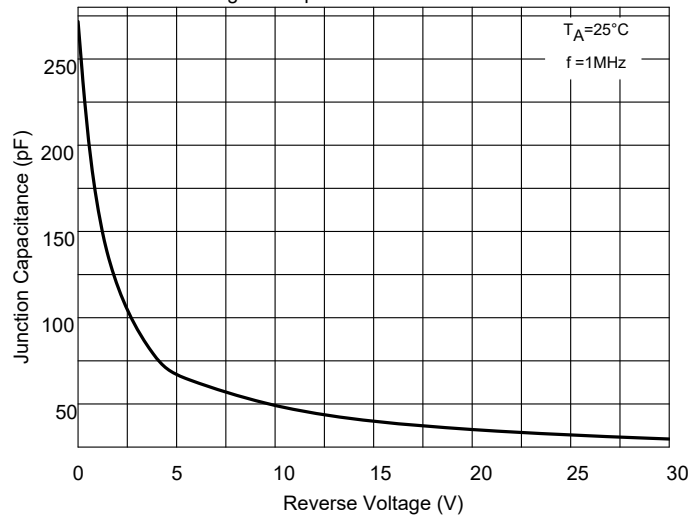
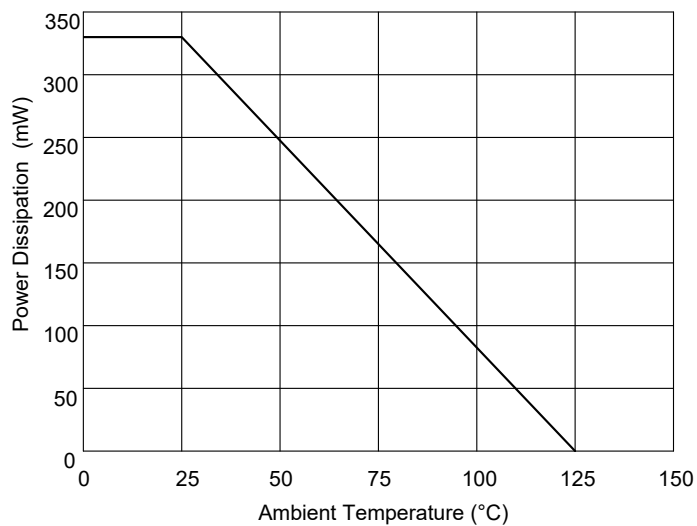
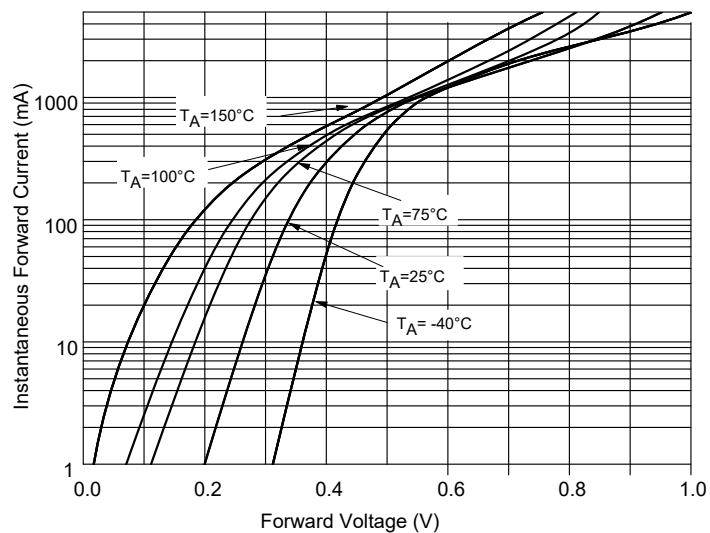


Fig. 4 - Power Derating Curve

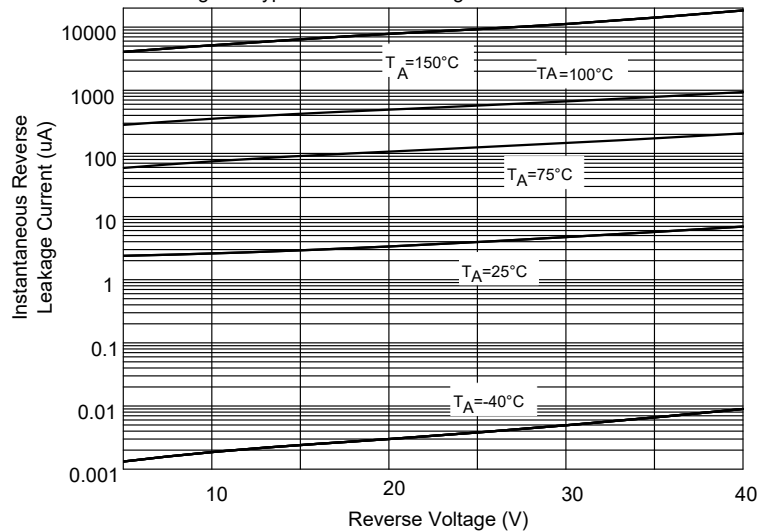


**MBR0540L**

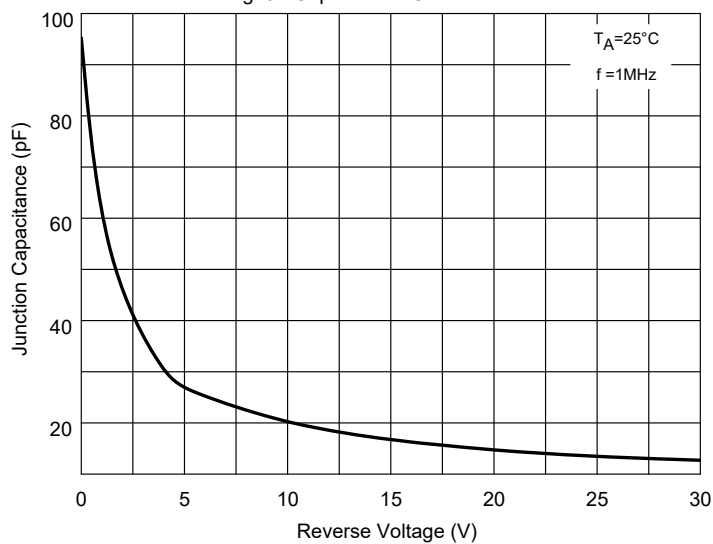
**Fig. 1 - Forward Characteristics**



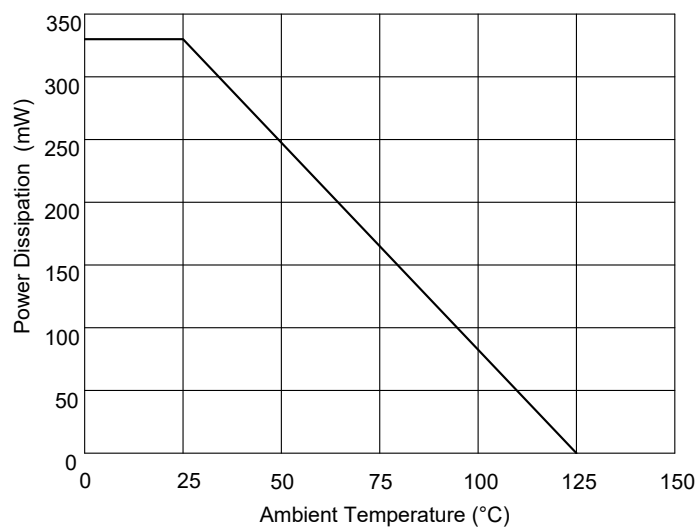
**Fig. 2 - Typical Reverse Leakage Characteristics**



**Fig. 3 - Capacitance Characteristics**



**Fig. 4 - Power Derating Curve**



## Ordering Information

| Device         | Packing               |
|----------------|-----------------------|
| Part Number-TP | Tape&Reel: 3Kpcs/Reel |

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