



Micro Commercial Components  
21201 Itasca Street Chatsworth  
CA 91311

Phone: (818) 701-4933

Fax: (818) 701-4939

# MBRX0520 THRU MBRX05100

## Features

- High Current Capability
- Extremely Low Thermal Resistance
- For Surface Mount Application
- Higher Temp Soldering: 250°C for 10 Seconds At Terminals
- Low Forward Voltage

## Maximum Ratings

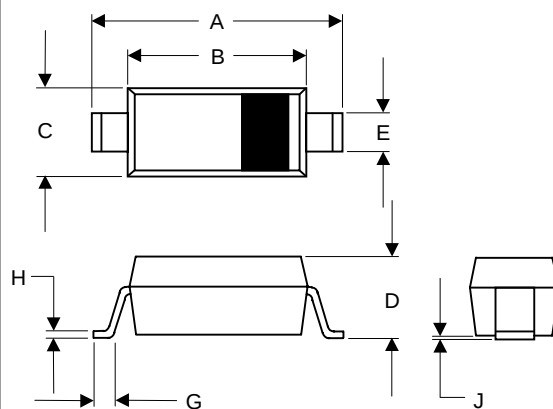
- Operating Temperature: -55°C to +125°C
- Storage Temperature: -55°C to +150°C
- Maximum Thermal Resistance: 5°C/W Junction to Lead

| MCC Catalog Number | Device Marking | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|--------------------|----------------|----------------------------------------|---------------------|-----------------------------|
| MBRX0520           | -----          | 20V                                    | 14V                 | 20V                         |
| MBRX0530           | -----          | 30V                                    | 21V                 | 30V                         |
| MBRX0540           | -----          | 40V                                    | 28V                 | 40V                         |
| MBRX0560           | -----          | 60V                                    | 42V                 | 60V                         |
| MBRX0580           | -----          | 80V                                    | 56V                 | 80V                         |
| MBRX05100          | -----          | 100V                                   | 70V                 | 100V                        |

## Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                                                                         |             |                                           |                                         |
|---------------------------------------------------------------------------------------------------------|-------------|-------------------------------------------|-----------------------------------------|
| Average Forward Current                                                                                 | $I_{F(AV)}$ | 0.5A                                      | $T_J=90^\circ\text{C}$                  |
| Peak Forward Surge Current                                                                              | $I_{FSM}$   | 20A                                       | 8.3ms half sine                         |
| Maximum Instantaneous Forward Voltage<br>MBRX0520<br>MBRX0530<br>MBRX0540<br>MBRX0560<br>MBRX0580-05100 | $V_F$       | 0.45V<br>0.55V<br>0.55V<br>0.70V<br>0.80V | $I_{FM}=0.5A$<br>$T_J=25^\circ\text{C}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                                                 | $I_R$       | 0.3mA                                     | $T_A=25^\circ\text{C}$                  |
| Typical Junction Capacitance                                                                            | $C_J$       | 30pF                                      | Measured at 1.0MHz,<br>$V_R=4.0V$       |

## SOD323



| DIM | INCHES |      | MM    |      | NOTE |
|-----|--------|------|-------|------|------|
|     | MIN    | MAX  | MIN   | MAX  |      |
| A   | .090   | .107 | 2.30  | 2.70 |      |
| B   | .063   | .071 | 1.60  | 1.80 |      |
| C   | .045   | .053 | 1.15  | 1.35 |      |
| D   | .031   | .045 | 0.80  | 1.15 |      |
| E   | .010   | .016 | 0.25  | 0.40 |      |
| G   | .004   | .018 | 0.10  | 0.45 |      |
| H   | .004   | .010 | 0.10  | 0.25 |      |
| J   | -----  | .006 | ----- | 0.15 |      |

## SUGGESTED SOLDER PAD LAYOUT

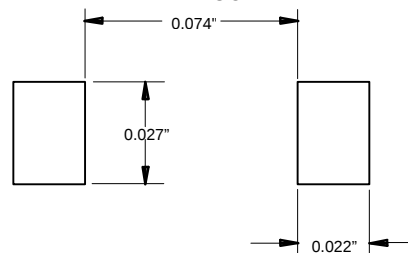


Figure 1  
Typical Forward Characteristics

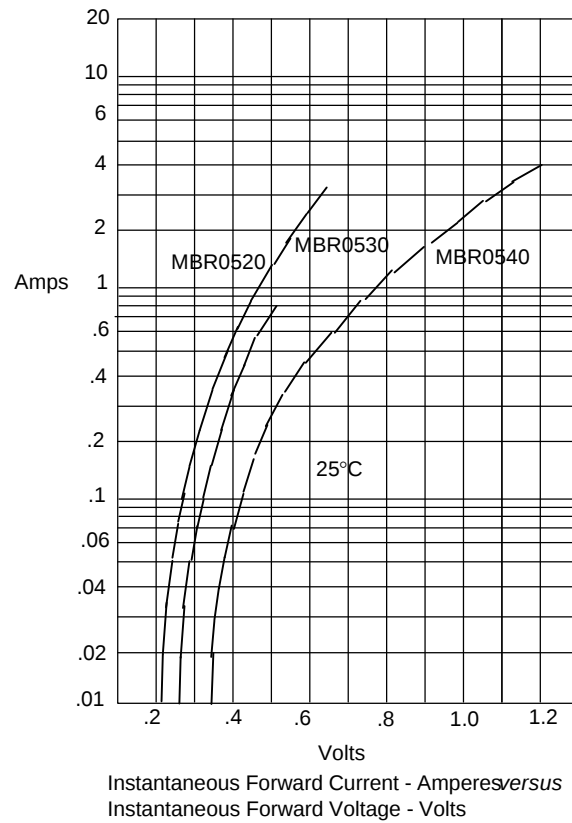
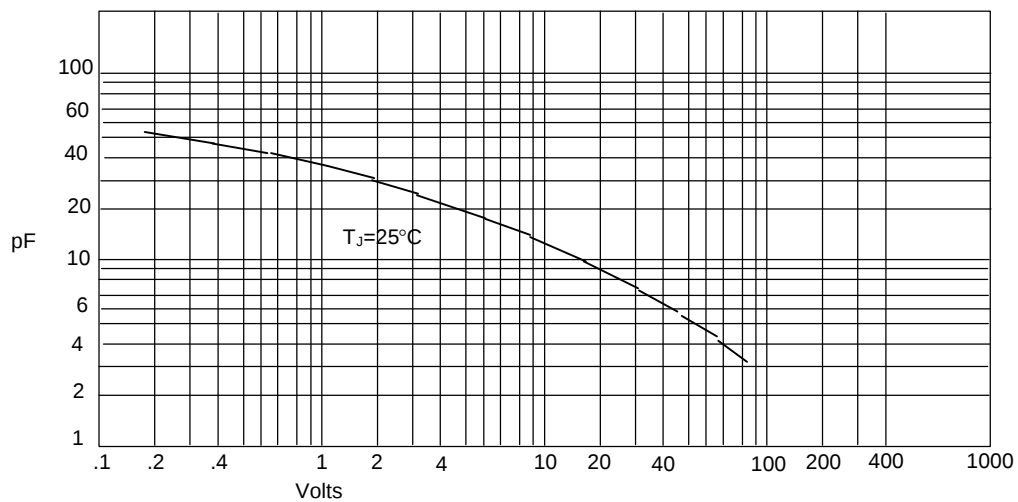
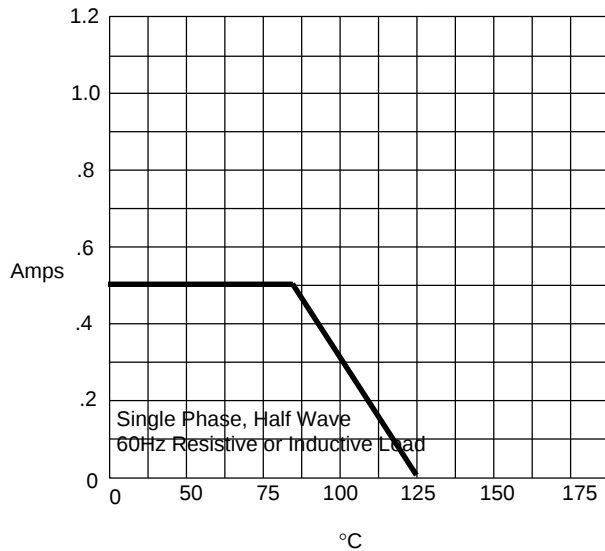


Figure 2  
Junction Capacitance



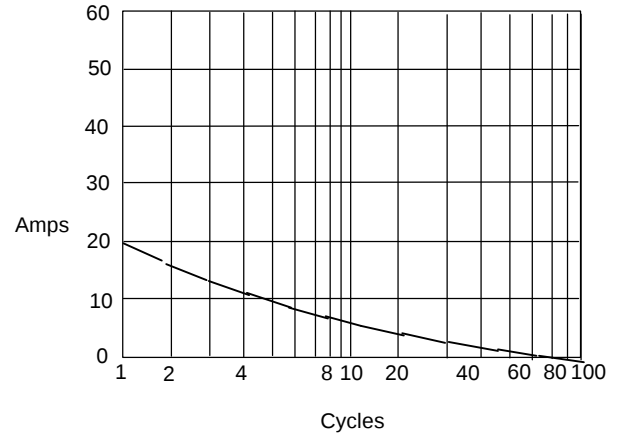
# MBRX0520 thru MBRX05100

Figure 3  
Forward Derating Curve



Average Forward Rectified Current - Amperes *versus*  
Ambient Temperature - °C

Figure 4  
Peak Forward Surge Current



Peak Forward Surge Current - Amperes *versus*  
Number Of Cycles At 60Hz - Cycles