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## MBR4020PT THRU MBR4060PT

### Features

- High Surge Capacity
- Low Power Loss, High Efficiency
- High Current Capability
- Metal of silicon Rectifier, majority Carrier Conduction
- Guard Ring For Transient Protection

### Maximum Ratings

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +175°C

| Part Number | Maximum Recurrent Peak Reverse Voltage | Maximum RMS Voltage | Maximum DC Blocking Voltage |
|-------------|----------------------------------------|---------------------|-----------------------------|
| MBR4020PT   | 20V                                    | 14V                 | 20V                         |
| MBR4030PT   | 30V                                    | 21V                 | 30V                         |
| MBR4035PT   | 35V                                    | 24.5V               | 35V                         |
| MBR4040PT   | 40V                                    | 28V                 | 40V                         |
| MBR4045PT   | 45V                                    | 31.5V               | 45V                         |
| MBR4060PT   | 60V                                    | 42V                 | 60V                         |

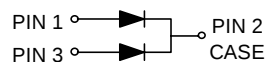
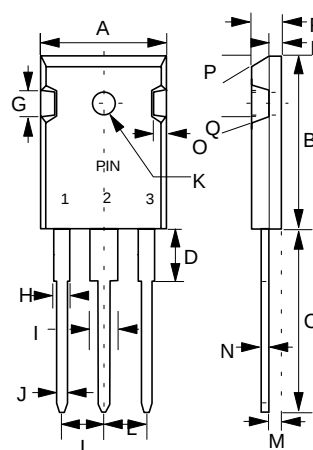
### Electrical Characteristics @ 25°C Unless Otherwise Specified

|                                                                                                         |             |                              |                                                                     |
|---------------------------------------------------------------------------------------------------------|-------------|------------------------------|---------------------------------------------------------------------|
| Average Forward Current                                                                                 | $I_{F(AV)}$ | 40.0A                        | $T_C=125^\circ\text{C}$                                             |
| Peak Forward Surge Current                                                                              | $I_{FSM}$   | 400A                         | 8.3ms half sine                                                     |
| Maximum Instantaneous Forward Voltage<br>MBR4020PT-4045PT<br>MBR4060PT<br>MBR4020PT-4045PT<br>MBR4060PT | $V_F$       | .70V<br>.80V<br>.60V<br>.70V | $I_{FM}=20.0A$<br>$T_C=25^\circ\text{C}$<br>$T_C=125^\circ\text{C}$ |
| Maximum DC Reverse Current At Rated DC Blocking Voltage                                                 | $I_R$       | 1.0mA<br>100mA               | $T_C=25^\circ\text{C}$<br>$T_C=125^\circ\text{C}$                   |
| Typical Junction Capacitance                                                                            | $C_j$       | 700pF                        | Measured at<br>1.0MHz,<br>$V_R=4.0V$                                |

Pulse test: Pulse width 300 usec, duty cycle 2%.

## 40 Amp Schottky Barrier Rectifier 20 to 60 Volts

### TO-3P



| DIMENSIONS |          |      |         |       |      |
|------------|----------|------|---------|-------|------|
| DIM        | INCHES   |      | MM      |       | NOTE |
|            | MIN      | MAX  | MIN     | MAX   |      |
| A          | .620     | .640 | 15.75   | 16.25 |      |
| B          | .837     | .856 | 21.25   | 21.75 |      |
| C          | .772     | .791 | 19.60   | 20.10 |      |
| D          | .149     | .172 | 3.78    | 4.38  |      |
| E          | .074     | .082 | 1.88    | 2.08  |      |
| F          | .192     | .202 | 4.87    | 5.13  |      |
| G          | .173 TYP |      | 4.4 TYP |       |      |
| H          | .075     | .085 | 1.90    | 2.16  |      |
| I          | .115     | .127 | 2.93    | 3.22  |      |
| J          | .044     | .048 | 1.12    | 1.22  |      |
| K          | .114     | .126 | 2.90    | 3.20  | Ø    |
| L          | .205     | .224 | 5.20    | 5.70  |      |
| M          | .083     | .095 | 2.10    | 2.40  |      |
| N          | .020     | .030 | 0.51    | 0.76  |      |
| O          | .076     | .086 | 1.93    | 2.18  |      |
| P          | 20° TYP  |      |         |       |      |
| Q          | 10° TYP  |      |         |       |      |

# MBR4020PT thru MBR4060PT

FIG.1 - FORWARD CURRENT DERATING CURVE

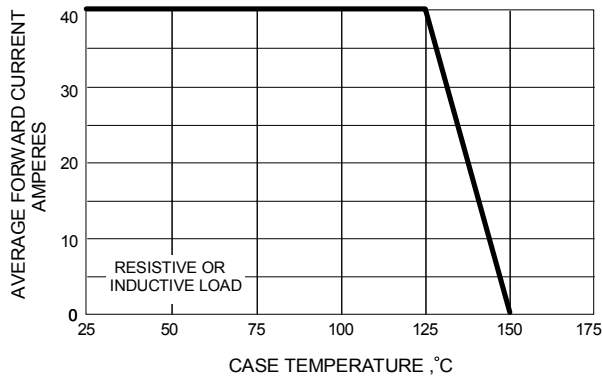


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

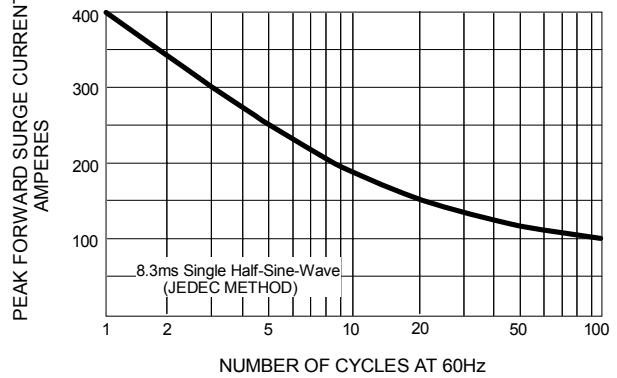


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

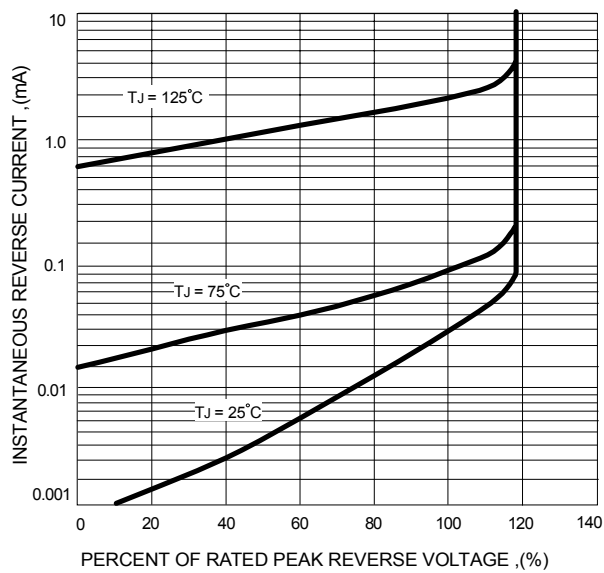


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

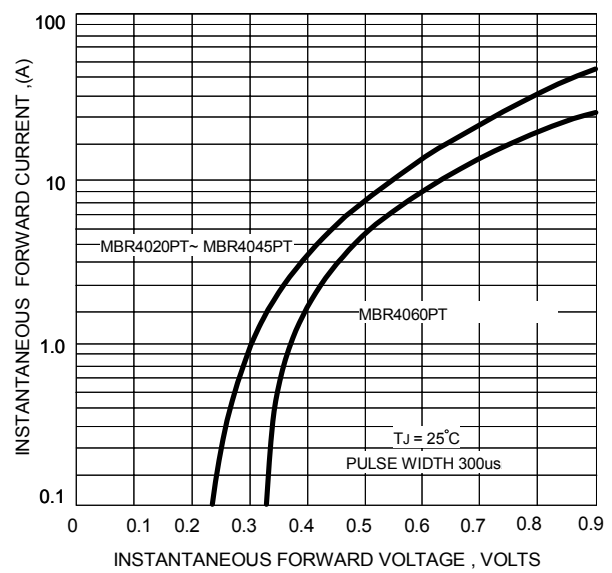


FIG.5 - TYPICAL JUNCTION CAPACITANCE

