

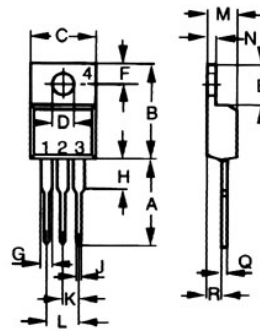
MBR2030CT thru MBR2045CT

Wide Temperature Range and High T_{jm} Schottky Barrier Rectifiers



A=Anode, C=Cathode, TAB=Cathode

Dimensions TO-220AB



| Dim. | Inches | | Millimeter | |
|------|--------|-------|------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 0.500 | 0.550 | 12.70 | 13.97 |
| B | 0.580 | 0.630 | 14.73 | 16.00 |
| C | 0.390 | 0.420 | 9.91 | 10.66 |
| D | 0.139 | 0.161 | 3.54 | 4.08 |
| E | 0.230 | 0.270 | 5.85 | 6.85 |
| F | 0.100 | 0.125 | 2.54 | 3.18 |
| G | 0.045 | 0.065 | 1.15 | 1.65 |
| H | 0.110 | 0.230 | 2.79 | 5.84 |
| J | 0.025 | 0.040 | 0.64 | 1.01 |
| K | 0.100 | BSC | 2.54 | BSC |
| M | 0.170 | 0.190 | 4.32 | 4.82 |
| N | 0.045 | 0.055 | 1.14 | 1.39 |
| Q | 0.014 | 0.022 | 0.35 | 0.56 |
| R | 0.090 | 0.110 | 2.29 | 2.79 |

| | V_{RRM} | V_{RMS} | V_{DC} |
|-----------|-----------|-----------|----------|
| | V | V | V |
| MBR2030CT | 30 | 21 | 30 |
| MBR2035CT | 35 | 24.5 | 35 |
| MBR2040CT | 40 | 28 | 40 |
| MBR2045CT | 45 | 31.5 | 45 |

| Symbol | Characteristics | Maximum Ratings | Unit |
|-----------------|--|---|---------------------------|
| $I_{(AV)}$ | Maximum Average Forward Rectified Current @ $T_c=125^\circ\text{C}$ | 20 | A |
| I_{FSM} | Peak Forward Surge Current 8.3ms Single Half-Sine-Wave Superimposed On Rated Load (JEDEC METHOD) | 150 | A |
| dv/dt | Voltage Rate Of Change (Rated V_R) | 10000 | V/us |
| V_F | Maximum Forward Voltage (Note 1) | $I_F=10\text{A}$ @ $T_J=25^\circ\text{C}$ - $I_F=10\text{A}$ @ $T_J=125^\circ\text{C}$ 0.57 $I_F=20\text{A}$ @ $T_J=25^\circ\text{C}$ 0.84 $I_F=20\text{A}$ @ $T_J=125^\circ\text{C}$ 0.72 | V |
| I_R | Maximum DC Reverse Current At Rated DC Blocking Voltage | $@T_J=25^\circ\text{C}$ 0.1 $@T_J=125^\circ\text{C}$ 15 | mA |
| $R_{\theta JC}$ | Typical Thermal Resistance (Note 2) | 2.0 | $^\circ\text{C}/\text{W}$ |
| C_J | Typical Junction Capacitance Per Element (Note 3) | 300 | pF |
| T_J | Operating Temperature Range | -55 to +150 | $^\circ\text{C}$ |
| T_{STG} | Storage Temperature Range | -55 to +175 | $^\circ\text{C}$ |

NOTES: 1. 300us Pulse Width, Duty Cycle 2%.
 2. Thermal Resistance Junction To Case.
 3. Measured At 1.0MHz And Applied Reverse Voltage Of 4.0V DC.

FEATURES

- * Metal of silicon rectifier, majority carrier conducton
- * Guard ring for transient protection
- * Low power loss, high efficiency
- * High current capability, low V_F
- * High surge capacity
- * For use in low voltage, high frequency inverters, free whelling, and polarity protection applications

MECHANICAL DATA

- * Case: TO-220AB molded plastic
- * Polarity: As marked on the body
- * Weight: 0.08 ounces, 2.24 grams
- * Mounting position: Any



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