



MBRD20100CT

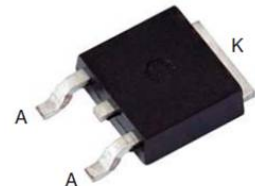
Schottky Barrier Rectifier

Reverse Voltage 100 Volts Forward Current 20 Amperes

Features

- Plastic package has underwriters Laboratory Flammability Classification 94V-0
- Dual rectifier construction, positive center tap
- Metal of silicon rectifier, majority carrier conduction
- Low forward voltage, high efficiency
- Guarding for over voltage protection

TO-252 (D-PAK)



Package: TO-252(D-PAK)



Mechanical Data

- Case: Epoxy, Molded
- Weight: 0.4grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 sec
- Shipped 2500 units per reel

Maximum Ratings & Electrical Characteristics

($T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | TEST CONDITIONS | | SYMBOL | MBRD20100CT | UNIT |
|--|---|---|--------------|--------------|---------------------------|
| Maximum repetitive peak reverse voltage | | | V_{RRM} | 100 | V |
| Working peak reverse voltage | | | V_{RWM} | 100 | V |
| Maximum DC blocking voltage | | | V_{DC} | 100 | V |
| Maximum average forward rectified current at $T_c=105^\circ\text{C}$ total device per diode | | | $I_F(AV)$ | 20 10 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load per diode | | | I_{FSM} | 150 | A |
| Peak repetitive reverse current per leg at $t_p=2.0\mu\text{s}$, 1KHz | | | I_{RRM} | 1.0 | A |
| Voltage rate of change (rated V_R) | | | DV/dt | 10000 | V/us |
| Operating junction temperature range | | | T_J | -55 to +150 | $^\circ\text{C}$ |
| Storage temperature range | | | T_{STG} | -55 to +150 | $^\circ\text{C}$ |
| Maximum instantaneous forward voltage per leg | $I_F=10\text{A}$ $I_F=10\text{A}$ | $T_C=25^\circ\text{C}$ $T_C=125^\circ\text{C}$ | V_F | 0.84 0.75 | V |
| Maximum reverse current per leg at working peak Reverse voltage | | | I_R | 200 15 | μA mA |
| Thermal Characteristics $T_A=25^\circ\text{C}$ unless otherwise noted | | | | | |
| Symbol | Parameter | | TYP (TO-252) | | Unit |
| R θ JC | Thermal Resistance, Junction to Case per Leg | | 3.5 | | $^\circ\text{C}/\text{W}$ |
| R θ JA | Thermal Resistance, Junction to Ambient per Leg | | 62.5 | | $^\circ\text{C}/\text{W}$ |

Note: Pulse test: 300us pulse width, duty cycle=2%



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Ratings and Characteristics Curves

($T_A = 25^\circ\text{C}$ unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

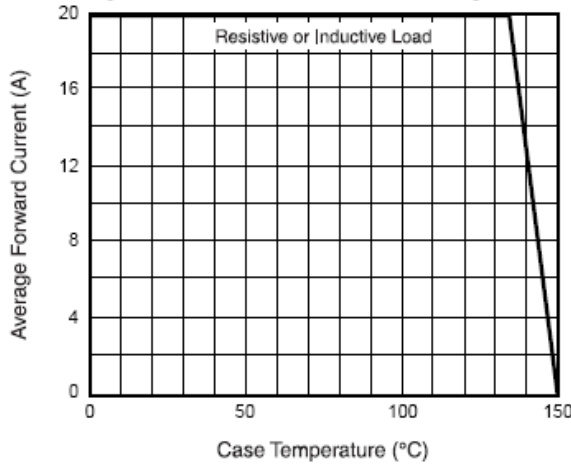


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

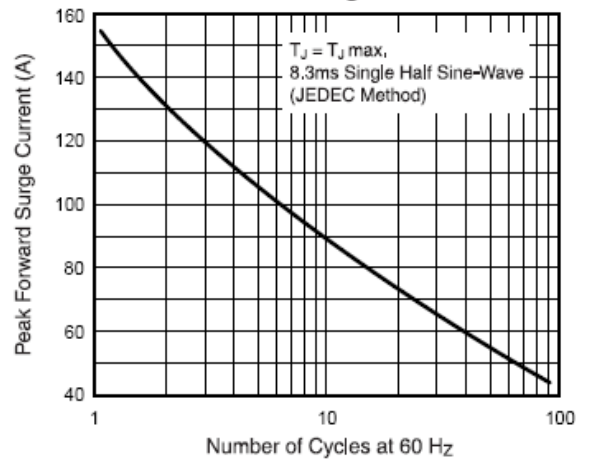


Fig. 3 - Typical Instantaneous Forward Characteristics

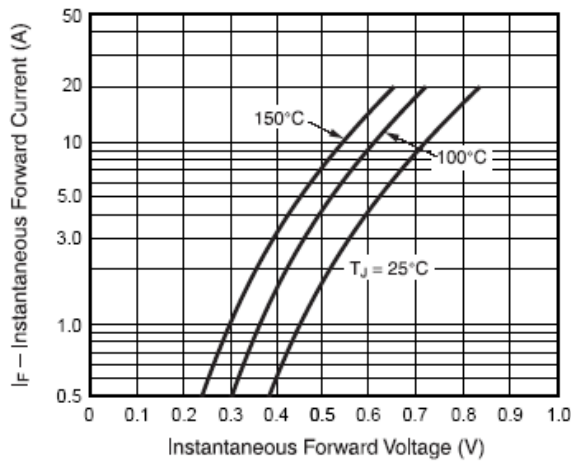


Fig. 4 - Typical Reverse Characteristics

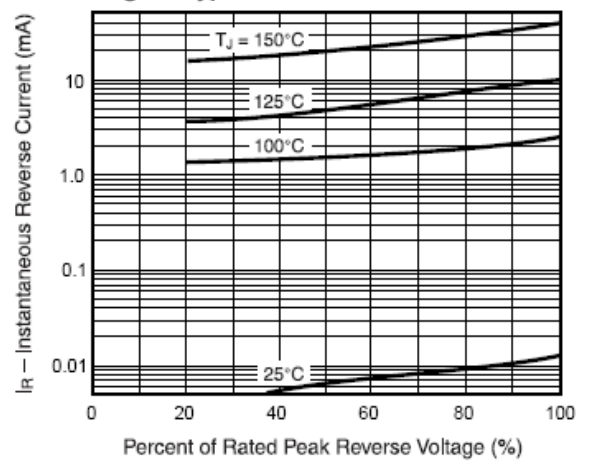
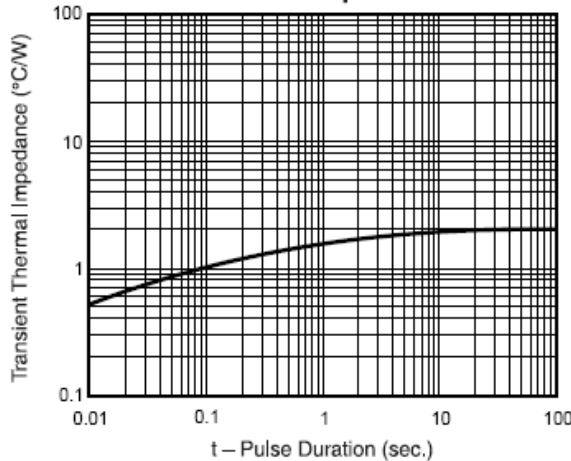


Fig. 5 - Typical Transient Thermal Impedance





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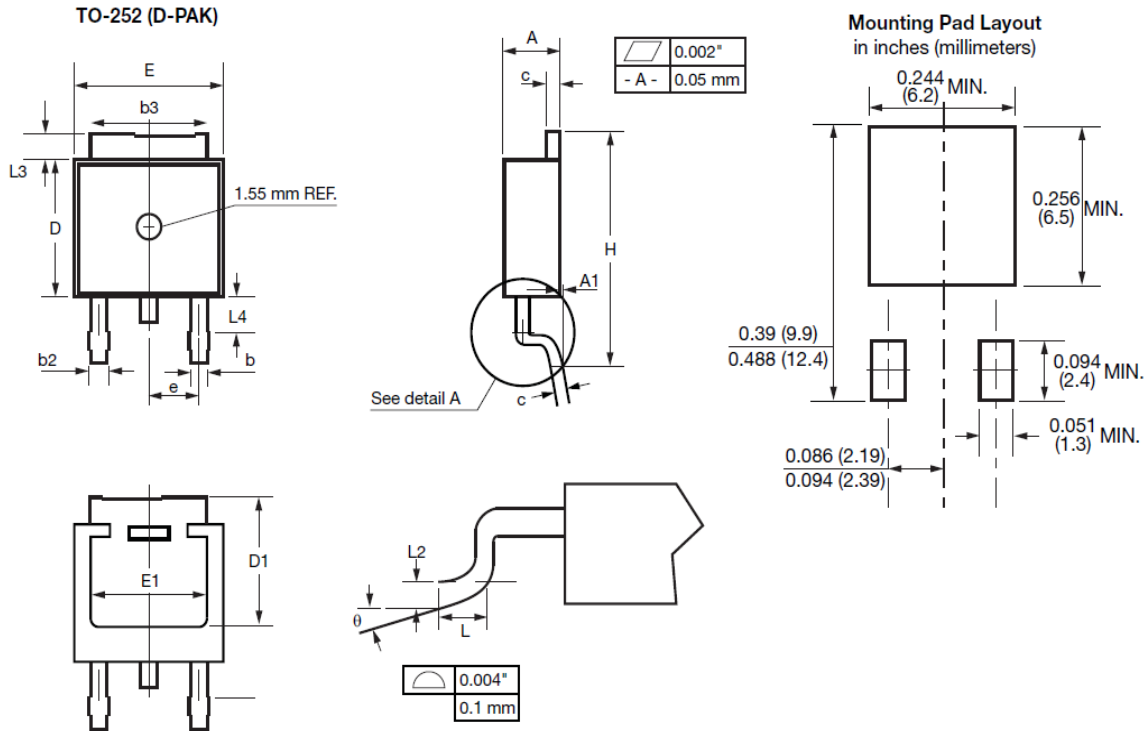
Reverse Voltage 100 Volts Forward Current 20 Amperes

Package Outline Dimensions

Unit: millimeters

TO-252(D-PAK)

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



| SYMBOL | INCHES | | MILLIMETERS | |
|--------|------------|-------|-------------|-------|
| | MIN. | MAX. | MIN. | MAX. |
| A | 0.086 | 0.094 | 2.19 | 2.38 |
| A1 | - | 0.005 | - | 0.13 |
| b | 0.025 | 0.035 | 0.64 | 0.89 |
| b2 | 0.033 | 0.045 | 0.84 | 1.14 |
| b3 | 0.205 | 0.215 | 5.21 | 5.46 |
| c | 0.018 | 0.024 | 0.46 | 0.61 |
| D | 0.235 | 0.250 | 5.97 | 6.22 |
| D1 | 0.205 | - | 5.21 | - |
| E | 0.250 | 0.265 | 6.35 | 6.73 |
| E1 | 0.190 | - | 4.83 | - |
| e | 0.090 BSC. | | 2.29 BSC. | |
| H | 0.380 | 0.410 | 9.65 | 10.41 |
| L | 0.055 | 0.070 | 1.40 | 1.78 |
| L2 | 0.020 BSC. | | 0.51 BSC. | |
| L3 | 0.035 | 0.050 | 0.89 | 1.27 |
| L4 | 0.025 | 0.039 | 0.64 | 1.01 |
| θ | 0° | 8° | 0° | 8° |

Note

- Conforms to JEDEC TO-252 variation AA except dimension "D"



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