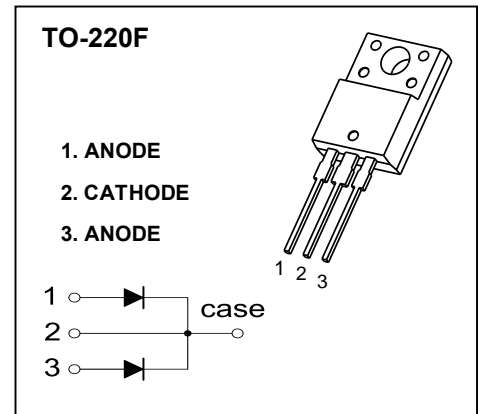


TO-220F Plastic-Encapsulate Diodes

MBR2060FCT SCHOTTKY BARRIER RECTIFIER

FEATURES

- Schottky Barrier Chip
- Guard Ring Die Construction for Transient Protection
- Low Power Loss, High Efficiency
- High Surge Capability
- High Current Capability and Low Forward Voltage Drop
- For Use in Low Voltage, High Frequency Inverters, Free Wheeling, and Polarity Protection Applications



MAXIMUM RATINGS ($T_a=25^\circ\text{C}$ unless otherwise noted)

| Symbol | Parameter | Value | Unit |
|-----------------|---|----------|--------------------|
| V_{RRM} | Peak repetitive reverse voltage | 60 | V |
| V_{RWM} | Working peak reverse voltage | | |
| V_R | DC blocking voltage | | |
| $V_{R(RMS)}$ | RMS reverse voltage | 42 | V |
| I_O | Average rectified output current | 20 | A |
| I_{FSM} | Non-Repetitive peak forward surge current 8.3ms half sine wave | 150 | A |
| P_D | Power dissipation | 2 | W |
| $R_{\theta JA}$ | Thermal resistance from junction to ambient | 50 | $^\circ\text{C/W}$ |
| T_j | Junction temperature | 125 | $^\circ\text{C}$ |
| T_{stg} | Storage temperature | -55~+150 | $^\circ\text{C}$ |

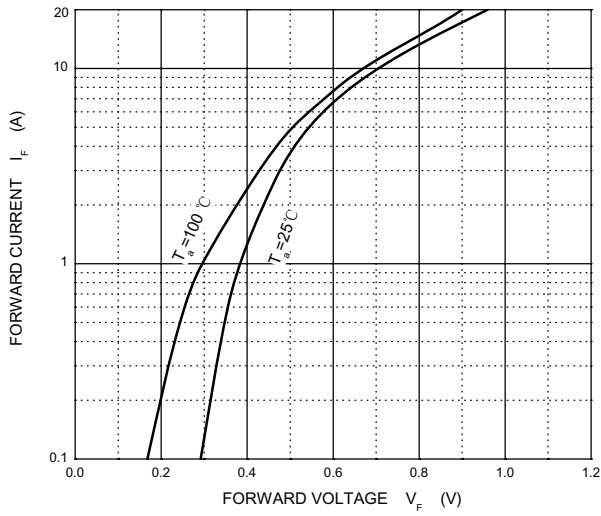
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$ unless otherwise specified)

| Parameter | Symbol | Test conditions | Min | Typ | Max | Unit |
|---------------------------|-------------|--------------------------------|-----|-----|-----|------|
| Reverse voltage | $V_{(BR)}$ | $I_R=0.1\text{mA}$ | 60 | | | V |
| Reverse current | I_R | $V_R=60\text{V}$ | | | 0.1 | mA |
| Forward voltage | V_F | $I_F=10\text{A}$ | | | 0.8 | V |
| Typical total capacitance | C_{tot}^* | $V_R=4\text{V}, f=1\text{MHz}$ | | 650 | | pF |

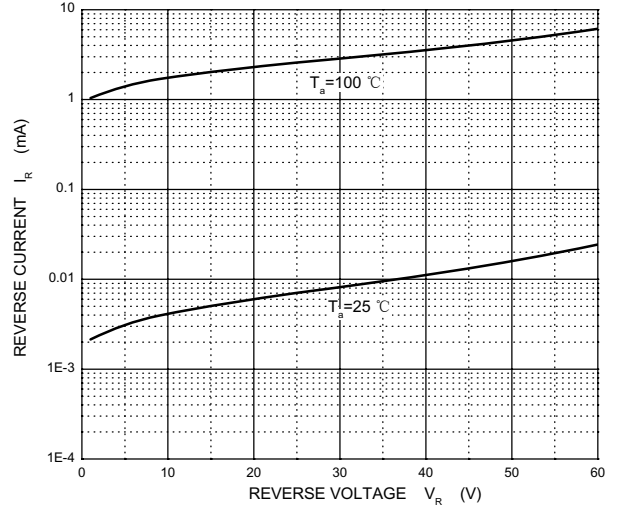
*Pulse test: pulse width $\leq 300\mu\text{s}$, duty cycle $\leq 2.0\%$.

Typical Characteristics

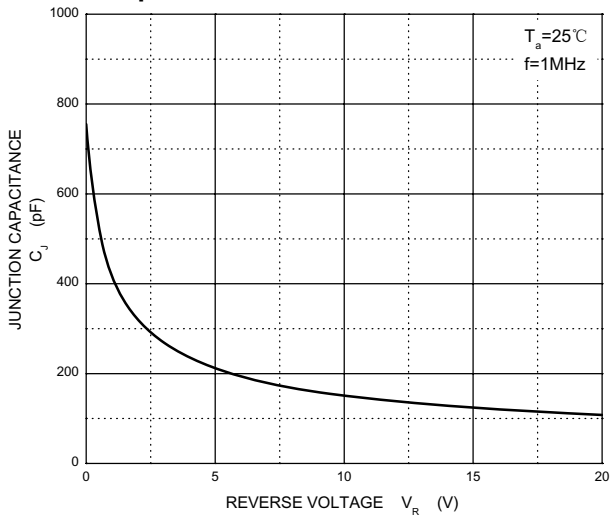
Forward Characteristics



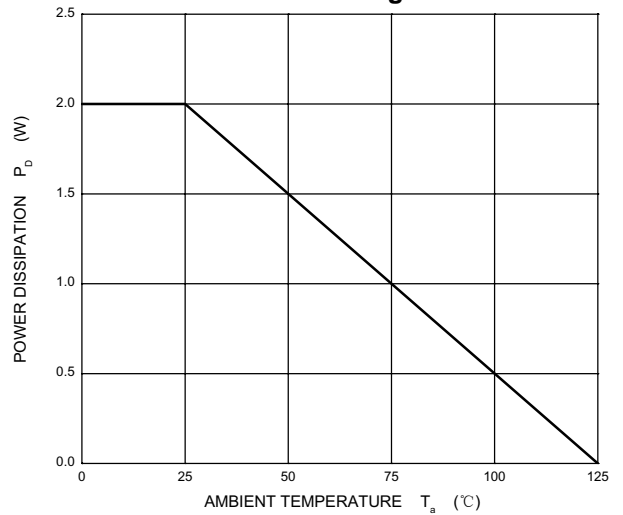
Reverse Characteristics



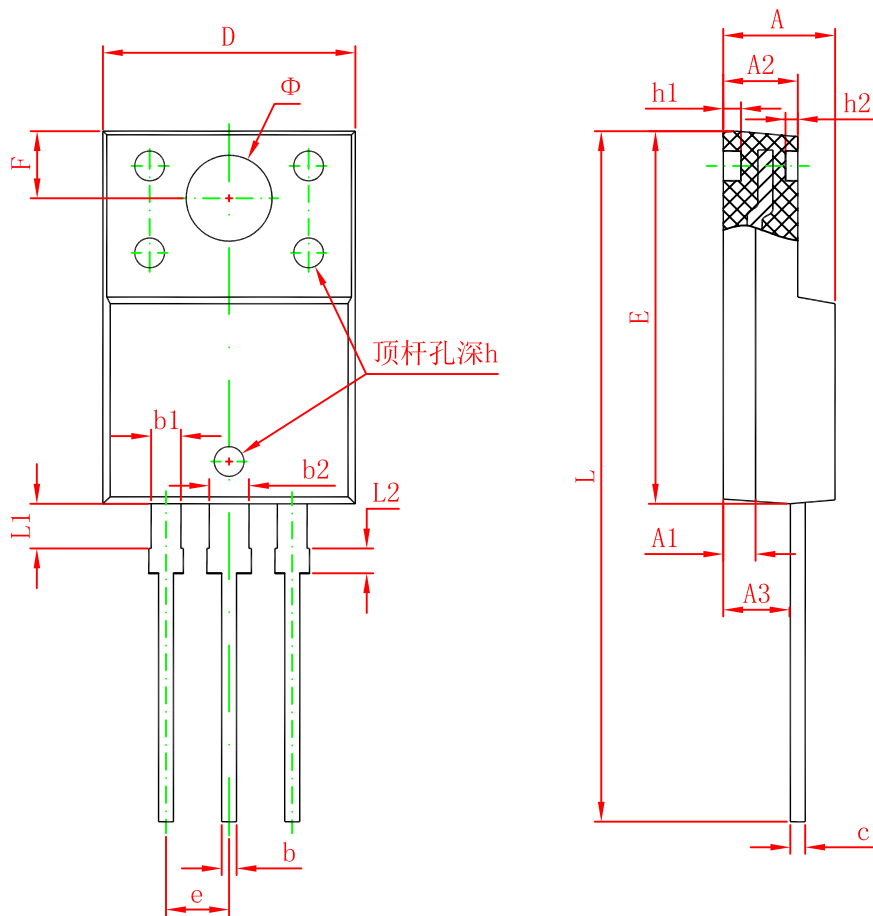
Capacitance Characteristics Per Diode



Power Derating Curve



TO-220F Package Outline Dimensions



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|--------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 4.300 | 4.700 | 0.169 | 0.185 |
| A1 | 1.300 REF. | | 0.051 REF. | |
| A2 | 2.800 | 3.200 | 0.110 | 0.126 |
| A3 | 2.500 | 2.900 | 0.098 | 0.114 |
| b | 0.500 | 0.750 | 0.020 | 0.030 |
| b1 | 1.100 | 1.350 | 0.043 | 0.053 |
| b2 | 1.500 | 1.750 | 0.059 | 0.069 |
| c | 0.500 | 0.750 | 0.020 | 0.030 |
| D | 9.960 | 10.360 | 0.392 | 0.408 |
| E | 14.800 | 15.200 | 0.583 | 0.598 |
| e | 2.540 TYP. | | 0.100 TYP. | |
| F | 2.700 REF. | | 0.106 REF. | |
| Φ | 3.500 REF. | | 0.138 REF. | |
| h | 0.000 | 0.300 | 0.000 | 0.012 |
| h1 | 0.800 REF. | | 0.031 REF. | |
| h2 | 0.500 REF. | | 0.020 REF. | |
| L | 28.000 | 28.400 | 1.102 | 1.118 |
| L1 | 1.700 | 1.900 | 0.067 | 0.075 |
| L2 | 0.900 | 1.100 | 0.035 | 0.043 |