

MBR1060CT/MBRF1060CT

Schottky Barrier Rectifiers
 Reverse Voltage 60V Forward Current 10A

Features

- Low forward voltage, low power loss
- Low leakage current
- High surge current
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- Halogen-free according to IEC 61249-2-21

Applications

- SMPS
- Adapter
- Server Power

Mechanical Data

- Case: Epoxy, molded
- Finish: All external surfaces corrosion resistant and terminal leads are readily solderable
- Lead temperature for soldering purposes: 260°C Max. for 10 sec

Maximum Ratings (T_A=25°C unless otherwise noted)

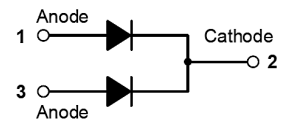
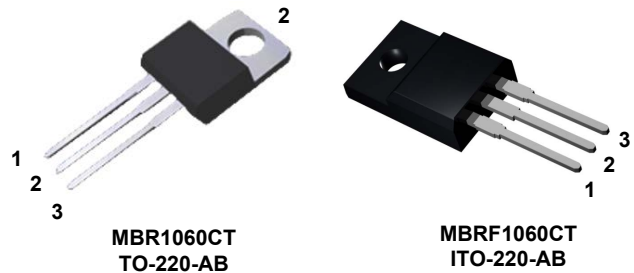
| Parameter | Symbol | MBR1060CT | MBRF1060CT | Unit |
|----------------------------------------------------------------------------------------------|--------------------|-------------|------------|------|
| Maximum Repetitive Peak Reverse Voltage | V _{RRM} | 60 | | V |
| Maximum RMS Voltage | V _{RMS} | 42 | | V |
| Maximum DC Blocking Voltage | V _{DC} | 60 | | V |
| Maximum Average Forward Current | I _{F(AV)} | 10 | | A |
| Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load per Diode | I _{FSM} | 120 | | A |
| Typical Thermal Resistance, Junction to Case | R _{θJC} | 2 | 4 | °C/W |
| Typical Thermal Resistance, Junction to Ambient | R _{θJA} | 62.5 | | °C/W |
| Operating Junction Temperature Range | T _J | -55 to +150 | | °C |
| Storage Temperature Range | T _{STG} | -55 to +150 | | °C |

Electrical Characteristics (T_A=25°C unless otherwise noted)

| Parameter | Symbol | Test Conditions | Typ | Max | Unit |
|-------------------------------------------------------|----------------|-------------------------------------------|------|------|------|
| Forward Drop Voltage ¹ | V _F | I _F =5A, T _J =25°C | 0.67 | 0.80 | V |
| | | I _F =5A, T _J =125°C | - | 0.70 | |
| Reverse Leakage Current @ V _R ² | I _R | T _J =25°C | - | 200 | uA |
| | | T _J =100°C | - | 15 | mA |

Note:

1. Pulse test with PW=0.3ms, duty cycle=2%
2. Pulse test with PW=30ms



Schematic Diagram

Ratings and Characteristics Curves (T_A=25°C unless otherwise noted)

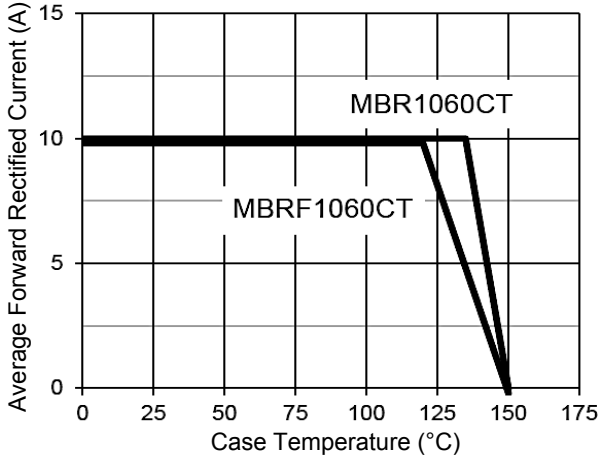


Figure 1. Forward Current Derating Curve

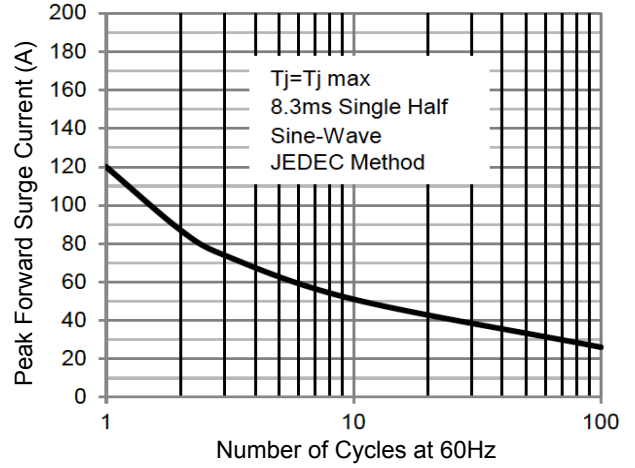


Figure 2. Maximum Non-Repetitive Surge Current

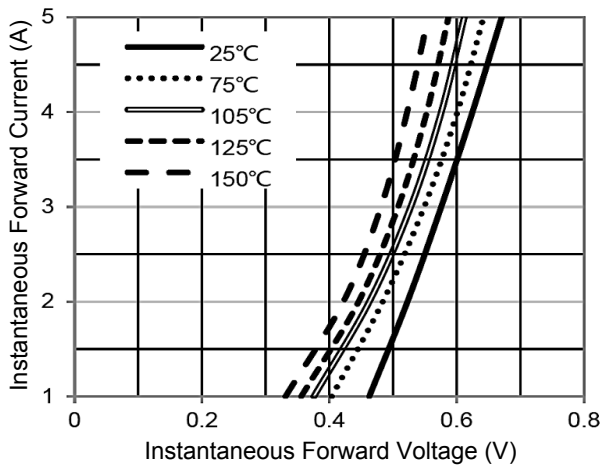


Figure 3. Typical Forward Voltage Characteristics

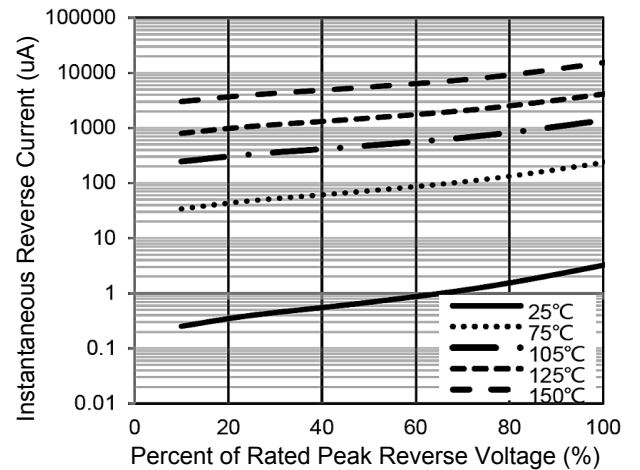


Figure 4. Typical Reverse Current Characteristics

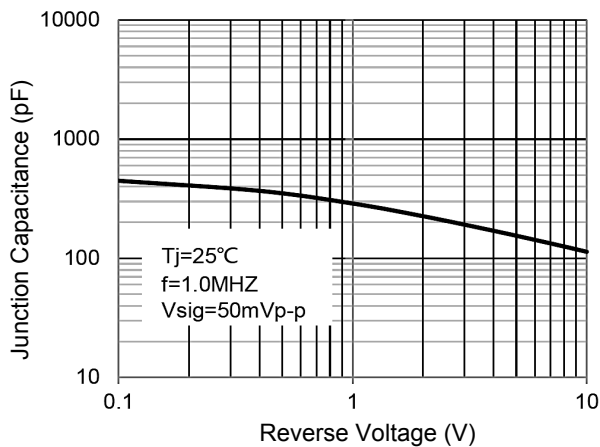
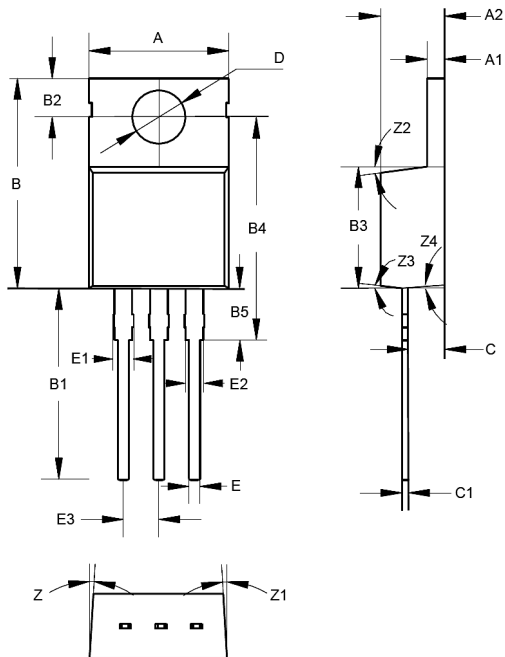


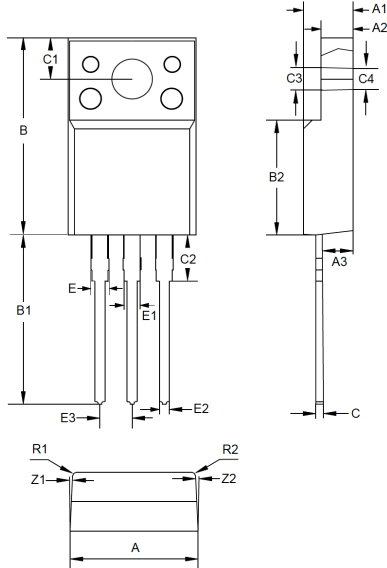
Figure 5. Typical Junction Capacitance

Package Outline Dimensions (TO-220-AB)



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 9.80 | 10.20 | 0.386 | 0.402 |
| A1 | 1.17 | 1.37 | 0.046 | 0.054 |
| A2 | 4.50 | 4.70 | 0.177 | 0.185 |
| B | 14.50 | 15.50 | 0.571 | 0.610 |
| B1 | 13.20 | 14.20 | 0.520 | 0.559 |
| B2 | 2.65 | 2.85 | 0.104 | 0.112 |
| B3 | 8.50 | 8.90 | 0.335 | 0.350 |
| B4 | 15.50 | 16.50 | 0.610 | 0.650 |
| B5 | 3.40 | 4.00 | 0.134 | 0.157 |
| C | 2.30 | 2.90 | 0.091 | 0.114 |
| C1 | 0.28 | 0.48 | 0.011 | 0.019 |
| D | 3.70 | 3.90 | 0.146 | 0.154 |
| E | 0.68 | 0.88 | 0.027 | 0.035 |
| E1 | 1.20 | 1.60 | 0.047 | 0.063 |
| E2 | 1.17 | 1.37 | 0.046 | 0.054 |
| E3 | 2.44 | 2.64 | 0.096 | 0.104 |
| Z | 3° Nom | | 3° Nom | |
| Z1 | 3° Nom | | 3° Nom | |
| Z2 | 7° Nom | | 7° Nom | |
| Z3 | 7° Nom | | 7° Nom | |
| Z4 | 1.5° Nom | | 1.5° Nom | |

Package Outline Dimensions (ITO-220-AB)



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 9.90 | 10.30 | 0.390 | 0.406 |
| A1 | 4.60 | 4.80 | 0.181 | 0.189 |
| A2 | 2.44 | 2.64 | 0.096 | 0.104 |
| A3 | 2.25 | 2.65 | 0.089 | 0.104 |
| B | 15.50 | 16.10 | 0.610 | 0.634 |
| B1 | 13.25 | 13.85 | 0.522 | 0.545 |
| B2 | 9.00 | 9.40 | 0.354 | 0.370 |
| C | 0.50 | 0.70 | 0.020 | 0.028 |
| C1 | 3.10 | 3.50 | 0.122 | 0.138 |
| C2 | 3.00 | 3.60 | 0.118 | 0.142 |
| C3 | 3.00 | 3.40 | 0.118 | 0.134 |
| C4 | 3.00 | - | 0.118 | - |
| E | 1.15 | 1.55 | 0.045 | 0.061 |
| E1 | 1.17 | 1.37 | 0.046 | 0.054 |
| E2 | 0.70 | 0.90 | 0.028 | 0.035 |
| E3 | 2.44 | 2.64 | 0.096 | 0.104 |
| R1 | 0.3 Nom | | 0.012 Nom | |
| R2 | 0.3 Nom | | 0.012 Nom | |
| Z1 | 3° Nom | | 3° Nom | |
| Z2 | 3° Nom | | 3° Nom | |

Order Information

| Device | Package | Marking | Carrier | Quantity |
|------------|------------|------------|---------|---------------|
| MBR1060CT | TO-220-AB | MBR1060CT | Tube | 50 Pcs / Tube |
| MBRF1060CT | ITO-220-AB | MBRF1060CT | Tube | 50 Pcs / Tube |

For more information, please contact us at: inquiry@goodarksemi.com