

# MBRF1060CT(LS)

## SCHOTTKY BARRIER RECTIFIER

**REVERSE VOLTAGE - 60 Volts**  
**FORWARD CURRENT - 10 Amperes**

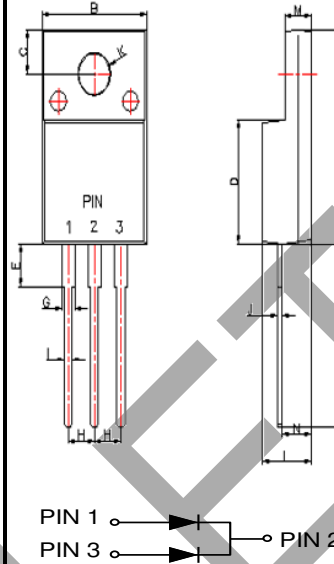
### FEATURES

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High current capability, low  $V_F$
- High surge capacity
- Plastic package has UL flammability classification 94V-0
- For use in low voltage, high frequency inverters, free wheeling, and polarity protection applications
- **Lead-Free Finish; RoHS Compliant (Notes 1 & 2)**
- **Halogen and Antimony Free. "Green" Device (Note 3)**

### MECHANICAL DATA

- Case: ITO-220AB molded plastic
- Polarity: AS marked on the body
- Weight: 0.06 ounces, 1.7 grams
- Mounting position: Any
- Max. mounting torque = 0.5N.m (5.1Kgf.cm)

### ITO-220AB



| ITO-220AB |       |       |
|-----------|-------|-------|
| DIM       | MIN   | MAX   |
| A         | 15.50 | 16.50 |
| B         | 10.00 | 10.40 |
| C         | 3.00  | 3.50  |
| D         | 9.00  | 9.50  |
| E         | 2.90  | 3.60  |
| F         | 13.46 | 14.22 |
| G         | 1.15  | 1.70  |
| H         | 2.40  | 2.70  |
| I         | 0.75  | 1.00  |
| J         | 0.45  | 0.70  |
| K         | 3.00  | 3.30  |
| L         | 4.36  | 4.77  |
| M         | 2.48  | 2.80  |
| N         | 2.50  | 2.80  |

All dimension in millimeter

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

| PARAMETER  | SYMBOL          | MBRF1060CT           | UNIT                      |
|--|-----------------|----------------------|---------------------------|
| Maximum Recurrent 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 Rectified Current at $T_C=120^\circ\text{C}$ (See Fig.1)               | $I_{(AV)}$      | 10                   | A                         |
| Peak Forward Surge Current<br>8.3ms single half sine-wave superimposed on rated load           | $I_{FSM}$       | 125                  | A                         |
| Peak Repetitive Reverse Current<br>$t_p=2\mu\text{s}$ , square F=1KHz @ $T_J=25^\circ\text{C}$ | $I_{RRM}$       | 1                    | A                         |
| Voltage Rate of Change (Rated VR)  | $dv/dt$         | 10000                | V/ $\mu\text{s}$          |
| Maximum Forward Voltage (Note 4)   | $V_F$           | 0.65<br>0.80<br>0.90 | V                         |
| Maximum DC Reverse Current at Rated DC Blocking Voltage  | $I_R$           | 0.02<br>15           | mA                        |
| Typical Junction Capacitance per element (Note 5)  | $C_J$           | 220                  | pF                        |
| Typical Thermal Resistance (Note 6)  | $R_{\theta JC}$ | 4.0                  | $^\circ\text{C}/\text{W}$ |
| Operating Temperature Range  | $T_J$           | -55 to +150          | $^\circ\text{C}$          |
| Storage Temperature Range  | $T_{STG}$       | -55 to +175          | $^\circ\text{C}$          |
| Dielectric Strength from terminals to case, AC with $t=1$ minute, RH<30%                       | $V_{dis}$       | 2000                 | V                         |

### Note:

1. EU Directive 2002/95/EC (RoHS), 2011/65/EU (RoHS 2) & 2015/863/EU (RoHS 3) compliant. All applicable RoHS exemptions applied.
2. See <https://www.diodes.com/quality/lead-free/> for more information about Diodes Incorporated's definitions of Halogen- and Antimony-free, "Green" and Lead-free.
3. Halogen- and Antimony-free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
4. 300 $\mu\text{s}$  pulse width, 2% duty cycle.
5. Measured at 1.0MHz and applied reverse voltage of 4.0V DC.
6. Thermal Resistance Junction to Case.

**RATING AND CHARACTERISTIC CURVES**  
**MBRF1060CT(LS)**

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FIG.1 - FORWARD CURRENT DERATING CURVE

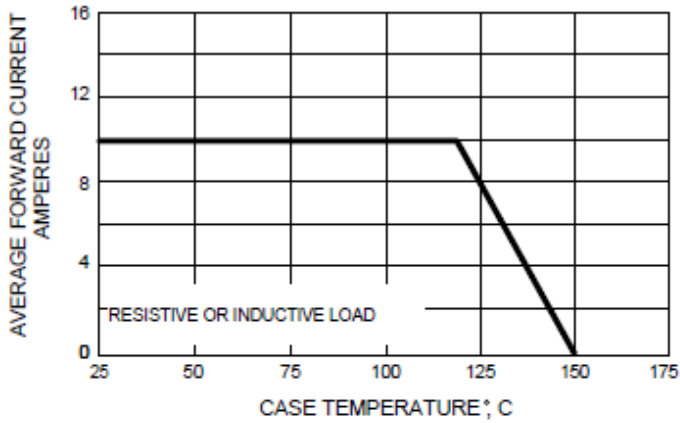


FIG.2 - MAXIMUM NON-REPETITIVE SURGE CURRENT

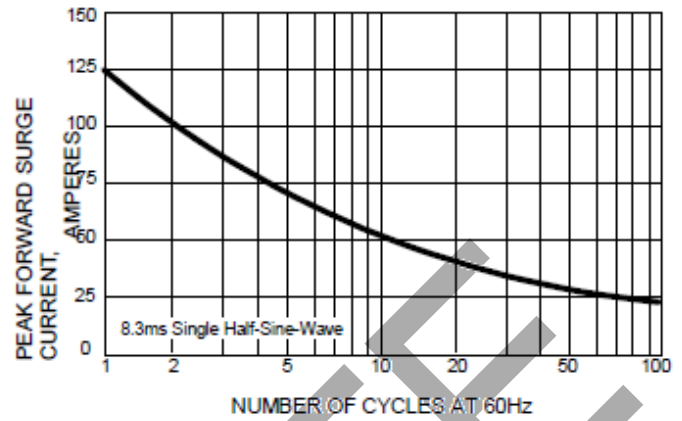


FIG.3 - TYPICAL REVERSE CHARACTERISTICS

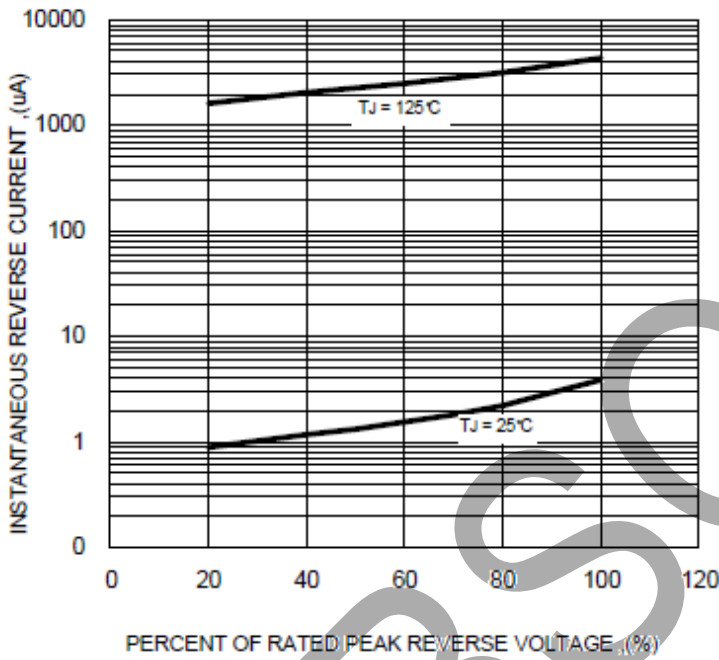


FIG.4 - TYPICAL FORWARD CHARACTERISTICS

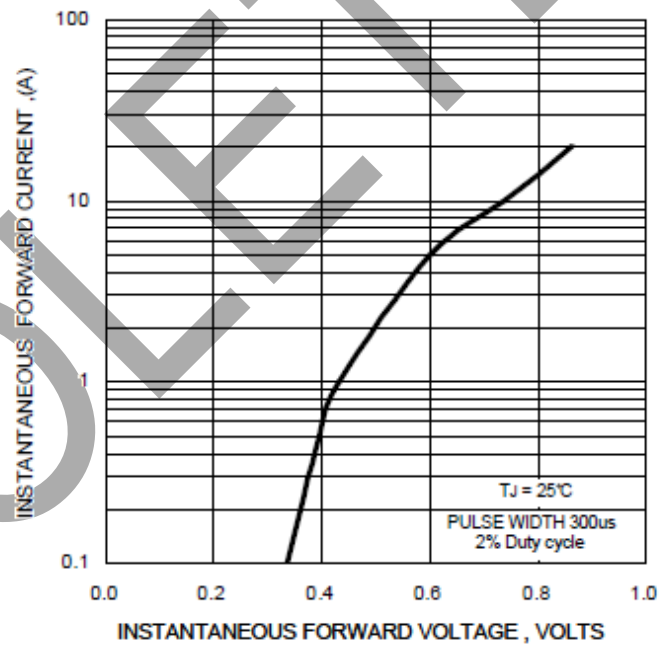
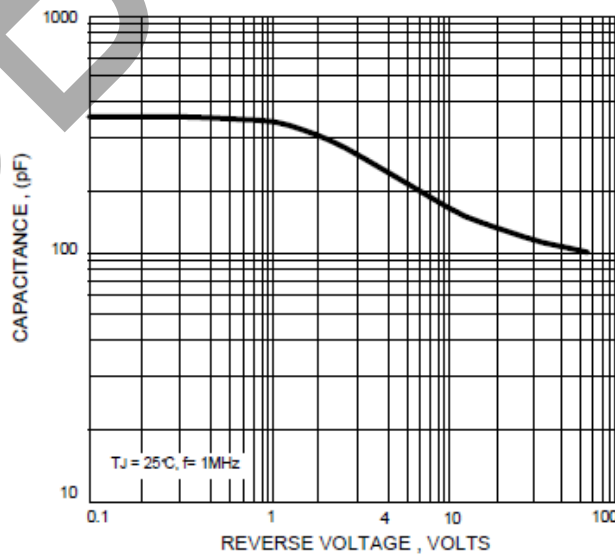


FIG.5 - TYPICAL JUNCTION CAPACITANCE

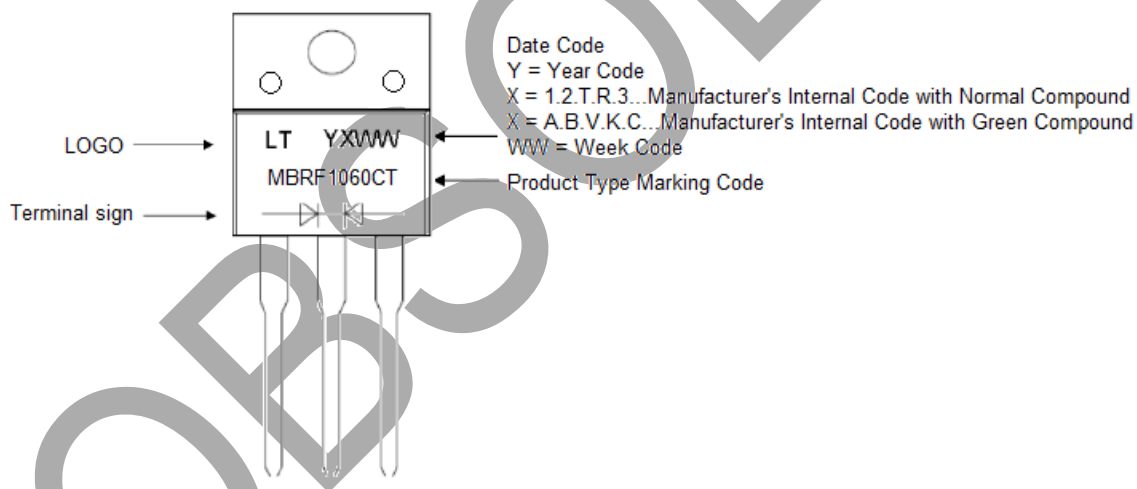


### Ordering Information :

| Part Number   |               | Package   | Packing |         |
|---------------|---------------|-----------|---------|---------|
| Lead Free     | Green         |           | Qty.    | Carrier |
| NA            | MBRF1060CT_HF | ITO-220AB | 50pcs   | Tube    |
| MBRF1060CT-LS | NA            | ITO-220AB | 50pcs   | Tube    |



### Marking Information :



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