

# MBRF4065CT

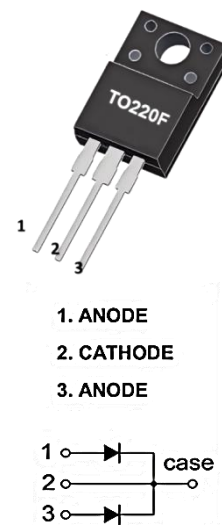
## SCHOTTKY BARRIER RECTIFIER

### DESCRIPTION

The MBRF4065CT meet the ROHS and Green Product requirement with full function reliability approved.

### FEATURE

- \* 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



### MARKING(The image is for reference only. Please take the actual product as the standard)

TO-220F



MBRF4065CT=Device Code

XXXXX=Date Code

Solid Dot=Green molding compound

### ABSOLUTE MAXIMUM RATINGS(TA=25°C, unless otherwise specified.)

| SYMBOL  | PARAMETER                                                        |         | VALUE    | UNIT |
|---------|------------------------------------------------------------------|---------|----------|------|
| VRRM    | Peak repetitive reverse voltage                                  |         | 65       | V    |
| VRWM    | Working peak reverse voltage                                     |         |          |      |
| VR      | DC blocking voltage                                              |         |          |      |
| VR(RMS) | RMS reverse voltage                                              |         | 45.5     | V    |
| IO      | Average rectified output current                                 |         | 40（20*2） | A    |
| IFSM    | Non-Repetitive peak forward surge current (8.3ms half sine wave) |         | 250*2    | A    |
| RθJc    | Thermal resistance from junction to case ,Tc=25℃                 | TO-220F | 3.0      | ℃/W  |
| RθJA    | Thermal resistance from junction to ambient                      | TO-220F | 62.5     | ℃/W  |
| Tj      | Junction temperature                                             |         | 150      | ℃    |
| Tstg    | Storage temperature                                              |         | -55~+150 | ℃    |

Notes:Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

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### ■ ELECTRICAL CHARACTERISTICS (TA=25°C, unless otherwise specified)

| PARAMETER       | SYMBOL | TEST CONDITIONS |           | MIN | TYP | MAX  | UNIT |
|-----------------|--------|-----------------|-----------|-----|-----|------|------|
| Reverse voltage | V(BR)  | I R=0.2mA       |           | 65  |     |      | V    |
| Reverse current | IR     | VR=65V          | Tj =25°C  |     |     | 200  | uA   |
|                 |        |                 | Tj =125°C |     | 5.0 |      | mA   |
| Forward voltage | VF     | I F=10A         | Tj =25°C  |     |     | 0.70 | V    |
|                 |        | I F=20A         | Tj =25°C  |     |     | 0.85 | V    |

\*Pulse test: pulse width ≤300μs, duty cycles≤ 2.0%.

### ■ TYPICAL CHARACTERISTICS

Fig.1 - Forward Current Derating Curve

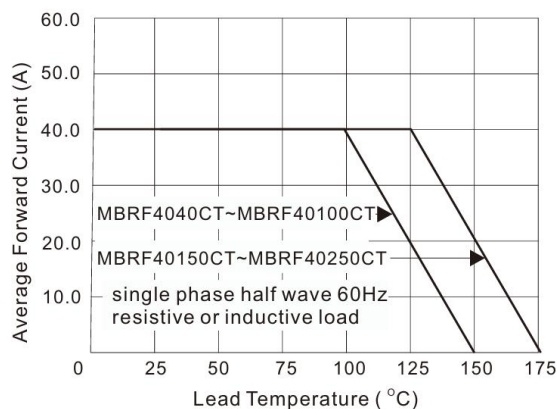


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

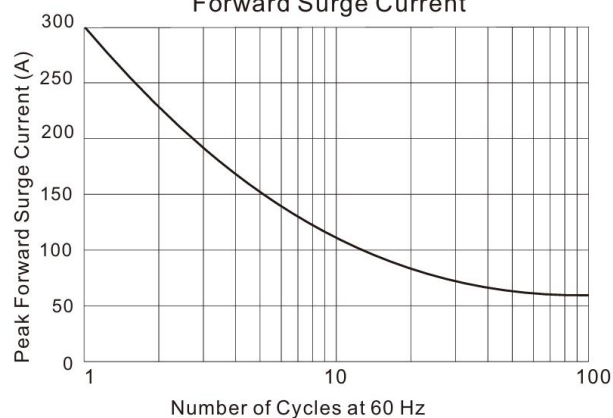


Fig. 3A - Typical Instantaneous Forward Characteristics

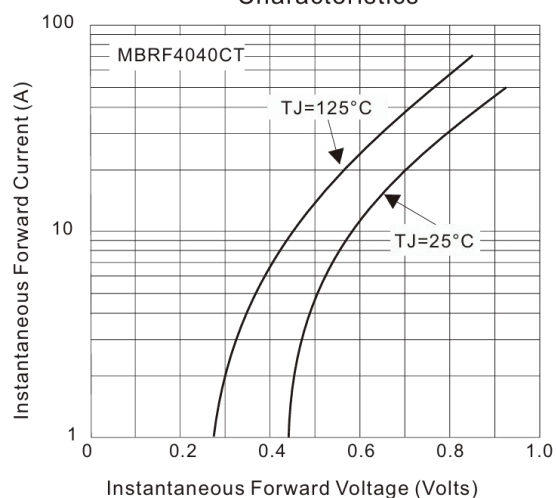
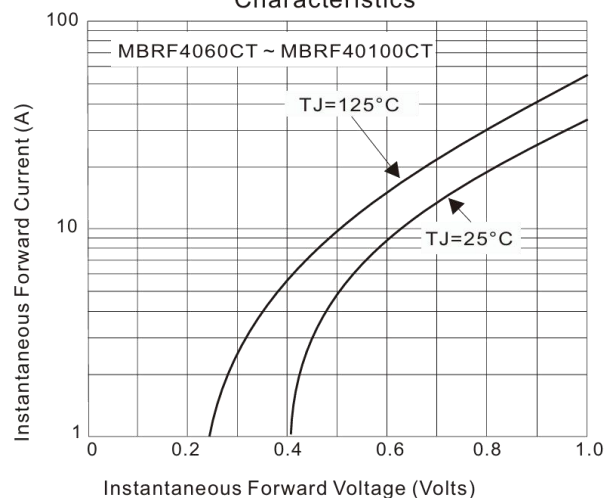


Fig. 3B - Typical Instantaneous Forward Characteristics



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### ■ TYPICAL CHARACTERISTICS(Con.t)

Fig. 3C - Typical Instantaneous Forward Characteristics

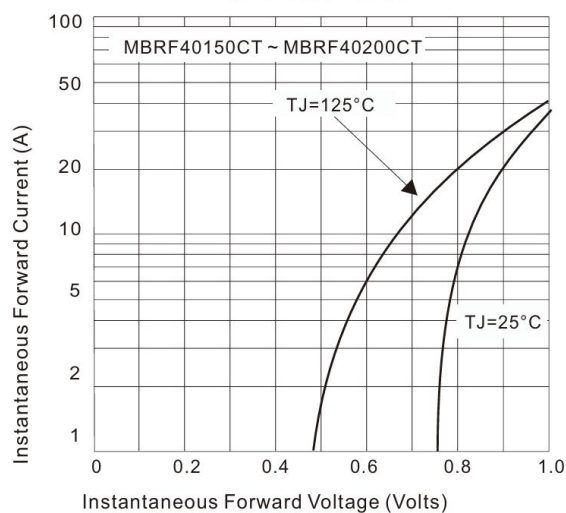
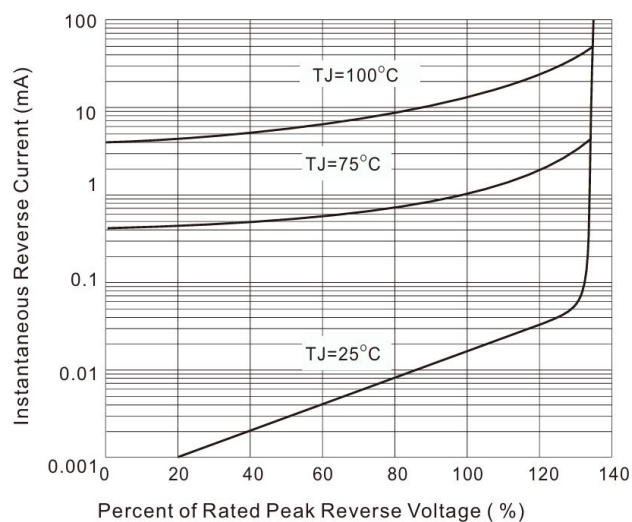


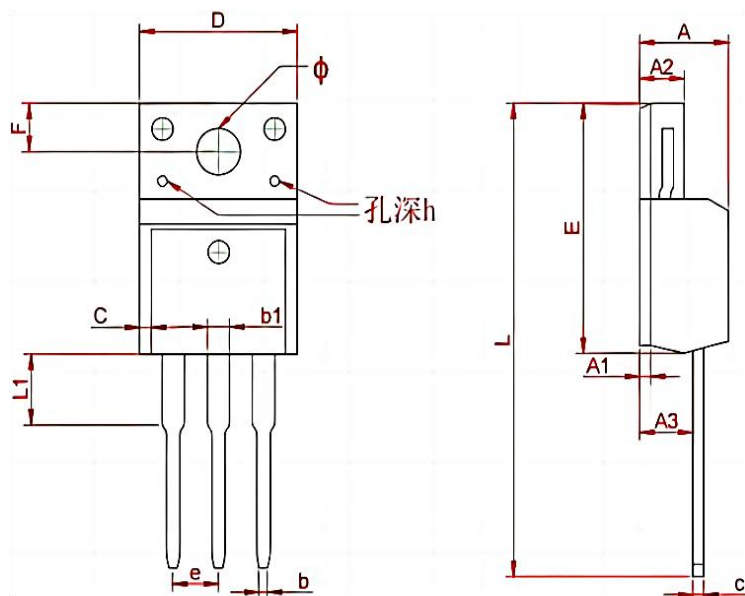
Fig. 4 - Typical Reverse Characteristics



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## SCHOTTKY BARRIER RECTIFIER

### TO - 220F Package Outline Dimensions



| Symbol | Dimensions In Millimeters |        |
|--------|---------------------------|--------|
|        | Min                       | Max    |
| A      | 4.300                     | 4.750  |
| A1     | 0.7 REF                   |        |
| A2     | 2.300                     | 2.850  |
| A3     | 2.500                     | 2.900  |
| b      | 0.380                     | 0.420  |
| b1     | 1.220                     | 1.280  |
| C      | 1.08                      | 1.200  |
| c      | 0.480                     | 0.520  |
| D      | 10.15                     | 10.450 |
| E      | 15.700                    | 15.950 |
| e      | 2.574 TYP                 |        |
| F      | 3.470 REF                 |        |
| y      | 3.200 REF                 |        |
| h      | 0.000                     | 0.800  |
| L      | 28.780                    | 28.900 |
| L1     | 2.990                     | 3.100  |

### TO - 220F Packing Information

| Package version | Tube dimensions<br>LxWxH<br>(mm) | Per Tube<br>(pcs) | Tube per box | Inner box dimensions<br>LxWxH<br>(mm) | PCS/<br>Inner box | Outer box dimensions<br>LxWxH(mm) | PCS/<br>Outer box |
|-----------------|----------------------------------|-------------------|--------------|---------------------------------------|-------------------|-----------------------------------|-------------------|
| TO-220F         | 530*32*7                         | 50                | 20           | 580*155*50                            | 1000              | 602*277*188                       | 5000              |