

# TMBR30100CT

## Dual Common-Cathode Ultra Low VF Schottky Rectifier

### Features

- Guard ring for overvoltage protection
- Lower power losses, high efficiency
- Low forward voltage drop
- Low leakage current
- High forward surge capability
- High frequency operation
- Solder Dip 260 °C, 40 s
- RoHS compliant package

### Applications

For use in high frequency rectifier of switching mode power supplies, free wheeling diodes, dc-to-dc converters or polarity protection application.

### Mechanical Data

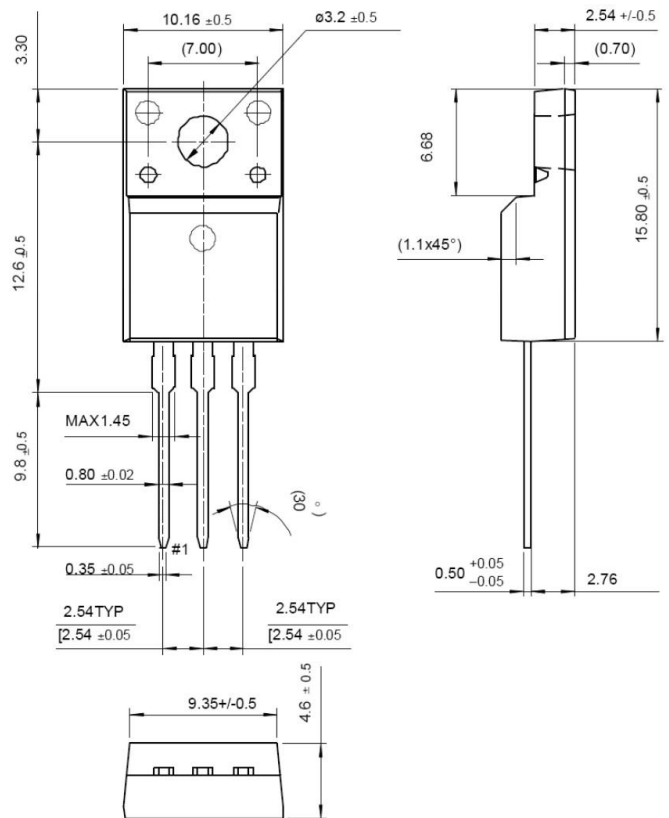
- Case: TO-220AB
- Molding compound meets UL 94 V-0 flammability
- Terminals: Matte tin plated leads,
- Polarity: As marked
- Weight: 2.24 grams
- Mounting Torque: 10 in-lbs maximum

### Packing & Order Information

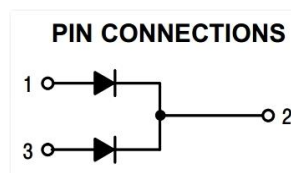
50/Tube ; 1,000/Box



**RoHS  
COMPLIANT**



### Graphic symbol



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### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

#### Maximum Ratings (Tc=25°C unless otherwise noted)

| Parameter  | Symbol | TMBR30100CT | Unit |
|--|--------|-------------|------|
| Maximum repetitive peak reverse voltage  | VRRM   | 100         | V    |
| Working peak reverse voltage   | VRWM   | 100         | V    |
| Maximum DC blocking voltage  | VDC    | 100         | V    |
| Maximum average forward rectified current Total device   | IF(AV) | 30          | A    |
| Average Rectified Forward Current  | Io(AV) | 15          | A    |
| Peak forward surge current<br>8.3ms single half sine-wave superimposed<br>on rated load (JEDEC Method) | IFSM   | 200         | A    |
| Operating junction temperature range   | TJ     | -55 to +150 | °C   |
| Storage temperature range  | TSTG   | -55 to +175 | °C   |

#### Electrical characteristics (Tc=25°C unless otherwise noted)

| Parameter   | Symbol | Value        |              | Unit |
|---|--------|--------------|--------------|------|
|   |        | Typical      | Max          |      |
| Instantaneous forward voltage at IF=15A, Tj=25°C<br>at IF=15A, Tj=125°C | VF     | 0.70<br>0.64 | 0.76<br>0.68 | V    |
| Maximum reverse current per leg<br>at working peak reverse voltage      | IR     | 200          |              | u'A  |
| Tj=25°C   |        | 30           |              | m'A  |
| Tj=125°C  |        |              |              |      |

Notes :

- (1) Pulse test: 300 µs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

#### Thermal characteristics (Tc=25°C unless otherwise noted)

| Parameter                  | Symbol | Value | Unit |
|----------------------------|--------|-------|------|
| Typical thermal resistance | Rthjc  | 4     | °C/W |
|                            | RθJA   | 60    |      |

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■ TYPICAL CHARACTERISTICS @  $T_a=25^\circ\text{C}$  unless otherwise specified

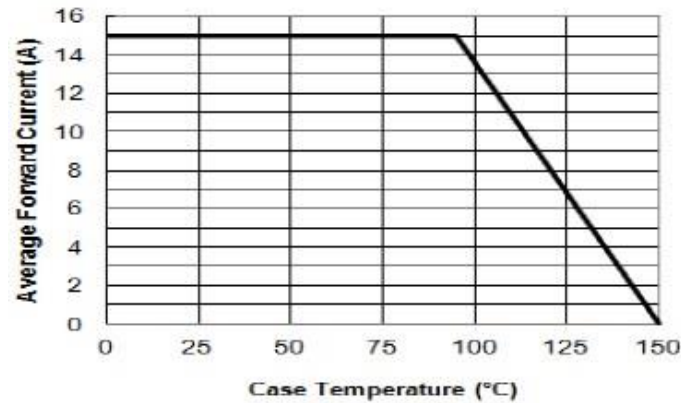


Figure 1. Forward Current Derating Curve

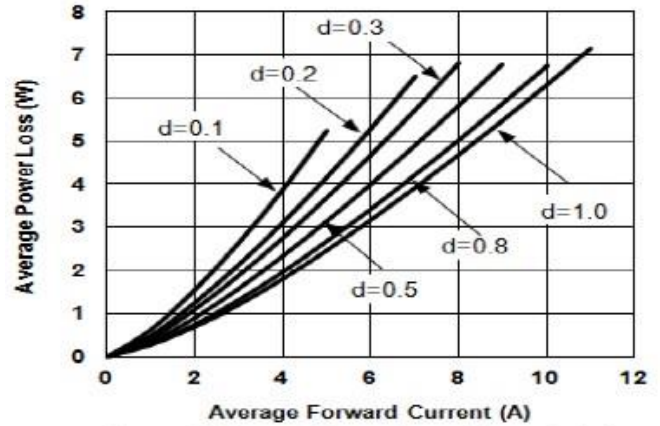


Figure 2. Forward Power Loss Characteristics

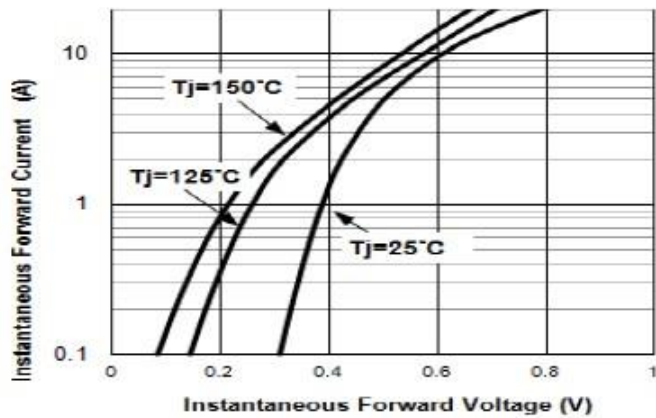


Figure 3. Typical Instantaneous Forward Characteristics Per Leg

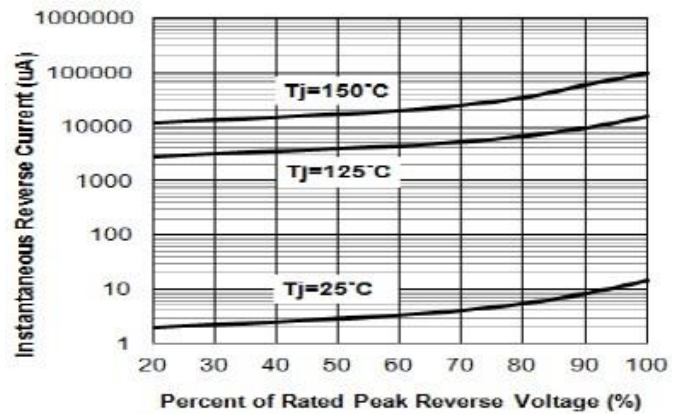


Figure 4. Typical Reverse Characteristics

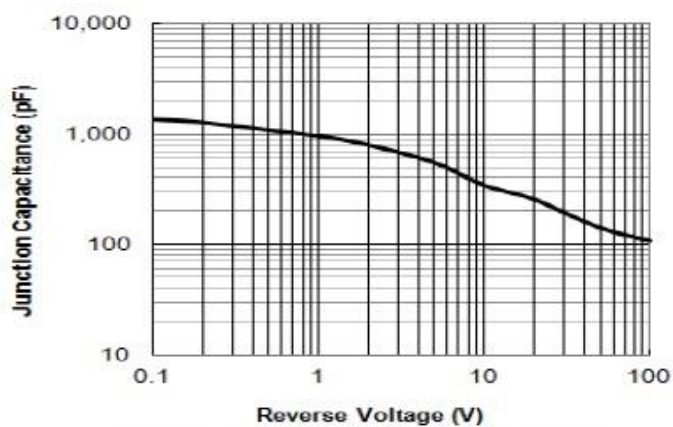


Figure 5. Typical Junction Capacitance

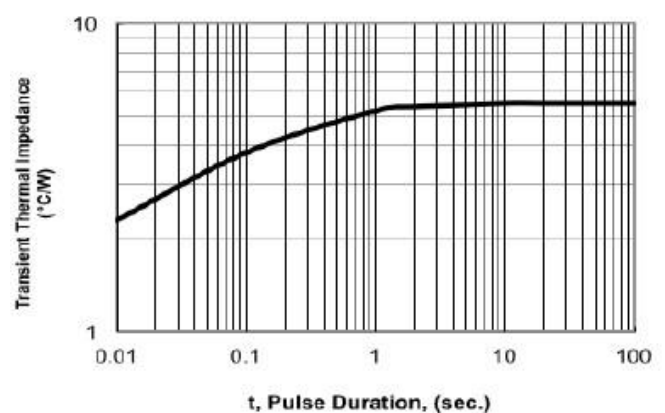


Figure 6. Typical Transient Thermal Impedance

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