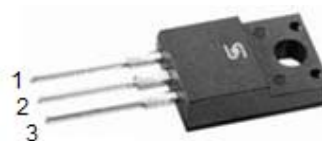


## Dual Common Cathode Schottky Rectifier

### FEATURES

- Low power loss, high efficiency
- Guardring for overvoltage protection
- High surge current capability
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition



### MECHANICAL DATA

**Case:** ITO-220AB

Molding compound, UL flammability classification rating 94V-0

Base P/N with suffix "G" on packing code - green compound (halogen-free)

**Terminal:** Matte tin plated leads, solderable per JESD22-B102

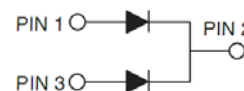
Meet JESD 201 class 1A whisker test

**Polarity:** As marked

**Mounting torque:** 5 in-lbs maximum

**Weight:** 1.7 g (approximately)

### ITO-220AB



| MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T <sub>A</sub> =25°C unless otherwise noted)                                                                                                                                               |                    |                              |                              |                              |                              |                       |      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------|------------------------------|------------------------------|------------------------------|-----------------------|------|
| PARAMETER                                                                                                                                                                                                                                  | SYMBOL             | MBRF<br>1045<br>CT-Y         | MBRF<br>1060<br>CT-Y         | MBRF<br>10100<br>CT-Y        | MBRF<br>10150<br>CT-Y        | MBRF<br>10200<br>CT-Y | UNIT |
| Marking code                                                                                                                                                                                                                               |                    | MBRF10<br>45CT               | MBRF10<br>60CT               | MBRF10<br>100CT              | MBRF10<br>150CT              | MBRF10<br>200CT       |      |
| Maximum repetitive peak reverse voltage                                                                                                                                                                                                    | V <sub>RRM</sub>   | 45                           | 60                           | 100                          | 150                          | 200                   | V    |
| Maximum RMS voltage                                                                                                                                                                                                                        | V <sub>RMS</sub>   | 31                           | 42                           | 70                           | 105                          | 140                   | V    |
| Maximum DC blocking voltage                                                                                                                                                                                                                | V <sub>DC</sub>    | 45                           | 60                           | 100                          | 150                          | 200                   | V    |
| Maximum average forward rectified current                                                                                                                                                                                                  | I <sub>F(AV)</sub> | 10                           |                              |                              |                              |                       | A    |
| Peak repetitive forward current<br>(Rated VR, Square wave, 20KHz)                                                                                                                                                                          | I <sub>FRM</sub>   | 10                           |                              |                              |                              |                       | A    |
| Peak forward surge current, 8.3 ms single half sine-wave<br>superimposed on rated load                                                                                                                                                     | I <sub>FSM</sub>   | 120                          |                              |                              |                              |                       | A    |
| Peak repetitive reverse surge current (Note 1)                                                                                                                                                                                             | I <sub>RRM</sub>   | 0.5                          |                              |                              |                              |                       | A    |
| Maximum instantaneous forward voltage (Note 2)<br>I <sub>F</sub> = 5 A, T <sub>J</sub> =25°C<br>I <sub>F</sub> = 5 A, T <sub>J</sub> =125°C<br>I <sub>F</sub> = 10 A, T <sub>J</sub> =25°C<br>I <sub>F</sub> = 10 A, T <sub>J</sub> =125°C | V <sub>F</sub>     | 0.70<br>0.57<br>0.80<br>0.67 | 0.80<br>0.65<br>0.90<br>0.75 | 0.85<br>0.75<br>0.95<br>0.85 | 0.88<br>0.78<br>0.98<br>0.88 |                       | V    |
| Maximum reverse current @ rated VR<br>T <sub>J</sub> =25 °C<br>T <sub>J</sub> =125 °C                                                                                                                                                      | I <sub>R</sub>     | 0.1<br>15      10      5     |                              |                              |                              |                       | mA   |
| Voltage rate of change (Rated V <sub>R</sub> )                                                                                                                                                                                             | dV/dt              | 10000                        |                              |                              |                              |                       | V/μs |
| Typical thermal resistance                                                                                                                                                                                                                 | R <sub>θJC</sub>   | 3.5                          |                              |                              |                              |                       | °C/W |
| Operating junction temperature range                                                                                                                                                                                                       | T <sub>J</sub>     | - 55 to +150                 |                              |                              |                              |                       | °C   |
| Storage temperature range                                                                                                                                                                                                                  | T <sub>STG</sub>   | - 55 to +150                 |                              |                              |                              |                       | °C   |

Note 1: tp = 2.0 μs, 1.0KHz

Note 2: Pulse test with PW=300μs, 1% duty cycle

| ORDERING INFORMATION     |              |                     |          |           |
|--------------------------|--------------|---------------------|----------|-----------|
| PART NO.                 | PACKING CODE | GREEN COMPOUND CODE | PACKAGE  | PACKING   |
| MBRF10xxCT-Y<br>(Note 1) | C0           | Suffix "G"          | TO-220AB | 50 / Tube |

Note 1: "xx" defines voltage from 45V (MBRF1045CT-Y) to 200V (MBRF10200CT-Y)

| EXAMPLE          |              |              |                     |                |
|------------------|--------------|--------------|---------------------|----------------|
| PREFERRED P/N    | PART NO.     | PACKING CODE | GREEN COMPOUND CODE | DESCRIPTION    |
| MBRF1060CT-Y C0  | MBRF1060CT-Y | C0           |                     |                |
| MBRF1060CT-Y C0G | MBRF1060CT-Y | C0           | G                   | Green compound |

## RATINGS AND CHARACTERISTICS CURVES

(TA=25°C unless otherwise noted)

FIG.1 FORWARD CURRENT DERATING CURVE

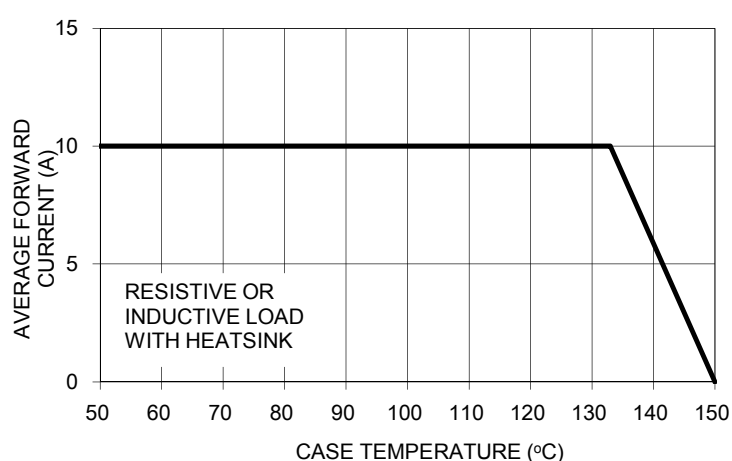


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

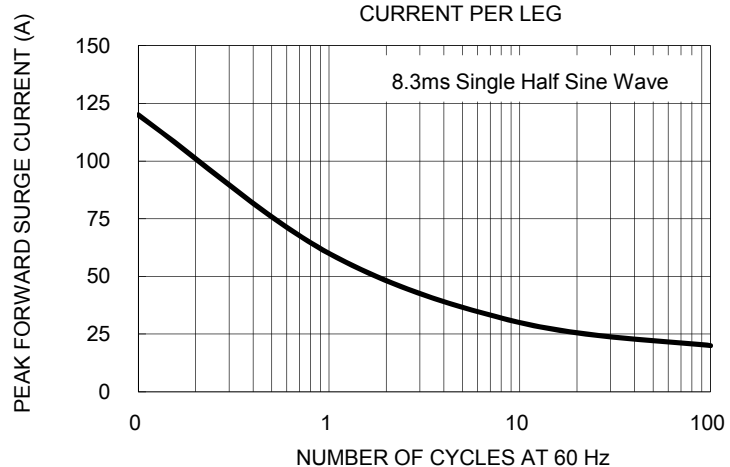


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

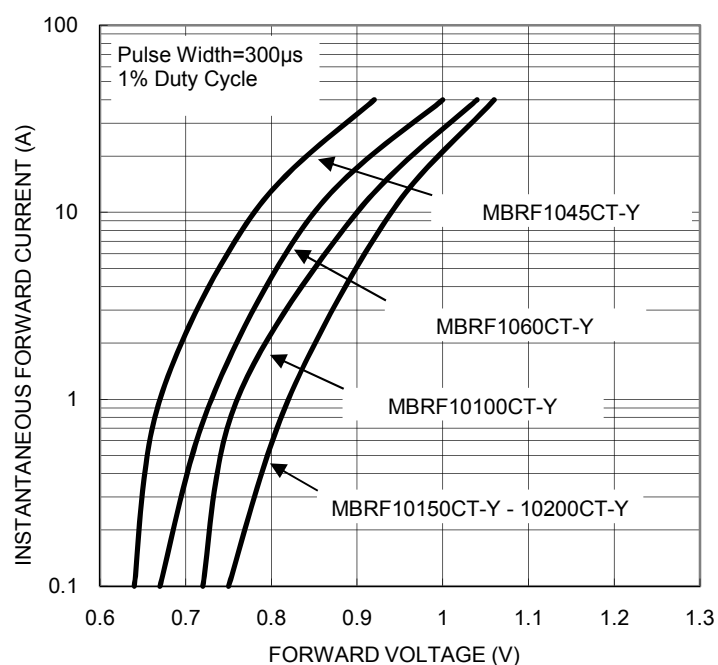
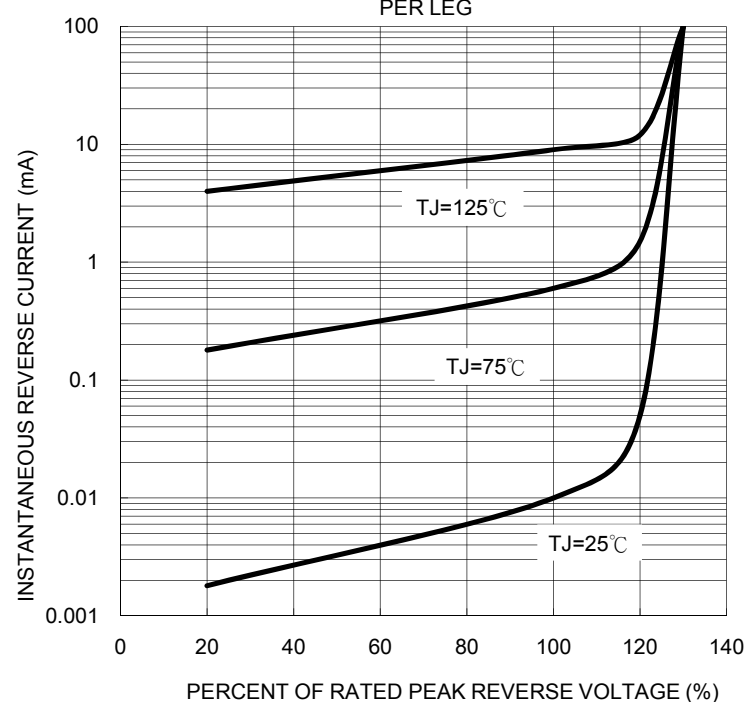
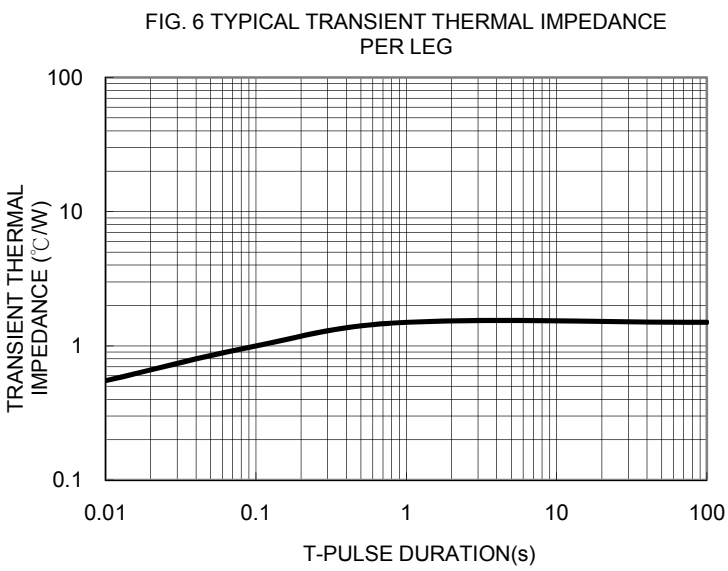
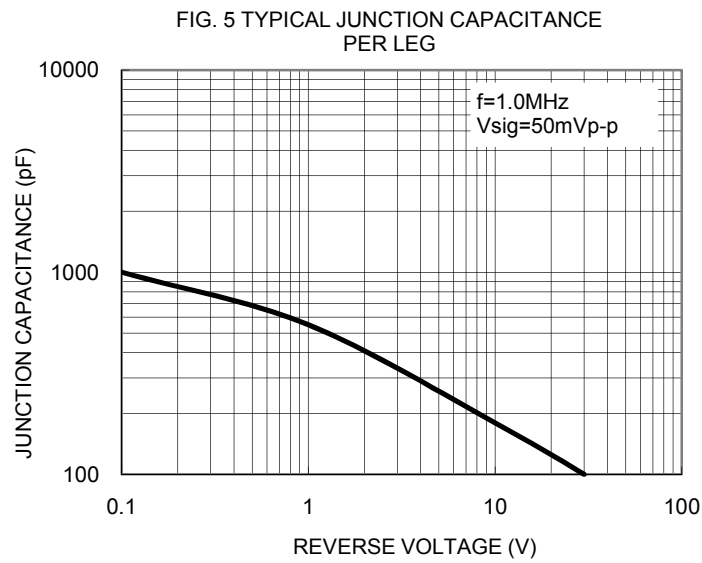
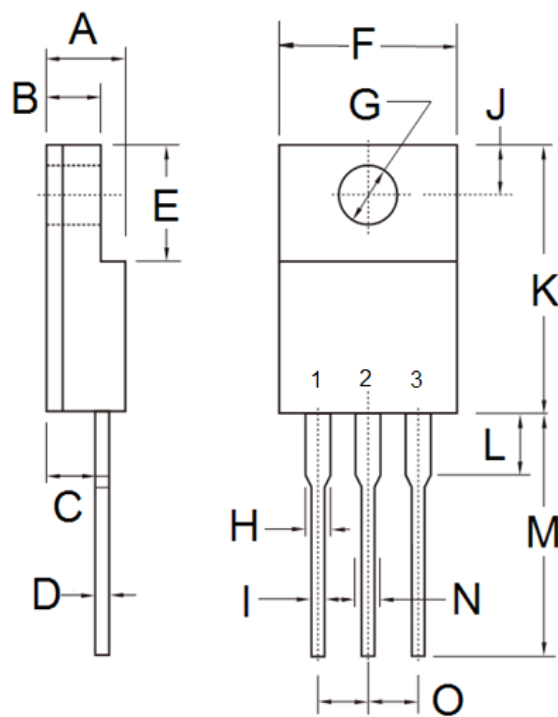


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



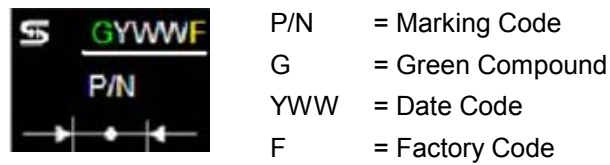


PACKAGE OUTLINE DIMENSIONS



| DIM. | Unit (mm) |       | Unit (inch) |       |
|------|-----------|-------|-------------|-------|
|      | Min       | Max   | Min         | Max   |
| A    | 4.30      | 4.70  | 0.169       | 0.185 |
| B    | 2.50      | 3.16  | 0.098       | 0.124 |
| C    | 2.30      | 2.96  | 0.091       | 0.117 |
| D    | 0.46      | 0.76  | 0.018       | 0.030 |
| E    | 6.30      | 6.90  | 0.248       | 0.272 |
| F    | 9.60      | 10.30 | 0.378       | 0.406 |
| G    | 3.00      | 3.40  | 0.118       | 0.134 |
| H    | 0.95      | 1.45  | 0.037       | 0.057 |
| I    | 0.50      | 0.90  | 0.020       | 0.035 |
| J    | 2.40      | 3.20  | 0.094       | 0.126 |
| K    | 14.80     | 15.50 | 0.583       | 0.610 |
| L    | -         | 4.10  | -           | 0.161 |
| M    | 12.60     | 13.80 | 0.496       | 0.543 |
| N    | -         | 1.80  | -           | 0.071 |
| O    | 2.41      | 2.67  | 0.095       | 0.105 |

MARKING DIAGRAM



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