

MBR10100CT/FCT/CS

10 AMPERES SCHOTTKY BARRIER RECTIFIERS

VOLTAGE 100 Volt **CURRENT** 10 Ampere

FEATURES

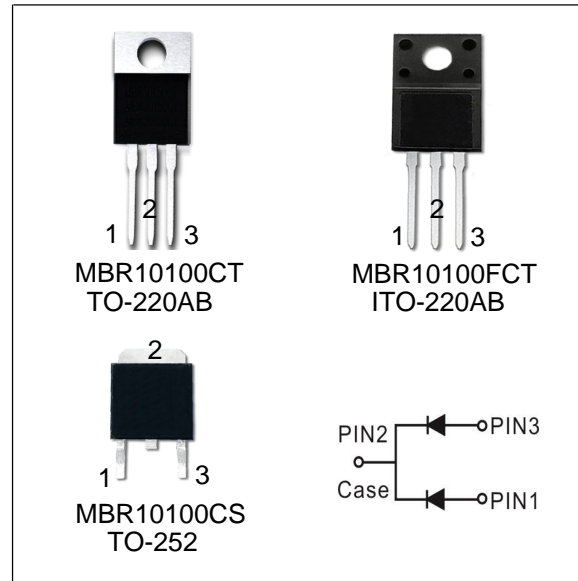
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Low power loss, high efficiency.
- High current capability
- For use in low voltage, high frequency inverters free wheeling, and polarity protection applications.
- Lead free in compliance with EU RoHS 2011/65/EU directive

MECHANICAL DATA

Device Weight : 0.07 ounces (1.96grams) - TO -220AB
 0.06 ounces (1.74grams) - ITO -220AB
 0.01 ounces (0.3grams) - TO -252

- Terminals: solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.

Mounting Torque : Recommended 4~5 kg-cm.



MARK: AIXXX

MAXIMUM RATINGS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | VALUE | UNIT |
|---|-----------------|--------------|----------------------|
| Maximum repetitive peak reverse voltage | V_{RRM} | 100 | V |
| Maximum average forward rectified current | $I_{F(AV)}$ | 5 10 | A |
| Peak forward surge current 8.3ms single half sine-wave superimposed on rated load | I_{FSM} | 200 | A |
| Typical junction capacitance ($V_R=4\text{V}$, $f=1\text{MHz}$) | C_J | 140 | pF |
| Typical thermal resistance per diode (Note 1) | $R_{\theta JC}$ | 2.0 | $^{\circ}\text{C/W}$ |
| Operating junction temperature range | T_J | -40 to + 150 | $^{\circ}\text{C}$ |
| Storage temperature range | T_{STG} | -40 to + 150 | $^{\circ}\text{C}$ |

Note : 1. Mounted on infinite heatsink.

ELECTRICAL CHARACTERISTICS($T_A=25^{\circ}\text{C}$ unless otherwise noted)

| PARAMETER | SYMBOL | TEST CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|---|----------|---|------|------|------|---------------|
| Breakdown voltage per diode | V_{BR} | $I_R=0.1\text{mA}$ | 100 | - | - | V |
| Instantaneous forward voltage per diode | V_F | $I_F=5\text{A}$ $T_J=25^{\circ}\text{C}$ | - | 0.72 | 0.77 | V |
| | | $I_F=5\text{A}$ $T_J=125^{\circ}\text{C}$ | - | 0.68 | 0.72 | V |
| Reverse current per diode | I_R | $V_R=100\text{V}$ $T_J=25^{\circ}\text{C}$ | - | - | 5 | μA |
| | | $V_R=100\text{V}$ $T_J=125^{\circ}\text{C}$ | - | - | 5 | mA |

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RATING AND CHARACTERISTIC CURVES

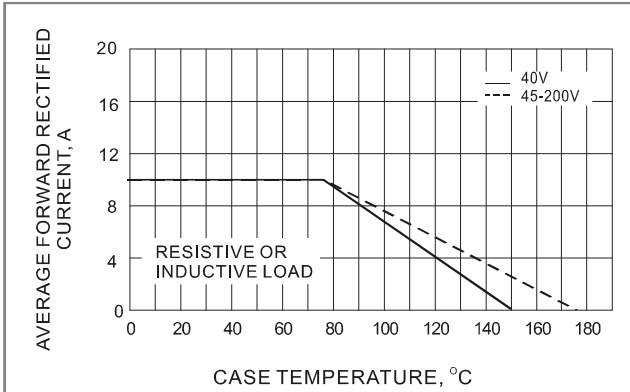


Fig.1- FORWARD CURRENT DERATING CURVE

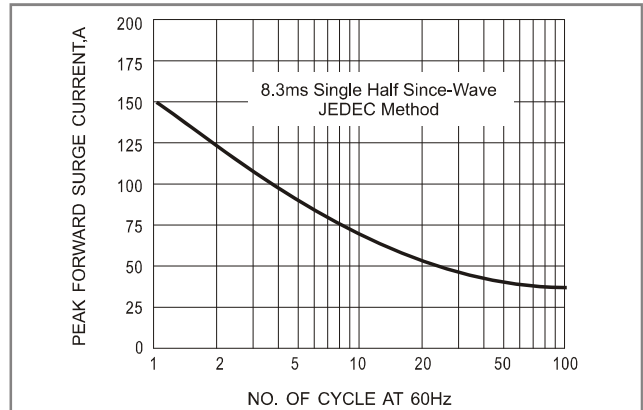


Fig.2- TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

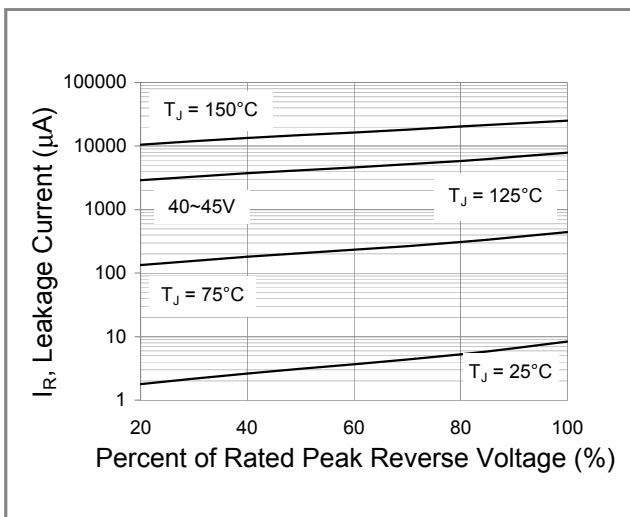


Fig.3- TYPICAL REVERSE CHARACTERISTICS

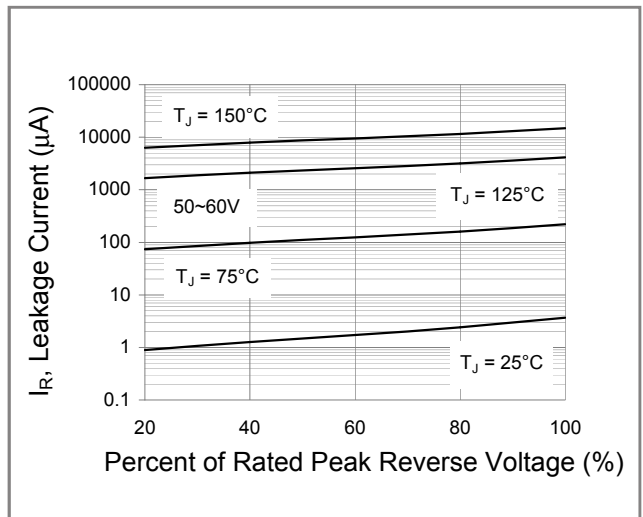


Fig.4- TYPICAL REVERSE CHARACTERISTICS

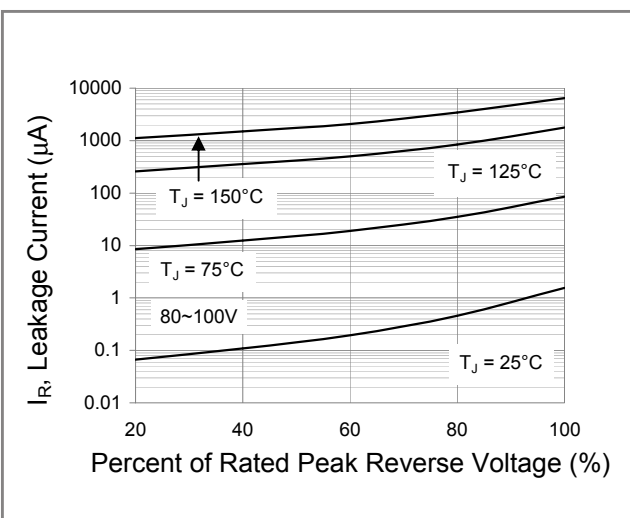


Fig.5- TYPICAL REVERSE CHARACTERISTICS

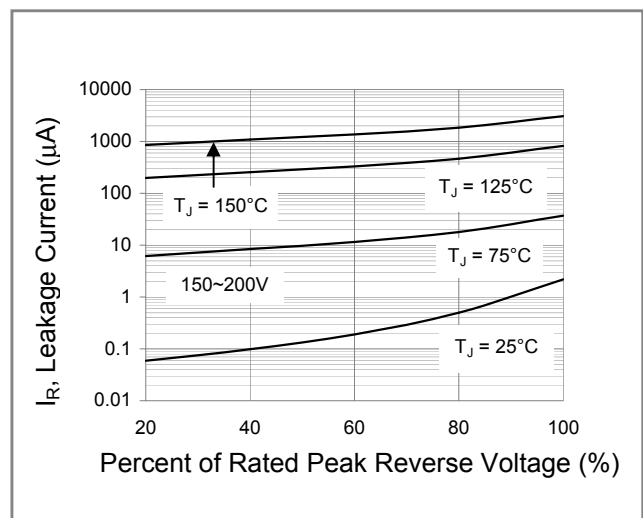
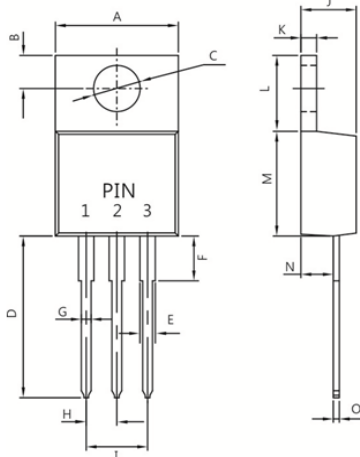


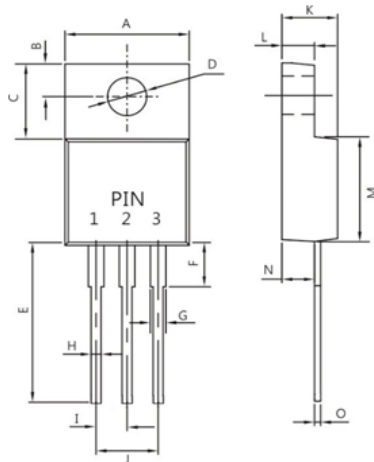
Fig.6- TYPICAL REVERSE CHARACTERISTICS

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TO-220AB


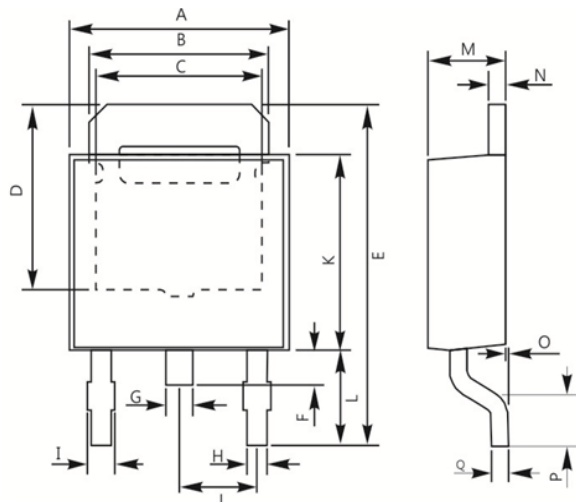
| Dim. | Min. | Max. |
|------|-------|-------|
| A | ----- | 10.50 |
| B | 2.50 | 3.50 |
| C | 3.50 | 4.10 |
| D | 13.10 | 13.90 |
| E | 1.15 | 1.49 |
| F | ----- | 6.35 |
| G | 0.65 | 0.95 |
| H | 2.29 | 2.79 |
| I | 4.80 | 5.30 |
| J | 4.40 | 4.80 |
| K | 1.14 | 1.40 |
| L | 5.84 | 6.86 |
| M | 8.50 | 9.60 |
| N | 2.03 | 2.92 |
| O | 0.30 | 0.64 |

All Dimensions in millimeter

ITO-220AB


| Dim. | Min. | Max. |
|------|-------|-------|
| A | ----- | 10.50 |
| B | 2.60 | 3.00 |
| C | 6.70 | 7.10 |
| D | 2.90 | 3.50 |
| E | 13.10 | 13.90 |
| F | ----- | 4.00 |
| G | 1.11 | 1.45 |
| H | 0.40 | 0.80 |
| I | 2.40 | 2.80 |
| J | 5.00 | 5.40 |
| K | 4.30 | 4.70 |
| L | 2.90 | 3.30 |
| M | 8.20 | 9.00 |
| N | 2.50 | 2.90 |
| O | 0.40 | 0.80 |

All Dimensions in millimeter

TO-252


| Dim. | Min. | Max. |
|------|-------|-------|
| A | 6.40 | 6.80 |
| B | 5.20 | 5.50 |
| C | 3.80 | ----- |
| D | 4.75 | ----- |
| E | 9.40 | 10.20 |
| F | 0.80 | 1.20 |
| G | 0.70 | 0.90 |
| H | 0.50 | 0.70 |
| I | 0.60 | 0.90 |
| J | 2.30 | Ref. |
| K | 5.40 | 5.80 |
| L | 2.40 | 3.00 |
| M | 2.20 | 2.40 |
| N | 0.45 | 0.55 |
| O | ----- | 0.15 |
| P | 1.40 | 1.77 |
| Q | 0.508 | Typ. |

All Dimensions in millimeter