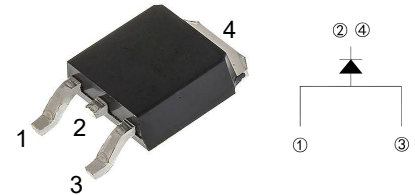


## Schottky Barrier Rectifier Diodes in TO-252

### Features

- 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



### Mechanical Data

- **Case:** TO-252 (plastic package).  
Lead free; RoHS compliant
- **Molding Compound Flammability Rating:**  
UL 94 V-0
- **Terminals:** High temperature soldering guaranteed:  
260 °C/10 sec. at terminals

### Applications

- Power switching application
- Hard switched and high frequency circuits
- Uninterruptible power supply

### Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

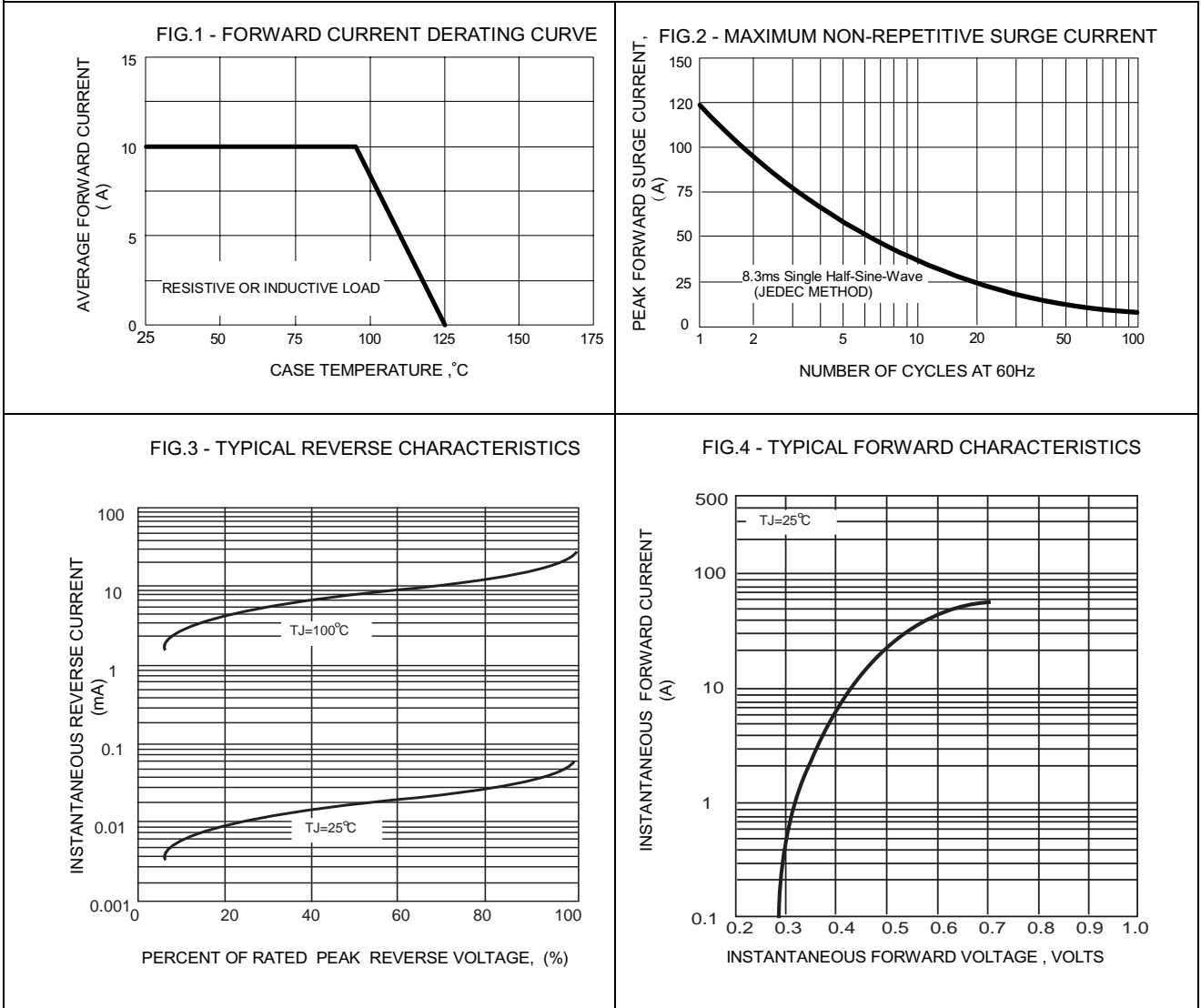
| Symbol          | Parameter  | Value    | Unit |
|-----------------|--|----------|------|
| $V_{RRM}$       | Peak repetitive reverse voltage  | 45       | V    |
| $V_{RWM}$       | Working peak reverse voltage   |          |      |
| $V_R$           | DC blocking voltage  |          |      |
| $V_{R(RMS)}$    | RMS reverse voltage  | 31.5     | V    |
| $I_O$           | Average rectified output current@ $T_c=110^\circ\text{C}$ per device per diode | 10<br>5  | A    |
| $I_{FSM}$       | Non-Repetitive peak forward surge current<br>8.3ms half sine wave              | 120      | A    |
| $R_{\theta JC}$ | Typical thermal resistance   | 15       | °C/W |
| $T_j$           | Junction temperature   | -55~+150 | °C   |
| $T_{stg}$       | Storage temperature  | -55~+150 | °C   |

### Electrical Characteristics

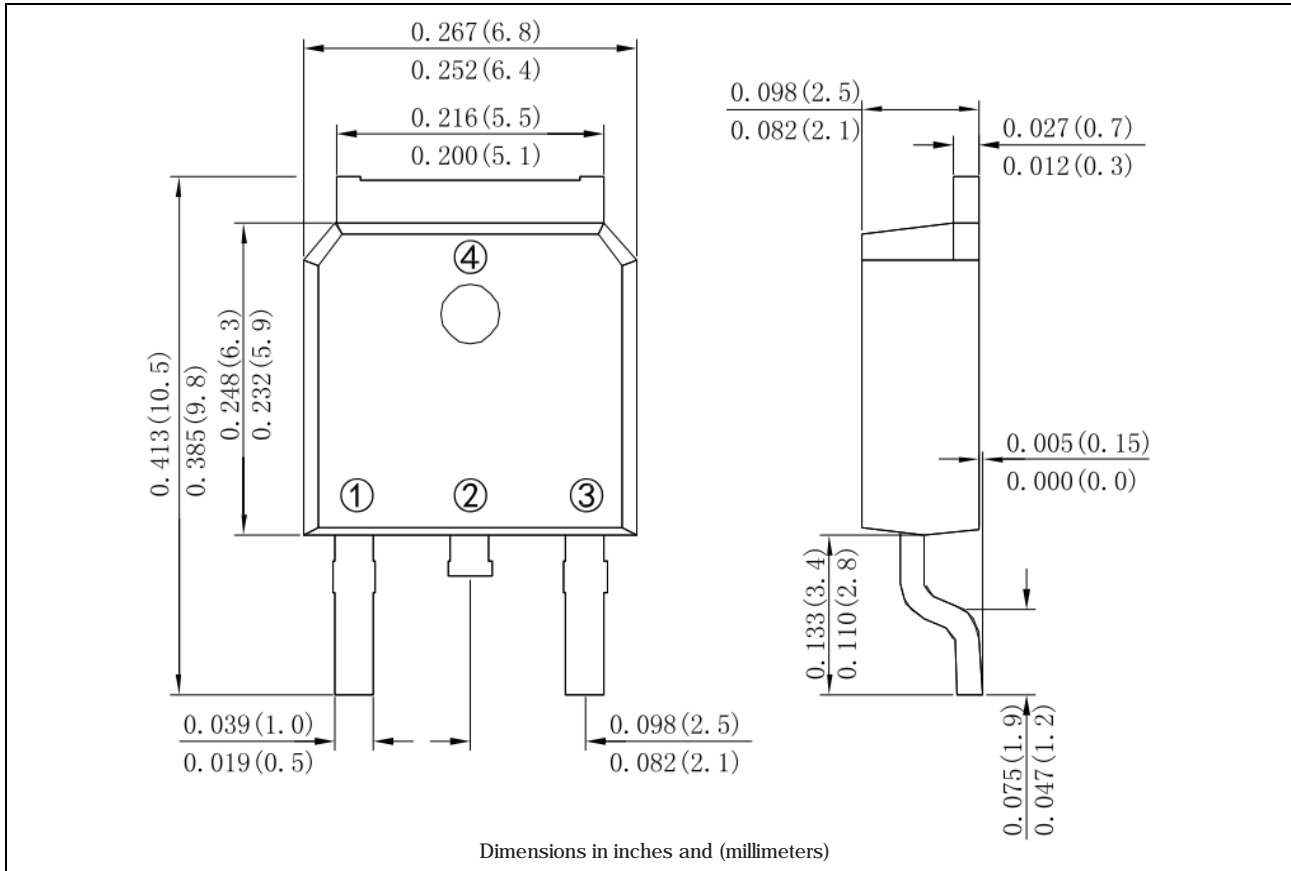
( $T_A = 25^\circ\text{C}$  unless otherwise specified)

| Parameter                   | Symbol     | Test conditions                         | Min | Typ | Max  | Unit |
|-----------------------------|------------|---|-----|-----|------|------|
| Reverse voltage             | $V_{(BR)}$ | $I_R=1\text{mA}$                        | 45  |     |      | V    |
| Reverse current             | $I_R$      | $V_R=45\text{V}, T_A=25^\circ\text{C}$  |     |     | 0.5  | mA   |
| Reverse current             | $I_R$      | $V_R=45\text{V}, T_A=125^\circ\text{C}$ |     |     | 50   | mA   |
| Forward voltage (per diode) | $V_F$      | $I_F=5\text{A}, T_C=25^\circ\text{C}$   |     |     | 0.55 | V    |

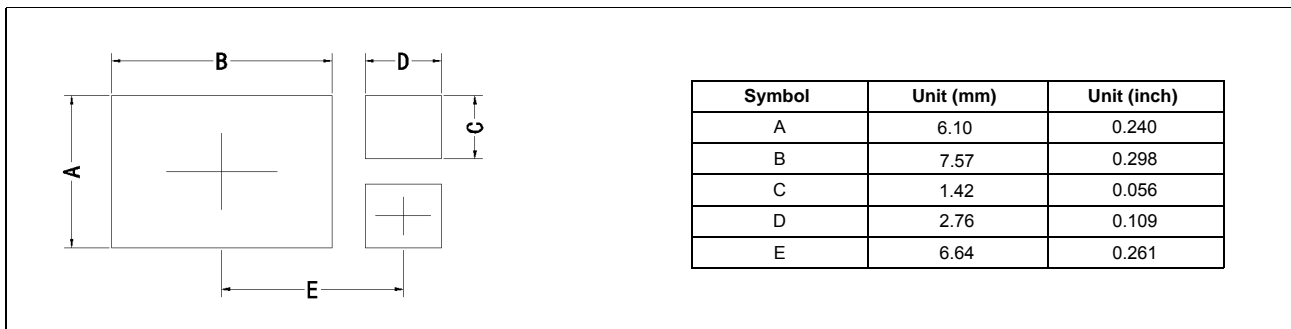
**Typical Characteristics** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified)



### Package Dimensions



### Pad Dimensions



### Ordering information

| Order code | Package | Packaging option | Base quantity | Packaging specification |
|------------|---------|------------------|---------------|-------------------------|
| MBRS1045D  | TO-252  | Tape/Reel        | 3000PCS/Reel  | EIA STD RS-481          |

### Revision history

| Date        | Revision | Changes         |
|-------------|----------|-----------------|
| 23-May-2020 | 1.0      | Initial release |

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