



# MBR30100L

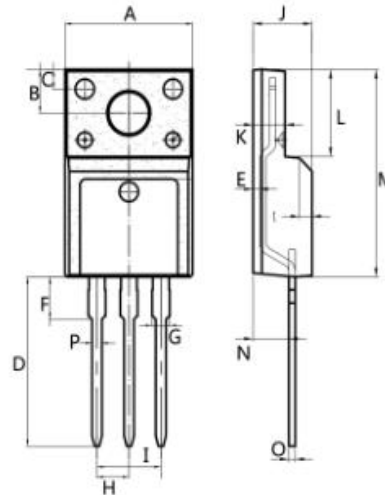
## Low VF Schottky Barrier Rectifiers

### FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-O. Flame Retardant Epoxy Molding Compound.
- Metal silicon junction, majority carrier conduction
- 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 comply with EU RoHS

### MECHANICAL DATA

- Case: ITO-220AB molded plastic
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: As marked.
- Mounting Position: Any



### ITO-220AB

| Dim.                         | Min.     | Max.  |
|------------------------------|----------|-------|
| A                            | 9.95     | 10.25 |
| B                            | 2.95     | 3.25  |
| C                            | 1.25     | 1.45  |
| D                            | 12.95    | 13.25 |
| E                            | 0.50     | 0.65  |
| F                            | 3.1      | 3.3   |
| G                            | 1.30     | 1.45  |
| H                            | Typ 2.54 |       |
| I                            | Typ 5.08 |       |
| J                            | 4.60     | 4.75  |
| K                            | 2.50     | 2.65  |
| L                            | 6.35     | 6.55  |
| M                            | 15.4     | 16.0  |
| N                            | 2.75     | 3.05  |
| O                            | 0.48     | 0.52  |
| P                            | 0.76     | 0.84  |
| All Dimensions in millimeter |          |       |

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate current by 20%

| Characteristics  | Symbol          | Value       | Unit |
|--|-----------------|-------------|------|
| Maximum Repetitive Peak Reverse Voltage                  | $V_{RRM}$       | 100         | V    |
| Working Peak Reverse Voltage                             | $V_{RWM}$       | 100         | V    |
| Maximum DC Blocking Voltage                              | $V_{DC}$        | 100         | V    |
| Maximum Average Forward Rectified Current                | Per Leg         | 15          | A    |
|  | Total           | 30          |      |
| Peak Forward Surge Current, 8.3 ms Single Half Sine-wave | $I_{FSM}$       | 220         | A    |
| Operating Temperature Range                              | $T_J$           | -50 to +150 | °C   |
| Storage Temperature Range                                | $T_{STG}$       | -50 to +150 | °C   |
| Typical Thermal Resistance (Note1)                       | $R_{\theta JC}$ | 4           | °C/W |

Note1: Thermal resistance from Junction to case per leg mounted on heatsink.



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### ELECTRICAL CHARACTERISTICS (TA=25°C unless otherwise noted)

| Characteristics                                 |          | Symbol         | Value |      | Unit |
|---|----------|----------------|-------|------|------|
| Forward Voltage Drop(Note2)                     |          | V <sub>F</sub> | Typ.  | Max. | V    |
| at I <sub>F</sub> =5A                           | TA=25°C  |                | 0.50  | -    |      |
|   | TA=125°C |                | 0.44  | -    |      |
| at I <sub>F</sub> =10A                          | TA=25°C  |                | 0.58  | 0.66 |      |
|   | TA=125°C |                | 0.56  | -    |      |
| at I <sub>F</sub> =15A                          | TA=25°C  |                | 0.67  | 0.73 |      |
|   | TA=125°C | 0.63           | -     |      |      |
| Maximum Reverse Current at V <sub>R</sub> =100V | TA=25°C  | I <sub>R</sub> | 10    | 70   | μA   |
|   | TA=125°C |                | 8     | -    | mA   |

Note2: Pulse test: 300 μs pulse width, 1 % duty cycle

### RATING AND CHARACTERISTIC CURVES

FIG. 1 MAXIMUM FORWARD CURRENT DERATING CURVE

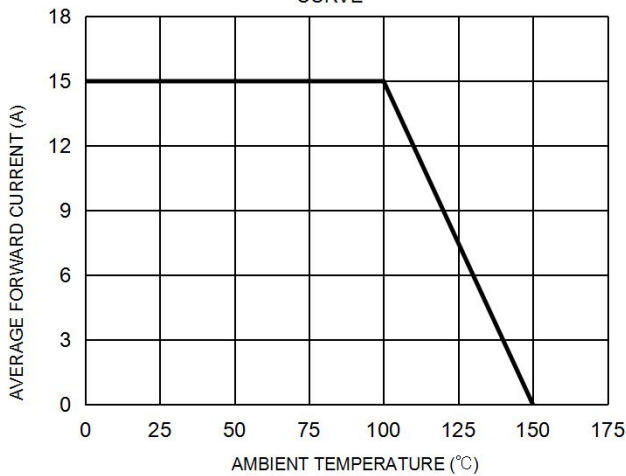


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

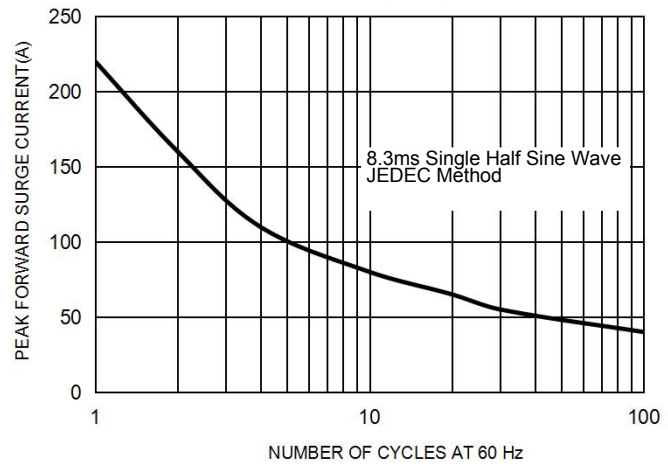


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

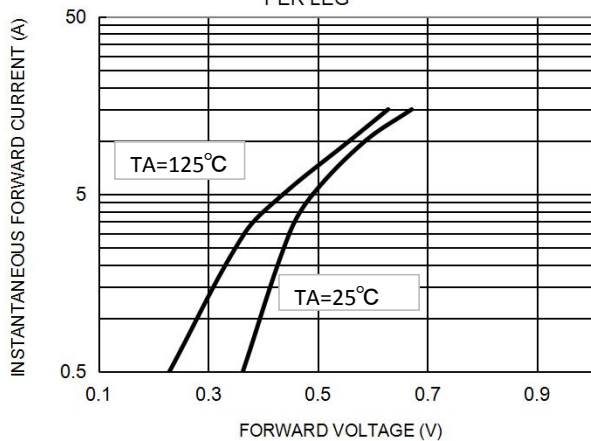
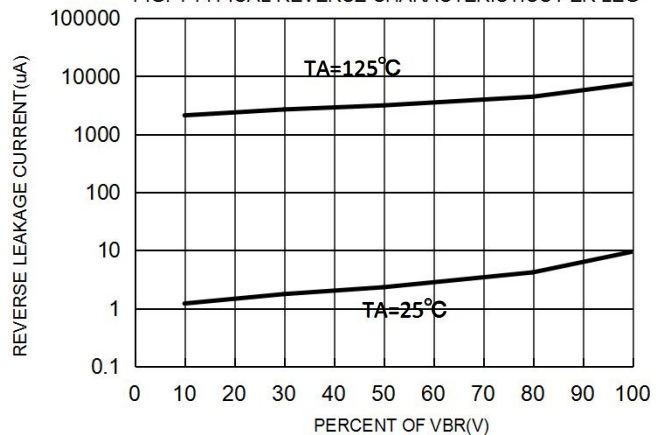


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



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