

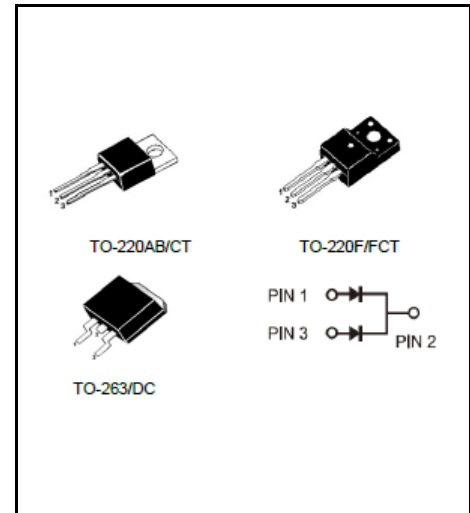
**SCHOTTKY BARRIER RECTIFIER**
**Reverse Voltage - 100 V**
**Forward Current - 40 A**

**FEATURES**

- ◆ Low forward voltage
- ◆ High current capability
- ◆ High forward surge capability
- ◆ Low power losses, High efficiency
- ◆ Guarding for over voltage protection
- ◆ Lead free in comply with EU RoHS 2011/65/EU directives

**MECHANICAL DATA**

- ◆ Case: TO-220AB/CT TO-220F/FCT TO-263/DC
- ◆ Solder bath temperature 275°C maximum, 10s per JESD22-106


**Primary Characteristic**

|                          |              |
|--------------------------|--------------|
| <b>I<sub>o</sub></b>     | <b>2*20A</b> |
| <b>V<sub>RRM</sub></b>   | <b>100V</b>  |
| <b>I<sub>FSM</sub></b>   | <b>450A</b>  |
| <b>V<sub>F</sub></b>     | <b>0.66V</b> |
| <b>T<sub>J</sub> Max</b> | <b>150°C</b> |

**Maximum Ratings (Per Leg) at Ta=25°C unless otherwise specified**

| Parameter  | Symbols                                | Value      | Units       |
|--|--|------------|-------------|
| Maximum Repetitive Peak Reverse Voltage                                | <b>V<sub>RRM</sub></b>                 | 100        | <b>V</b>    |
| Maximum RMS voltage  | <b>V<sub>RMS</sub></b>                 | 100        | <b>V</b>    |
| Maximum DC Blocking Voltage  | <b>V<sub>DC</sub></b>                  | 100        | <b>V</b>    |
| Maximum Average Forward Rectified Current                              | Per Leg                                | 20         | <b>A</b>    |
|  | Total                                  | 40         |             |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave                | <b>I<sub>FSM</sub></b>                 | 450        | <b>A</b>    |
| Operating Temperature Range  | <b>T<sub>J</sub></b>                   | -55 ~ +150 | <b>°C</b>   |
| Storage Temperature Range  | <b>T<sub>STG</sub></b>                 | -55 ~ +150 | <b>°C</b>   |
| Typical Thermal Resistance <sup>(Note1)</sup> TO-220AB, TO-263 TO-220F | <b>R<sub>θJA</sub> R<sub>θJC</sub></b> | 2/4        | <b>°C/W</b> |

**Note1: Thermal resistance from Junction to case per leg mounted on heatsink.**
**Electrical Characteristics (Per Leg) unless otherwise specified**

| Characteristics  | Symbols              | Value    |      | Units |           |
|--|----------------------|----------|------|-------|-----------|
|  |                      | Typ      | Max  |       |           |
| Forward Voltage Drop(Note2)<br>at I <sub>F</sub> =5A<br>at I <sub>F</sub> =10A<br>at I <sub>F</sub> =20A | <b>V<sub>F</sub></b> | TA=25°C  | 0.64 | -     | <b>V</b>  |
|  |                      | TA=125°C | 0.52 | -     |           |
|  |                      | TA=25°C  | 0.72 | -     |           |
|  |                      | TA=125°C | 0.59 | -     |           |
|  |                      | TA=25°C  | 0.79 | 0.85  |           |
|  |                      | TA=125°C | 0.66 | -     |           |
| Maximum Reverse Current at V <sub>R</sub> =100V  | <b>I<sub>R</sub></b> | TA=25°C  | 4    | 10    | <b>uA</b> |
|  |                      | TA=125°C | 3    | -     | <b>mA</b> |

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

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

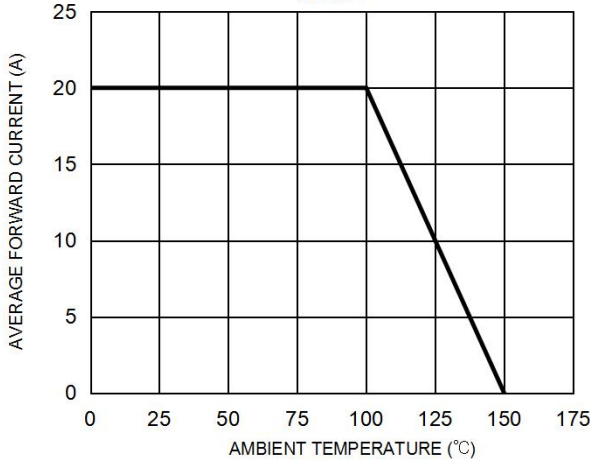


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

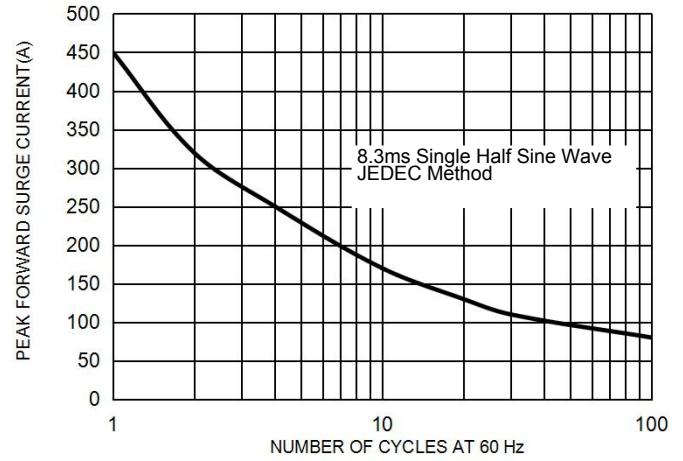


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

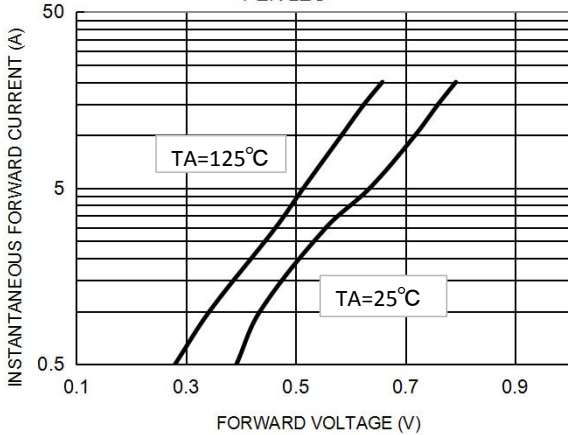
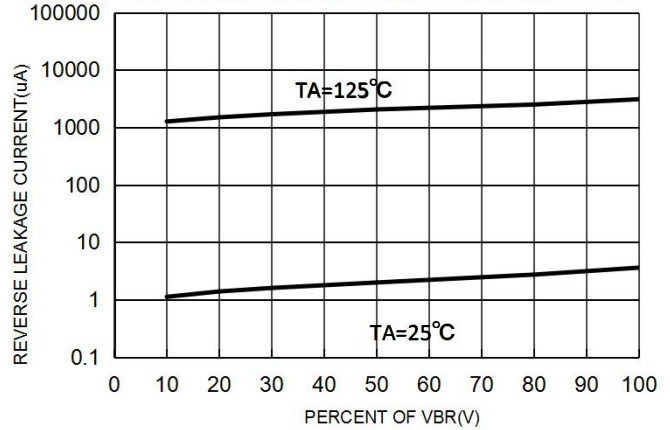


FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**Marking on the body**



**MAKING:**



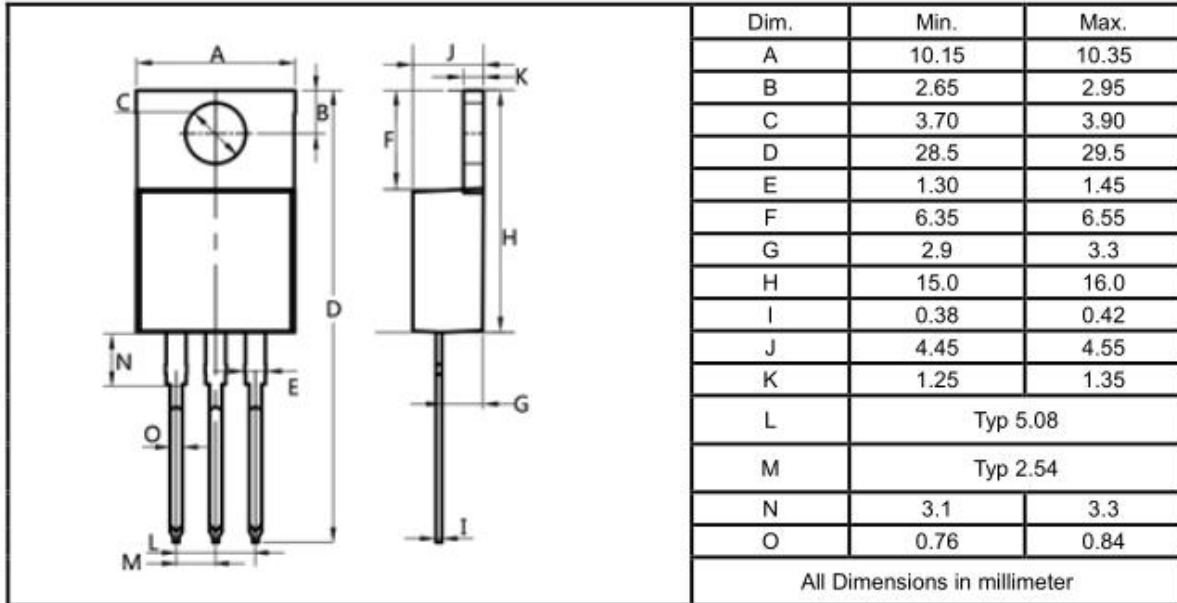
**Ordering information**

| Part Number  | Package  | Unit Weight   | Base Quantity  | Delivery mode              |
|--------------|----------|---------------|----------------|----------------------------|
| MBR40100CT   | TO-220AB | 0.07oz(1.96g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| MBR40100FCT  | TO-220F  | 0.06oz(1.74g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| MBR40100DC   | TO-263   | 0.04oz(1.16g) | 50 pcs / tube  | 1000pcs/box 5000pcs/carton |
| MBR40100DC-R | O-263    | 0.04oz(1.16g) | 800 pcs / reel | 800pcs/box4000pcs/carton   |

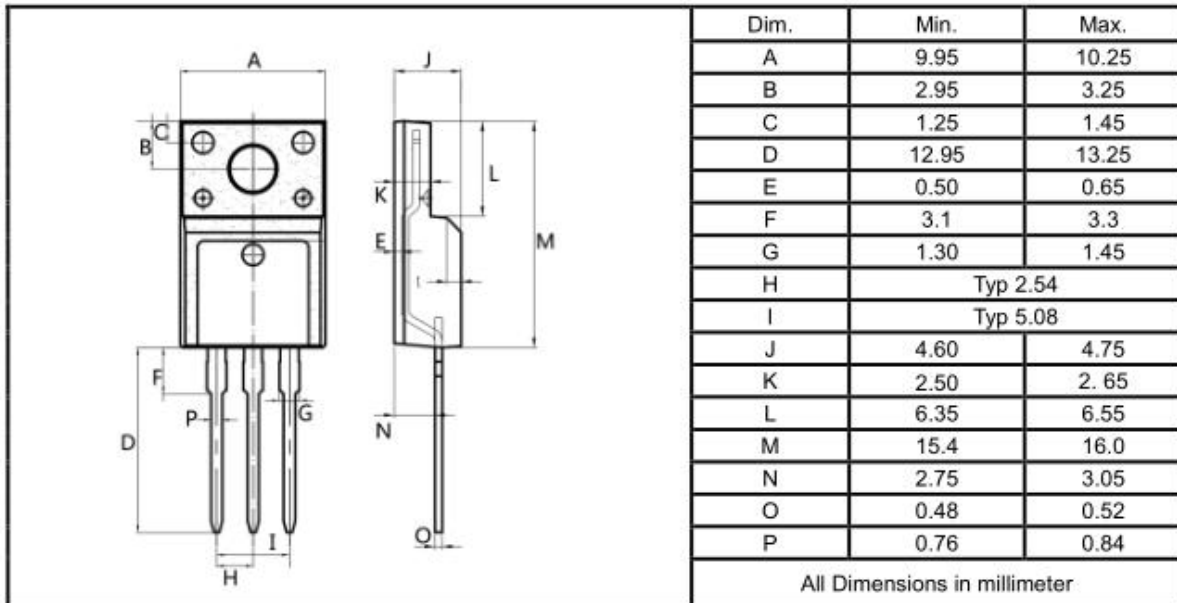
Note: For Halogen Free molding compound, add "H" suffix to part number above.

Package Outline Dimensions millimeters

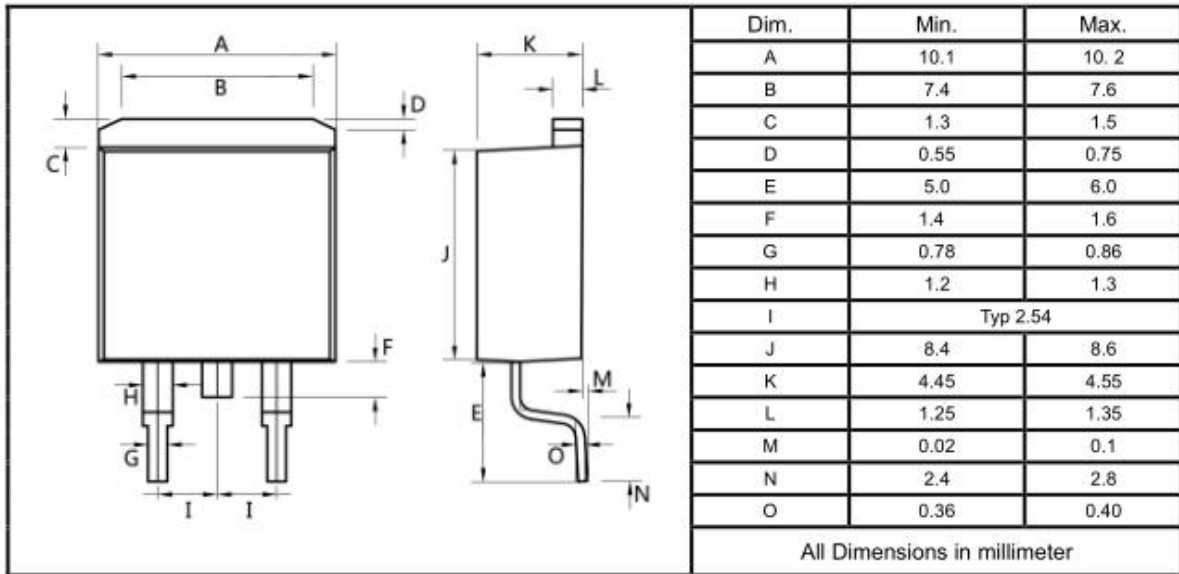
**TO-220AB**



**TO-220F**



TO-263



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