

**SCHOTTKY BARRIER RECTIFIER**

**Reverse Voltage - 100 V**

**Forward Current - 10 A**

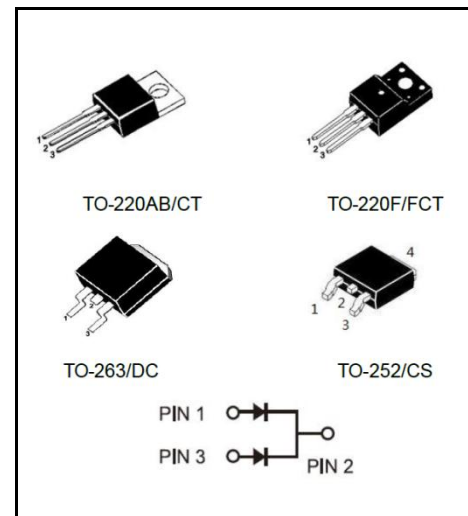


**FEATURES**

- ♦Very 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 TO-252/CS
- ♦Solder bath temperature 275°C maximum, 10s per JESD22-106



**Primary Characteristic**

|                          |              |
|--------------------------|--------------|
| <b>I<sub>o</sub></b>     | <b>2*5A</b>  |
| <b>V<sub>RRM</sub></b>   | <b>100V</b>  |
| <b>I<sub>FSM</sub></b>   | <b>200A</b>  |
| <b>V<sub>F</sub></b>     | <b>0.65V</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                                      |         | V <sub>RRM</sub>                    | 100        | V     |
| Maximum RMS voltage                                                          |         | V <sub>RMS</sub>                    | 100        | V     |
| Maximum DC Blocking Voltage                                                  |         | V <sub>DC</sub>                     | 100        | V     |
| Maximum Average Forward Rectified Current                                    | Per Leg | I <sub>o</sub>                      | 5          | A     |
|                                                                              | Total   |                                     | 10         |       |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave                      |         | I <sub>FSM</sub>                    | 200        | A     |
| Operating Temperature Range                                                  |         | T <sub>J</sub>                      | -55 ~ +150 | °C    |
| Storage Temperature Range                                                    |         | T <sub>STG</sub>                    | -55 ~ +150 | °C    |
| Typical Thermal Resistance <sup>(Note1)</sup> TO-220AB, TO-263 TO-220F TO252 |         | R <sub>θJA</sub> / R <sub>θJC</sub> | 2/4        | °C/W  |

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

**Electrical Characteristics (Per Leg) unless otherwise specified**

| Characteristics                                 |          | Symbols        | Value |      | Units |
|-------------------------------------------------|----------|----------------|-------|------|-------|
| Forward Voltage Drop(Note2)                     |          | V <sub>F</sub> | Typ   | Max  | V     |
| at I <sub>F</sub> =2A                           | TA=25°C  |                | 0.68  | -    |       |
|                                                 | TA=125°C |                | 0.56  | -    |       |
| at I <sub>F</sub> =3A                           | TA=25°C  |                | 0.72  | -    |       |
|                                                 | TA=125°C |                | 0.60  | -    |       |
| at I <sub>F</sub> =5A                           | TA=25°C  |                | 0.76  | 0.85 |       |
|                                                 | TA=125°C |                | 0.65  | -    |       |
| Maximum Reverse Current at V <sub>R</sub> =100V | TA=25°C  | I <sub>R</sub> | 1     | 5    | uA    |
|                                                 | TA=125°C |                | 0.6   | -    | mA    |

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

**RATINGS AND CHARACTERISTIC CURVES**

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

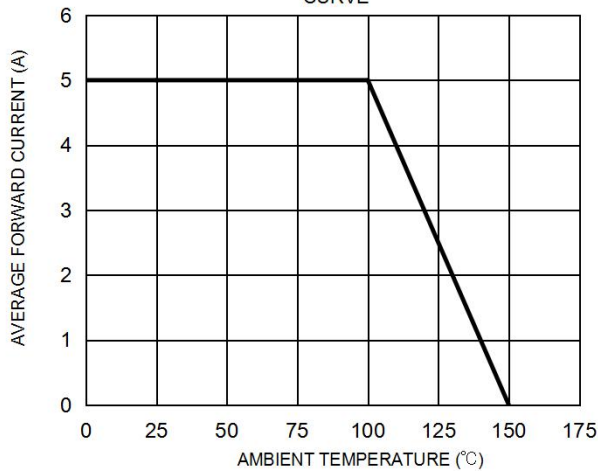


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

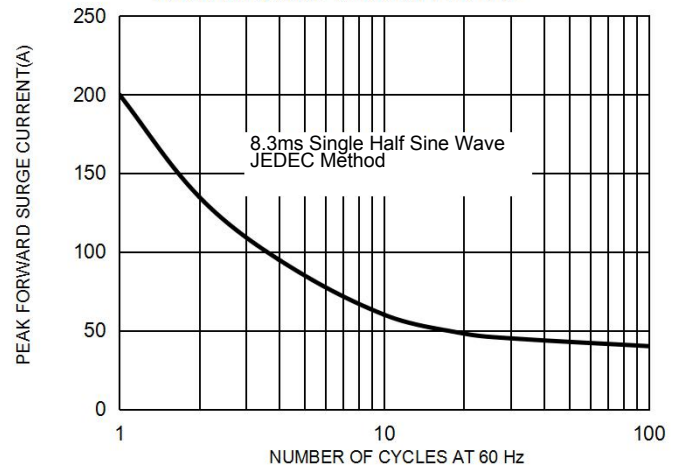


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

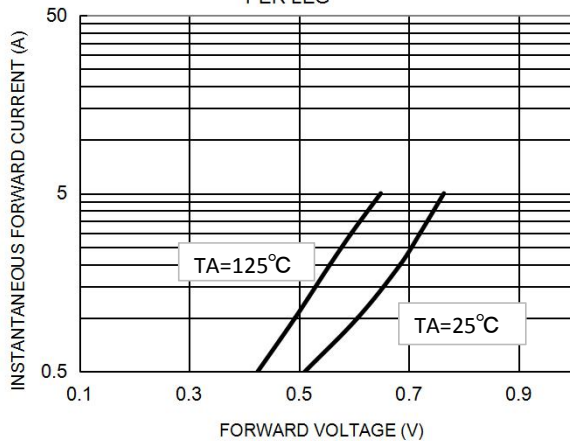
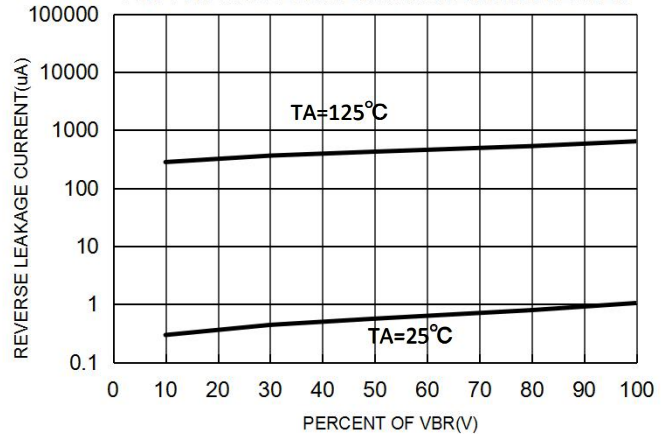
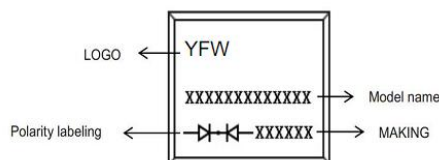


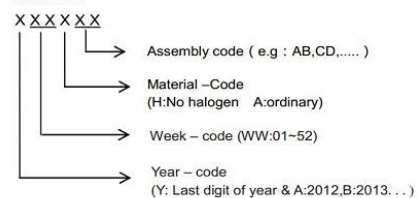
FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



**Marking on the body**



**MAKING:**

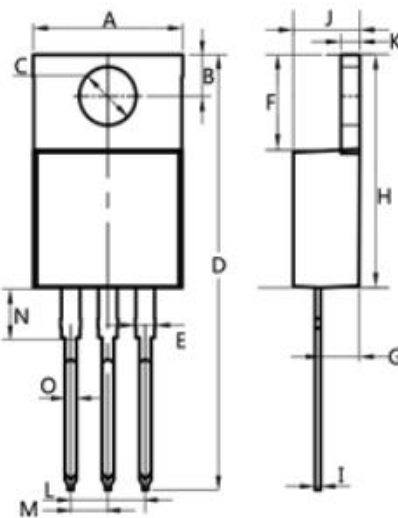


**Ordering information**

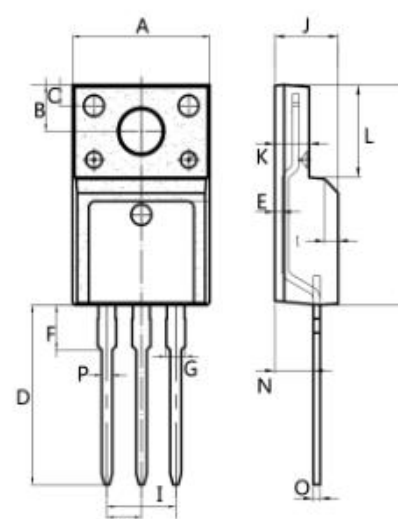
| Part Number  | Package  | Unit Weight    | Base Quantity   | Delivery mode               |
|--------------|----------|----------------|-----------------|-----------------------------|
| MBR10100CT   | TO-220AB | 0.07oz(1.96g)  | 50 pcs / tube   | 1000pcs/box 5000pcs/carton  |
| MBR10100FCT  | TO-220F  | 0.06oz(1.74g)  | 50 pcs / tube   | 1000pcs/box 5000pcs/carton  |
| MBR10100DC   | TO-263   | 0.04oz(1.16g)  | 50 pcs / tube   | 1000pcs/box 5000pcs/carton  |
| MBR10100DC-R | O-263    | 0.04oz(1.16g)  | 800 pcs / reel  | 800pcs/box 4000pcs/carton   |
| MBR10100CS   | TO-252   | 0.011oz(0.32g) | 2500 pcs / reel | 2500pcs/box 12500pcs/carton |

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

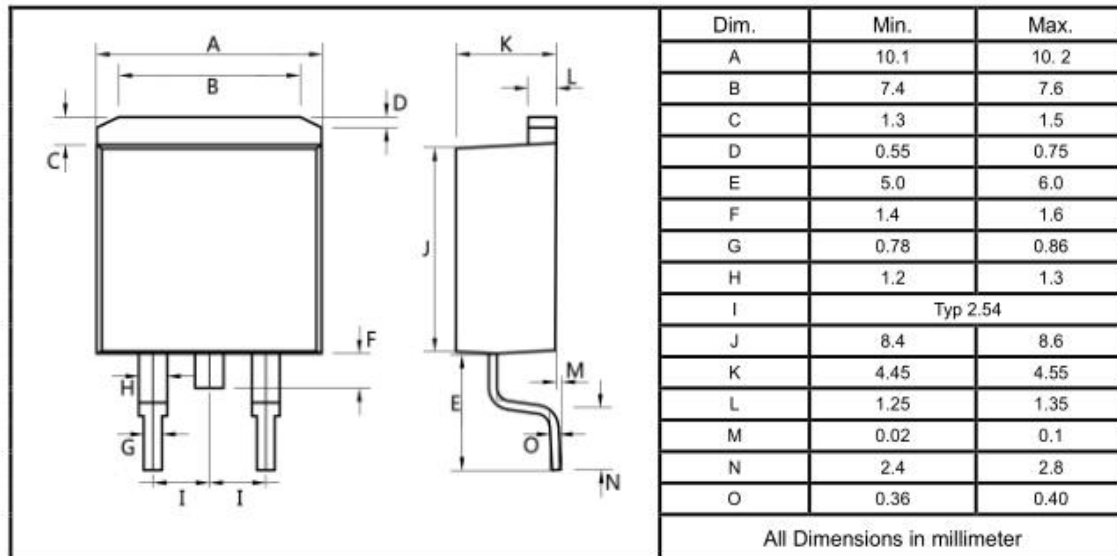
**TO-220AB**

|  | Dim. | Min.     | Max.  |
|-----------------------------------------------------------------------------------|------|----------|-------|
|                                                                                   | A    | 10.15    | 10.35 |
|                                                                                   | B    | 2.65     | 2.95  |
|                                                                                   | C    | 3.70     | 3.90  |
|                                                                                   | D    | 28.5     | 29.5  |
|                                                                                   | E    | 1.30     | 1.45  |
|                                                                                   | F    | 6.35     | 6.55  |
|                                                                                   | G    | 2.9      | 3.3   |
|                                                                                   | H    | 15.0     | 16.0  |
|                                                                                   | I    | 0.38     | 0.42  |
|                                                                                   | J    | 4.45     | 4.55  |
|                                                                                   | K    | 1.25     | 1.35  |
|                                                                                   | L    | Typ 5.08 |       |
|                                                                                   | M    | Typ 2.54 |       |
|                                                                                   | N    | 3.1      | 3.3   |
|                                                                                   | O    | 0.76     | 0.84  |
| All Dimensions in millimeter                                                      |      |          |       |

**TO-220F**

|  | 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                                                        |      |          |       |

TO-263



TO-252

