

Trench MOS Barrier Schottky Rectifier

Reverse Voltage - 150 V

Forward Current - 40 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
- ◆Solder bath temperature 275°C maximum, 10s per JESD22-106



Primary Characteristic

| | |
|-----------|-------|
| I_o | 2*20A |
| V_{RRM} | 150V |
| I_{FSM} | 250A |
| V_F | 0.72V |
| T_J Max | 175°C |

Maximum Ratings (Per Leg) at $T_a=25^\circ\text{C}$ unless otherwise specified

| Parameter | Symbols | Value | Units |
|---|-----------------------------------|------------|-------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 150 | V |
| Maximum RMS voltage | V_{RMS} | 150 | V |
| Maximum DC Blocking Voltage | V_{DC} | 150 | V |
| Maximum Average Forward Rectified Current | Per Leg | 20 | A |
| | Total | 40 | |
| Peak Forward Surge Current, 8.3ms Single Half Sine-wave | I_{FSM} | 250 | A |
| Operating Temperature Range | T_J | -50 ~ +175 | °C |
| Storage Temperature Range | T_{STG} | -50 ~ +175 | °C |
| Typical Thermal Resistance (Note1) TO-220AB, TO-263 TO-220F | $R_{\theta JA}$ / $R_{\theta JC}$ | 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 | |
|--|---------|--------------|------|-------|------|
| | | Typ | Max | | |
| Forward Voltage Drop(Note2) at $I_F=5A$ | V_F | 0.66 | - | V | |
| | | 0.55 | - | | |
| | | at $I_F=10A$ | 0.75 | | 0.82 |
| | | | 0.62 | | - |
| | | at $I_F=20A$ | 0.84 | | 0.89 |
| | | | 0.72 | | - |
| Maximum Reverse Current at $V_R=150V$ | I_R | 0.6 | 5 | uA | |
| | | 0.6 | - | mA | |

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

RATINGS AND CHARACTERISTIC CURVES

FIG.1 MAXIMUM FORWARD CURRENT DERATING CURVE

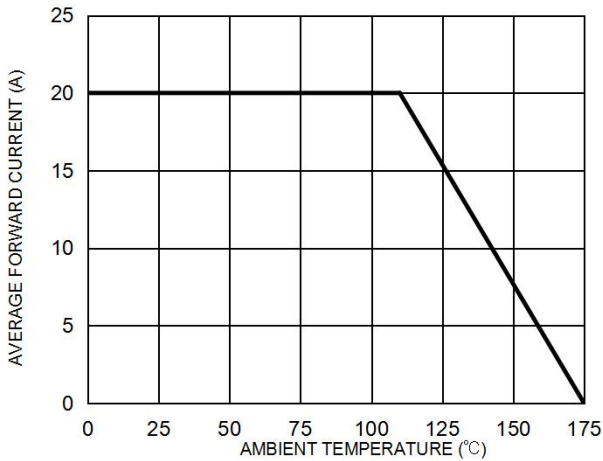


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT PER LEG

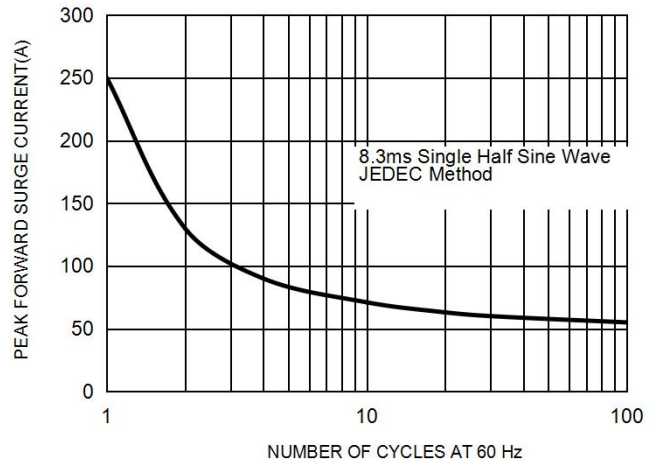


FIG. 3 TYPICAL FORWARD CHARACTERISTICS PER LEG

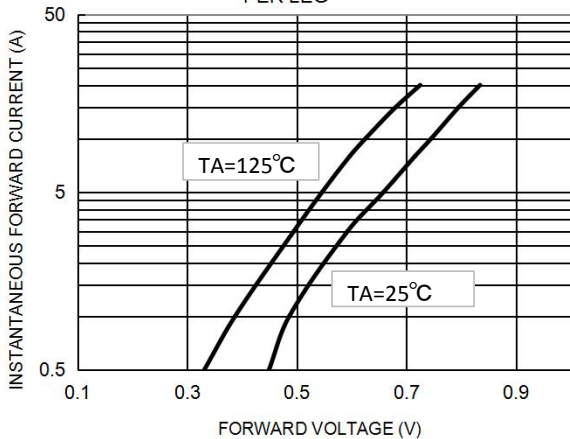
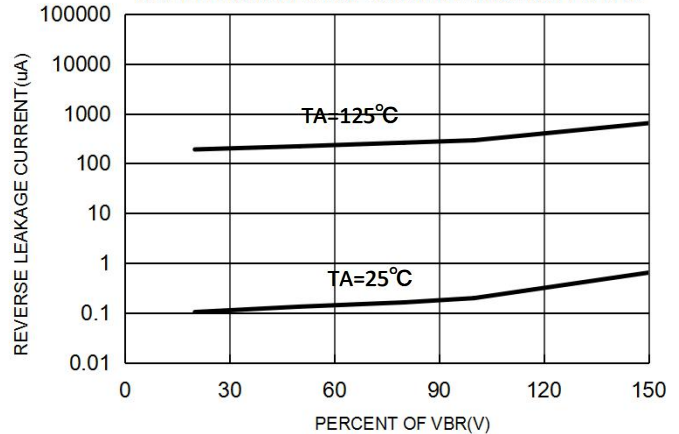


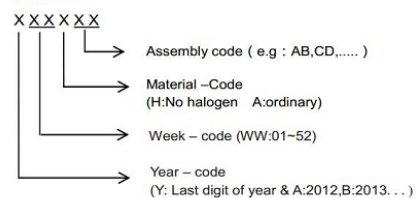
FIG. 4 TYPICAL REVERSE CHARACTERISTICS PER LEG



Marking on the body



MAKING:



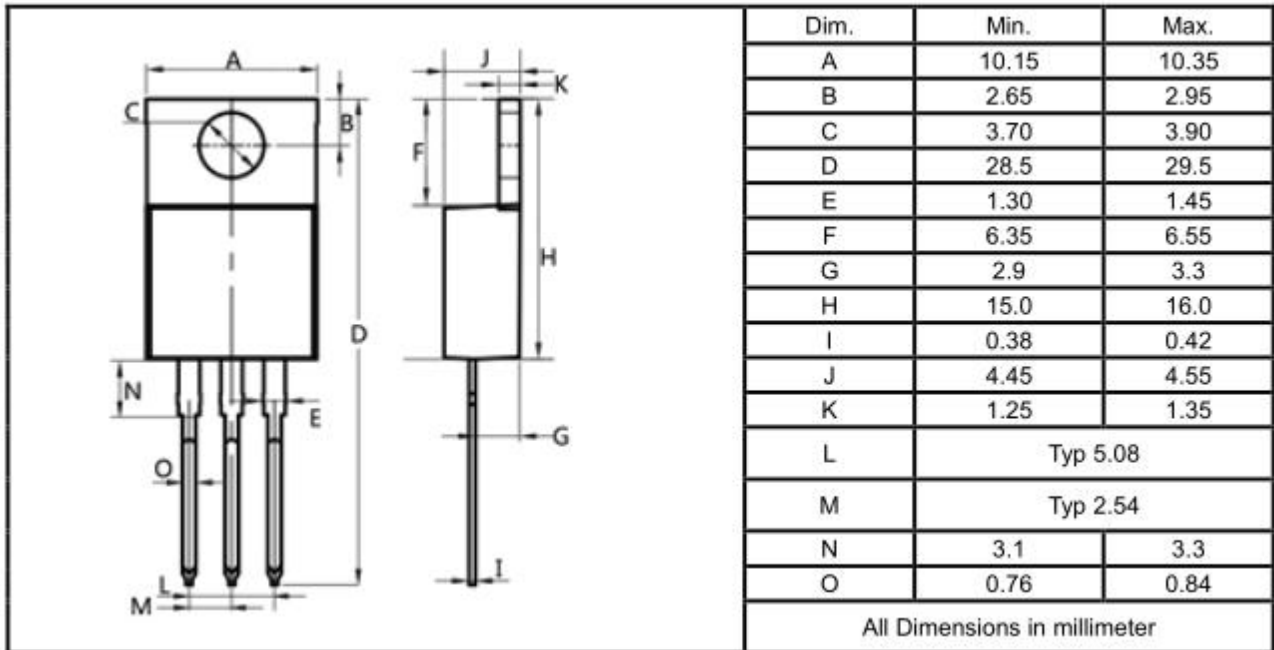
Ordering information

| Part Number | Package | Unit Weight | Base Quantity | Delivery mode |
|---------------|----------|---------------|----------------|----------------------------|
| HRT40L150CT | TO-220AB | 0.07oz(1.96g) | 50 pcs / tube | 1000pcs/box 5000pcs/carton |
| HRT40L150FCT | TO-220F | 0.06oz(1.74g) | 50 pcs / tube | 1000pcs/box 5000pcs/carton |
| HRT40L150DC | TO-263 | 0.04oz(1.16g) | 50 pcs / tube | 1000pcs/box 5000pcs/carton |
| HRT40L150DC-R | TO-263 | 0.04oz(1.16g) | 800 pcs / reel | 800pcs/box4000pcs/carton |

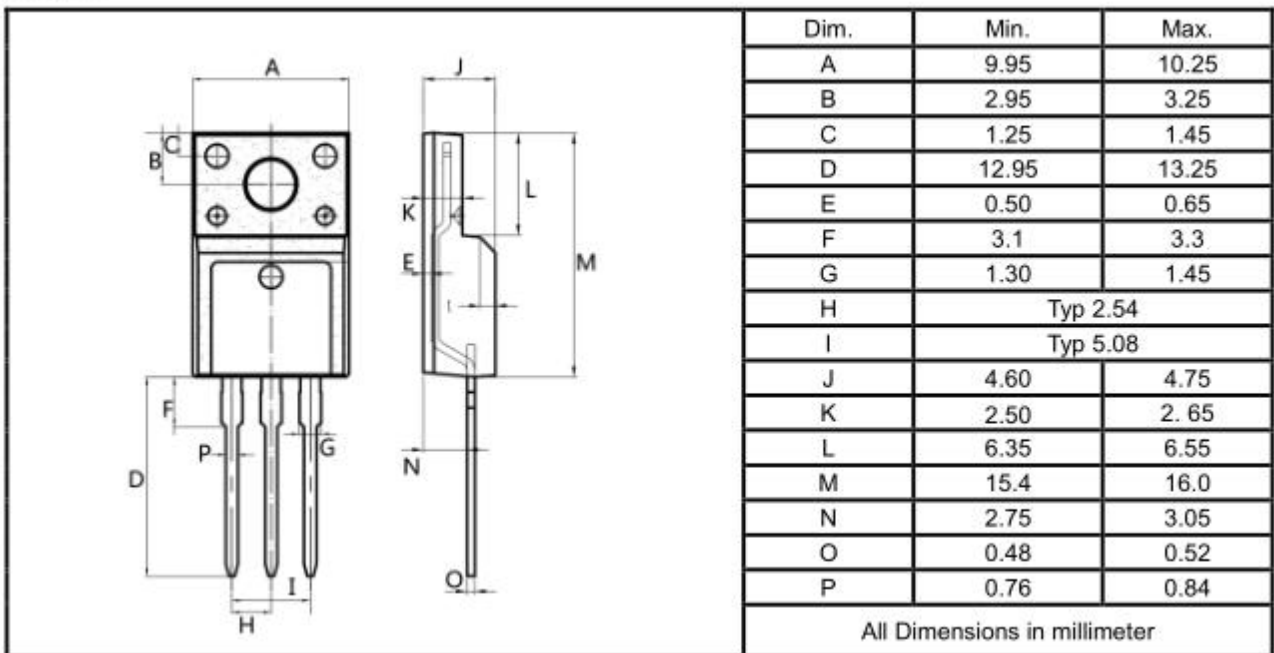
Note: For Halogen Free molding compound, add "H" suffix to part number above.

Package Outline Dimensions millimeters

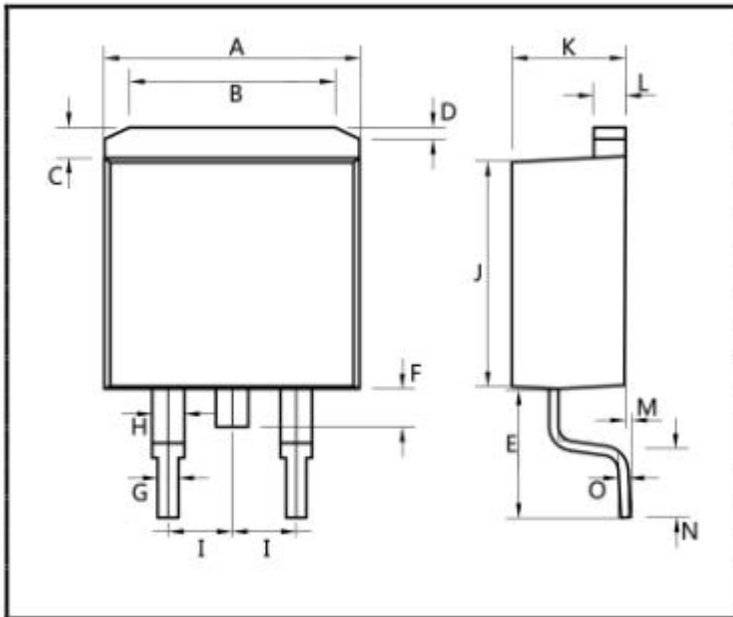
TO-220AB



TO-220F



TO-263



| Dim. | Min. | Max. |
|------------------------------|----------|------|
| A | 10.1 | 10.2 |
| B | 7.4 | 7.6 |
| C | 1.3 | 1.5 |
| D | 0.55 | 0.75 |
| E | 5.0 | 6.0 |
| F | 1.4 | 1.6 |
| G | 0.78 | 0.86 |
| H | 1.2 | 1.3 |
| I | Typ 2.54 | |
| J | 8.4 | 8.6 |
| K | 4.45 | 4.55 |
| L | 1.25 | 1.35 |
| M | 0.02 | 0.1 |
| N | 2.4 | 2.8 |
| O | 0.36 | 0.40 |
| All Dimensions in millimeter | | |

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