

### Features

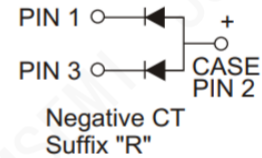
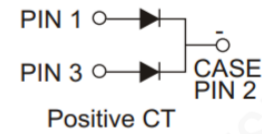
- Glass Passivated Die Construction
- Super-Fast Switching
- Low Forward Voltage Drop
- Low Reverse Leakage Current
- High Surge Current Capability
- Plastic Material has UL Flammability Classification 94V-O



TO-220

### Mechanical Data

- Case: TO-220, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 5.6 grams (approx.)
- Mounting Position: Any
- Mounting Torque: 11.5 cm·kg (10 in·lbs) Max.
- **Lead Free: For RoHS / Lead Free Version**



### Maximum Ratings and Electrical Characteristics

@ $T_A=25^{\circ}\text{C}$  unless otherwise specified Single Phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| Characteristic  | Symbol                          | MUR2020     | MUR2040 | MUR2060 | Unit               |
|---|---------------------------------|-------------|---------|---------|--------------------|
| Peak Repetitive Reverse Voltage Working<br>Peak Reverse Voltage<br>DC Blocking Voltage                                | $V_{RRMV}$<br>$R_{WM}$<br>$V_R$ | 200         | 400     | 600     | V                  |
| RMS Reverse Voltage   | $V_{R(RMS)}$                    | 140         | 280     | 420     | V                  |
| Average Rectified Output Current @ $T_C = 125^{\circ}\text{C}$  | $I_O$                           | 20.0        |         |         | A                  |
| Non-Repetitive Peak Forward Surge Current 8.3ms<br>Single half sine-wave superimposed on rated load<br>(JEDEC Method) | $I_{FSM}$                       | 200         |         |         | A                  |
| Forward Voltage @ $I_F=10.0\text{A}$  | $V_{FM}$                        | 0.98        | 1.3     | 1.7     | V                  |
| Peak Reverse Current @ $T_A = 25^{\circ}\text{C}$<br>At Rated DC Blocking Voltage @ $T_A = 100^{\circ}\text{C}$       | $I_{RM}$                        | 10<br>400   |         |         | $\mu\text{A}$      |
| Reverse Recovery Time (Note 1)  | $t_{rr}$                        | 50          |         |         | nS                 |
| Typical Junction Capacitance (Note 2)   | $C_j$                           | 170         |         | 130     | pF                 |
| Operating and Storage Temperature Range   | $T_j, T_{STG}$                  | -55 to +150 |         |         | $^{\circ}\text{C}$ |

Note: 1. Measured with  $I_F = 0.5\text{A}$ ,  $I_R = 1.0\text{A}$ ,  $IRR = 0.25\text{A}$ .  
 2. Measured at 1.0 MHz and applied reverse voltage of 4.0V D.C.

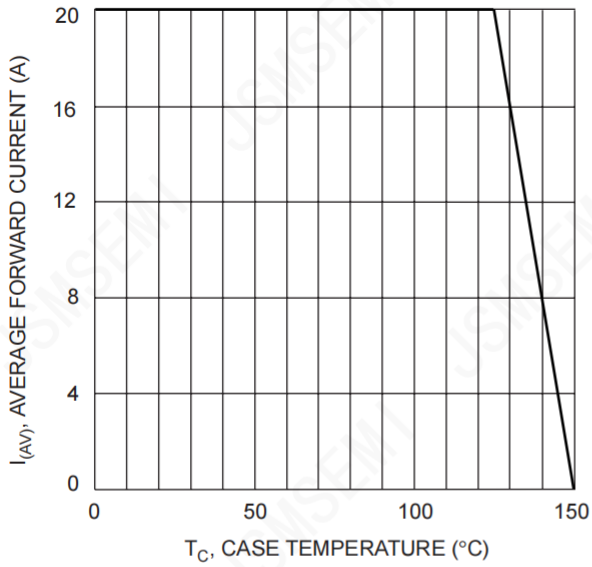


Fig. 1 Forward Current Derating Curve

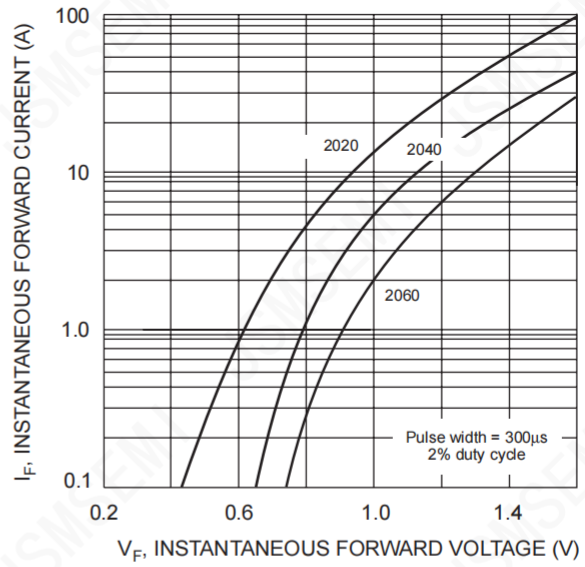


Fig. 2 Typical Forward Characteristics

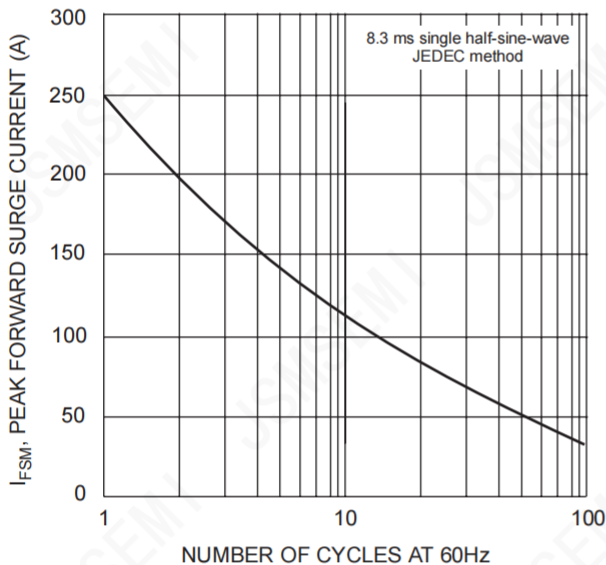


Fig. 3 Max Non-Repetitive Surge Current

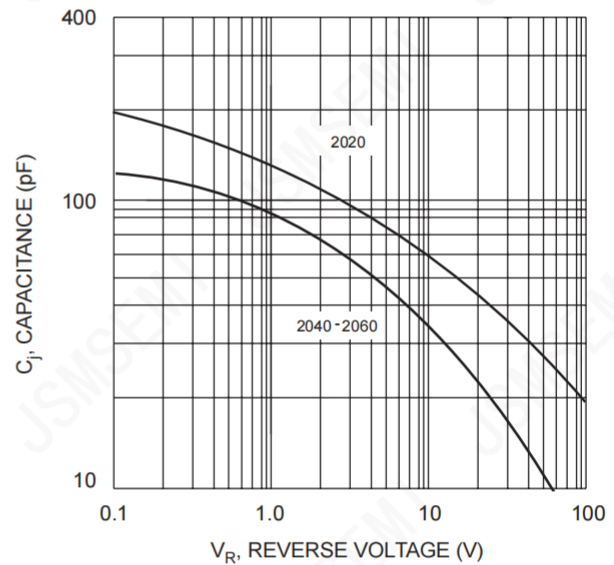
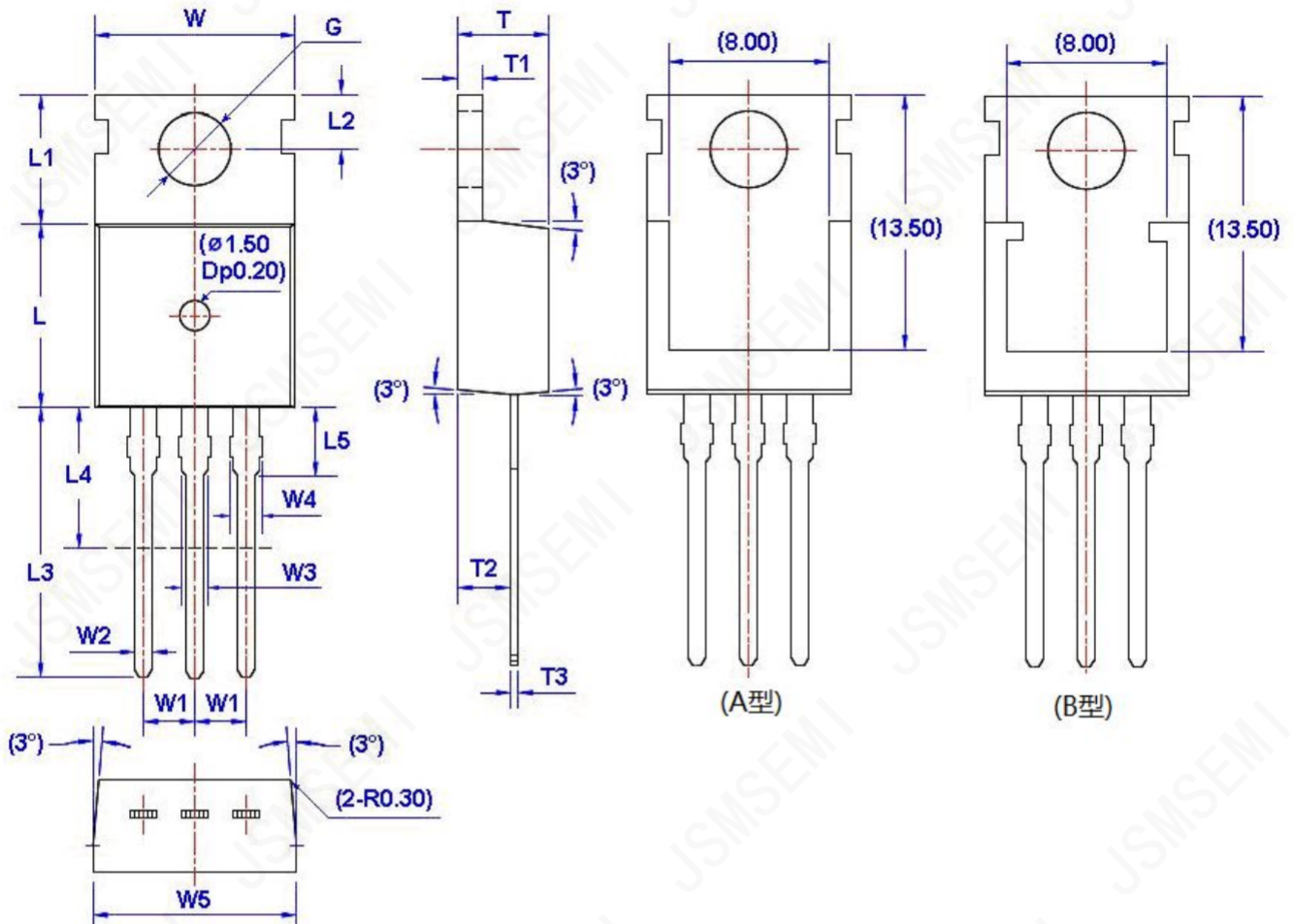


Fig. 4 Typical Junction Capacitance

### Package Information

TO-220



Unit: mm

| Symbol | Size       |       | Symbol | Size  |       | Symbol | Size |      | Symbol | Size |      |
|--------|------------|-------|--------|-------|-------|--------|------|------|--------|------|------|
|        | Min        | Max   |        | Min   | Max   |        | Min  | Max  |        | Min  | Max  |
| W      | 9.66       | 10.28 | W5     | 9.80  | 10.20 | L4**   | 6.20 | 6.60 | T3     | 0.45 | 0.60 |
| W1     | 2.54 (TYP) |       | L      | 9.00  | 9.40  | L5     | 2.79 | 3.30 | G(Φ)   | 3.50 | 3.70 |
| W2     | 0.70       | 0.95  | L1     | 6.40  | 6.80  | T      | 4.30 | 4.70 |        |      |      |
| W3     | 1.17       | 1.37  | L2     | 2.70  | 2.90  | T1     | 1.15 | 1.40 |        |      |      |
| W4*    | 1.32       | 1.72  | L3     | 12.70 | 14.27 | T2     | 2.20 | 2.60 |        |      |      |