

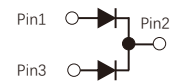
Features

- Plastic package has underwriters laboratory flammability classification 94V-0
- Ultrafast and soft recovery time for high efficiency
- Low VF, low power loss
- Polyimide passivation
- High surge capability
- Meets JESD 201 class 2 whisker test
- High temperature soldering guaranteed: 260°C/10s at terminals
- Component in accordance to RoHS 2015/863/EU



Mechanical Data

- Case: JEDEC ITO-220AB
- Molding compound meets UL94V-0 flammability rating
- Terminals: Lead solderable per J-STD-002 and JESD22-B102
- Polarity: As marked
- Mounting torque: 10 in-lbs maximum



Schematic Diagram

Maximum Ratings (Ratings at 25°C ambient temperature unless otherwise specified)

| Parameter | Symbol | Value | Unit |
|---|-----------------|-------------|------|
| Maximum Repetitive Peak Reverse Voltage | V_{RRM} | 400 | V |
| Maximum Average Forward Rectified Current (See Fig.1) | Per leg | 10.0 | A |
| | Total device | 20.0 | |
| Surge Non Repetitive Forward Current $t_p=8.3ms$ Sinusoidal | I_{FSM} | 150 | A |
| Typical Thermal Resistance, from Junction to Case | $R_{\theta JC}$ | 2.5 | °C/W |
| Maximum Operating Junction Temperature | T_J | 175 | °C |
| Storage Temperature Range | T_{stg} | -55 to +175 | °C |

Electrical Characteristics (Per Leg, $T_J=25^\circ C$ unless otherwise noted)

| Parameter | Symbol | Test Conditions | Min. | Typ. | Max. | Unit | |
|---|----------|------------------------------------|-------------|------|------|---------|---|
| Breakdown Voltage | V_{BR} | $I_R=200\mu A$ | 400 | - | - | V | |
| Blocking Voltage | V_R | | | | | | |
| Instaneous Forward Voltage ¹ | V_F | $T_J=25^\circ C$ | $I_F=5.0A$ | - | 0.99 | - | V |
| | | | $I_F=10.0A$ | - | 1.10 | 1.30 | |
| | | $T_J=125^\circ C$ | $I_F=5.0A$ | - | 0.85 | - | |
| | | | $I_F=10.0A$ | - | 1.00 | 1.20 | |
| Reverse Current ² | I_R | $T_J=25^\circ C$ | - | - | 5 | μA | |
| | | $T_J=125^\circ C$ | - | - | 250 | | |
| Junction Capacitance | C_J | 4V, 1MHz | - | 50 | - | pF | |
| Reverse Recovery Time | t_{rr} | $I_F=0.5A, I_R=1.0A, I_{rr}=0.25A$ | - | 30 | 35 | ns | |

Notes:

- Pulse test: 300us pulse width, 1% duty cycle
- Pulse test: pulse width $\leq 40ms$

Ratings and Characteristics Curves

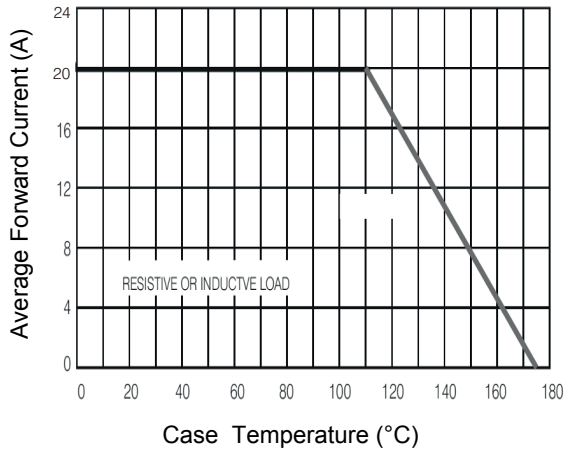


Figure 1. Forward Current Derating Curve

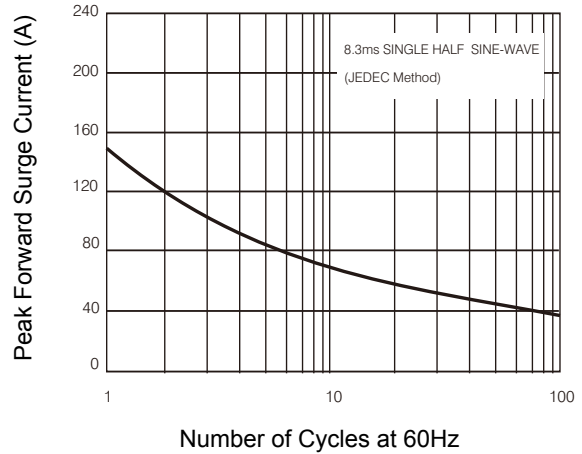


Figure 2. Maximum Non-Repetitive Peak Forward Surge Current

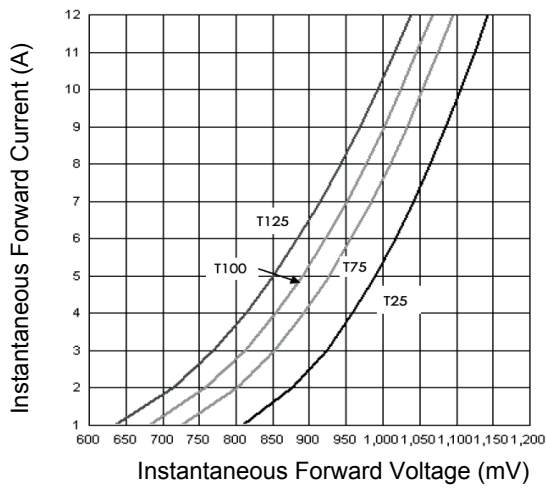


Figure 3. Typical Instantaneous Forward Characteristics

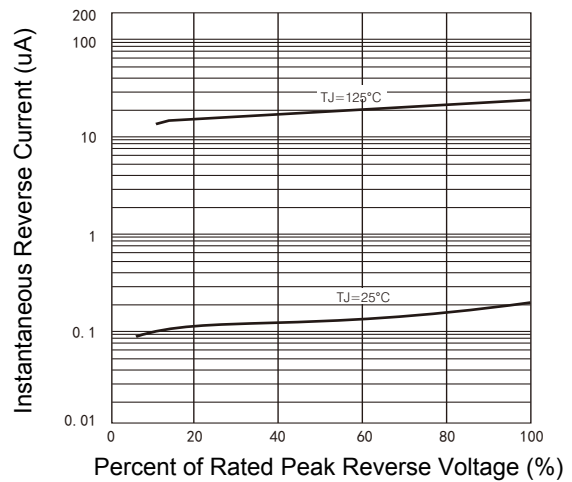


Figure 4. Typical Reverse Characteristics

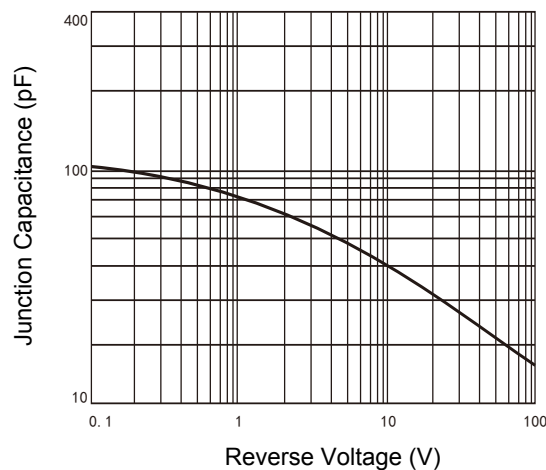
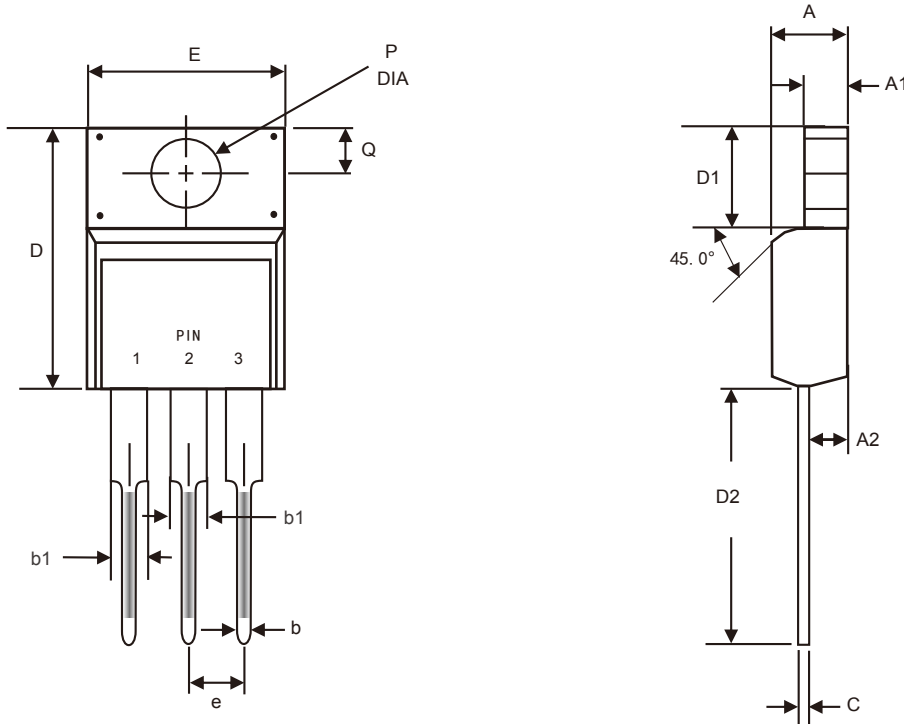


Figure 5. Typical Junction Capacitance

Package Outline Dimensions (ITO-220AB)



| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|--------|---------------------------|-------|----------------------|-------|
| | Min. | Max. | Min. | Max. |
| A | 4.49 | 4.89 | 0.177 | 0.192 |
| A1 | 2.28 | 2.88 | 0.090 | 0.113 |
| A2 | 2.50 | 2.90 | 0.098 | 0.114 |
| b | 0.67 | 0.93 | 0.026 | 0.037 |
| b1 | 1.10 | 1.43 | 0.043 | 0.056 |
| C | 0.37 | 0.63 | 0.015 | 0.025 |
| D | 15.40 | 16.40 | 0.606 | 0.646 |
| D1 | 6.45 | 6.85 | 0.254 | 0.270 |
| D2 | 12.50 | 13.50 | 0.492 | 0.531 |
| e | 2.44 | 2.64 | 0.096 | 0.104 |
| E | 9.91 | 10.41 | 0.390 | 0.410 |
| Q | 3.05 | 3.45 | 0.120 | 0.136 |
| P | 3.15 | 3.45 | 0.124 | 0.136 |

Order Information

| Device | Package | Marking | Carrier | Quantity |
|---------------|-----------|------------|---------|--------------|
| GSMURF2040CT1 | ITO-220AB | MURF2040CT | Tube | 50pcs / Tube |

For more information, please contact us at: inquiry@goodarksemi.com