

Schottky Diodes



Features

- High frequency operation
- Low forward voltage drop
- High purity, high temperature epoxy encapsulation for enhanced mechanical strength and moisture resistance
- Guard ring for enhanced ruggedness and long term reliability
- Solder dip 275 °C max. 7s, per JESD 22-B106

Typical Applications

Typical applications are in switching power supplies, converters, freewheeling diodes, and reverse battery protection.

Mechanical Data

- **Package:** R-6
Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant
- **Terminals:** Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** Color band denotes cathode end

■ Maximum Ratings (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | 25SQ045 |
|---|------------------|------------------|-----------|
| Device Marking Code | | | 25SQ045 |
| Repetitive Peak Reverse Voltage | VRRM | V | 45 |
| Average Rectified Output Current @60Hz sine wave, R-load, T _a =25°C | I _O | A | 25 |
| Surge(Non-repetitive)Forward Current @60Hz half sine wave, 1 cycle, T _a =25°C | I _{FSM} | A | 380 |
| Current Squared Time @1ms≤t≤8.3ms T _j =25°C | I ² t | A ² s | 599 |
| Storage Temperature | T _{stg} | °C | -55 ~+150 |
| Junction Temperature IN DC Forward Mode-Forward Operations, without reverse bias, t ≤1 h (Fig. 1)① | T _j | °C | -55 ~+200 |

NOTE

- ① Meets the requirements of IEC 61215 Ed. 2 bypass diode thermal test.

■ Electrical Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | TEST CONDITIONS | 25SQ045 |
|---|-------------------|------|--|---------|
| Maximum instantaneous forward voltage drop per diode | V _{FM} | V | I _{FM} =25.0A | 0.52 |
| Maximum DC reverse current at rated DC blocking voltage per diode | I _{RRM1} | mA | V _{RM} =V _{RRM} T _a =25°C | 0.5 |
| | I _{RRM2} | | V _{RM} =V _{RRM} T _a =100°C | 50 |

■ Thermal Characteristics (T_a=25°C Unless otherwise specified)

| PARAMETER | SYMBOL | UNIT | 25SQ045 |
|---|-------------------|------|---------|
| Thermal Resistance Between junction and case | R _{θJ-C} | °C/W | 2.5 |



25SQ045

Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g) | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|------------------|-----------------------|-------------------------|----------------------------|---------------|
| 25SQ045 | Approximate 2.02 | 500 | 10 | 5000 | Tape |
| 25SQ045 | Approximate 2.02 | 1000 | 4 | 4000 | Reel |

Characteristics (Typical)

FIG1:Io -Tc Curve

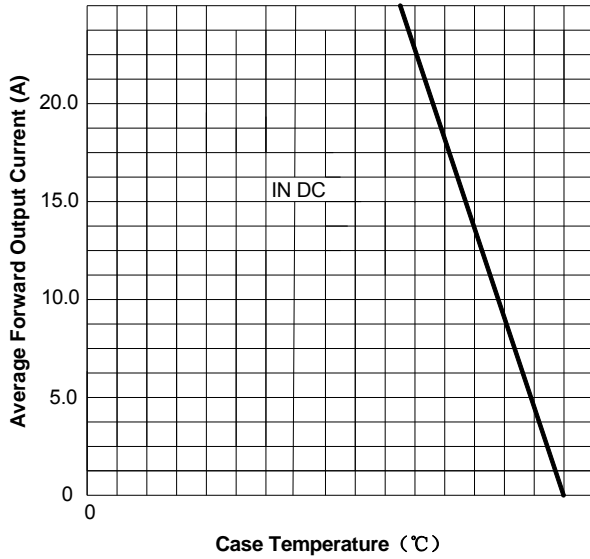


FIG2:Surge Forward Current Capability

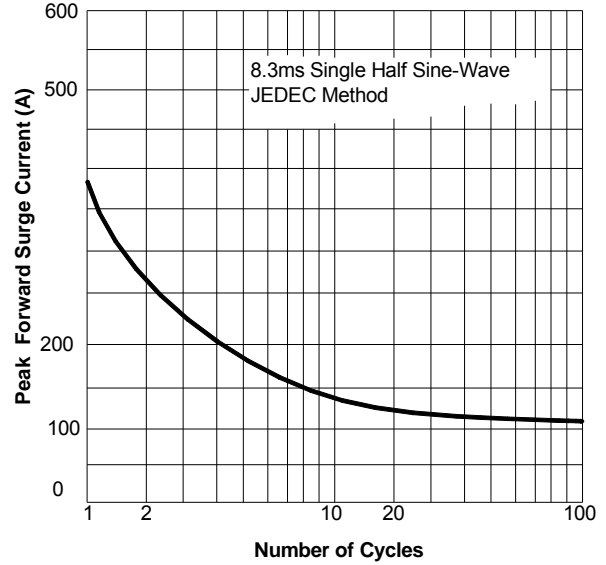


FIG3:Forward Volt

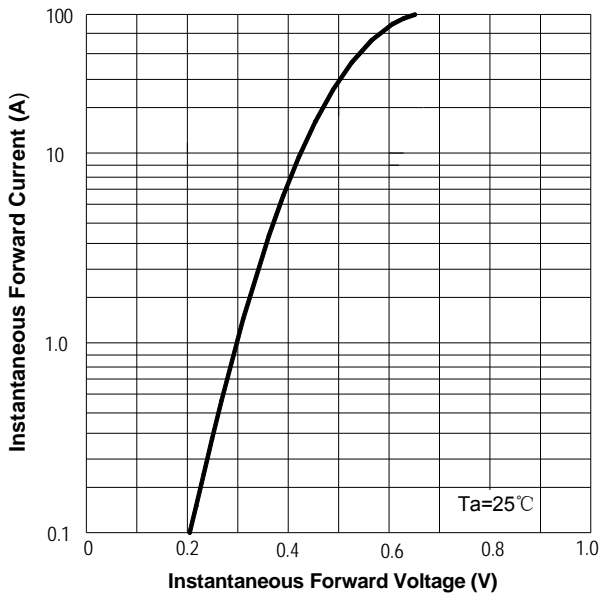
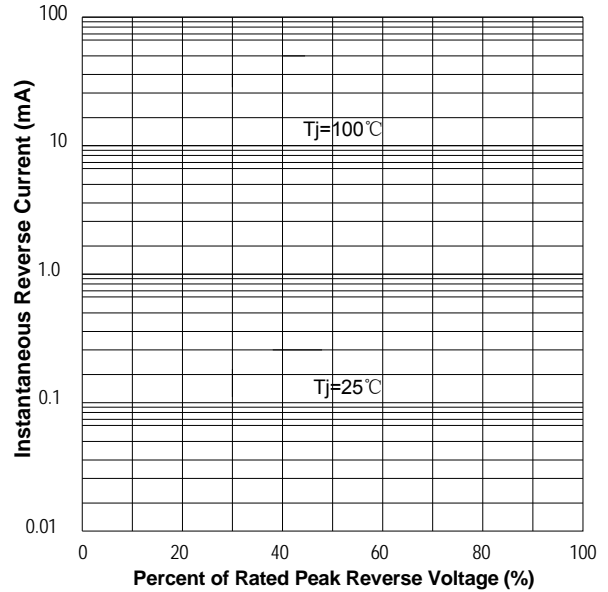
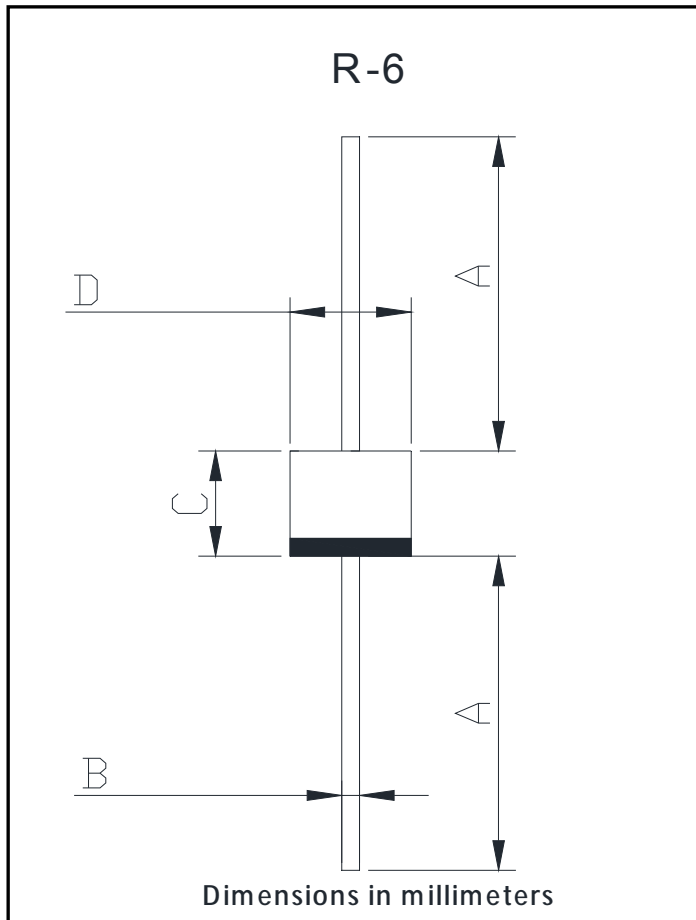


FIG4: Typical Reverse Characteristics



■ Outline Dimensions



| R-6 | | |
|-----|------|-----|
| Dim | Min | Max |
| A | 25.4 | / |
| B | 1.2 | 1.3 |
| C | 8.6 | 9.1 |
| D | 8.6 | 9.1 |



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