

## 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<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL           | UNIT             | 30SQ045   |
|---|------------------|------------------|-----------|
| Device Marking Code   |                  |                  | 30SQ045   |
| Repetitive Peak Reverse Voltage   | V <sub>RRM</sub> | V                | 45        |
| Average Rectified Output Current<br>@60Hz sine wave, R-load, T <sub>a</sub> =25°C                     | I <sub>O</sub>   | A                | 30        |
| Surge(Non-repetitive)Forward Current<br>@60Hz half sine wave, 1 cycle, T <sub>a</sub> =25°C           | I <sub>FSM</sub> | A                | 380       |
| Current Squared Time @1ms≤t≤8.3ms T <sub>j</sub> =25°C  | I <sup>2</sup> t | A <sup>2</sup> s | 599       |
| Storage Temperature   | T <sub>stg</sub> | °C               | -55 ~+150 |
| Junction Temperature<br>IN DC Forward Mode-Forward Operations, without reverse bias, t ≤1 h (Fig. 1)① | T <sub>j</sub>   | °C               | -55 ~+200 |

### NOTE

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

### ■ Electrical Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER   | SYMBOL            | UNIT | TEST CONDITIONS  | 30SQ045 |
|---|-------------------|------|--|---------|
| Maximum instantaneous forward voltage drop per diode              | V <sub>FM</sub>   | V    | I <sub>FM</sub> =30.0A                                     | 0.55    |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>RRM1</sub> | mA   | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>a</sub> =25°C  | 0.5     |
|   | I <sub>RRM2</sub> |      | V <sub>RM</sub> =V <sub>RRM</sub><br>T <sub>a</sub> =100°C | 50      |

### ■ Thermal Characteristics (T<sub>a</sub>=25°C Unless otherwise specified)

| PARAMETER                                       | SYMBOL            | UNIT | 30SQ045 |
|---|-------------------|------|---------|
| Thermal Resistance<br>Between junction and case | R <sub>θJ-C</sub> | °C/W | 2.5     |

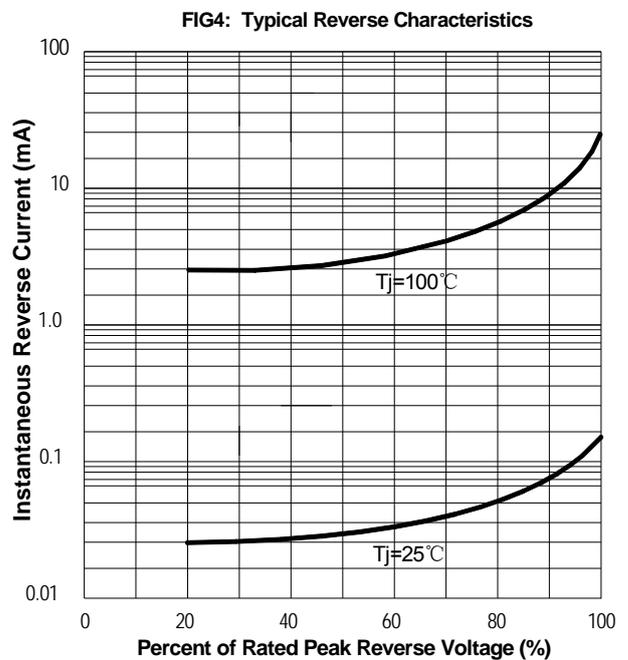
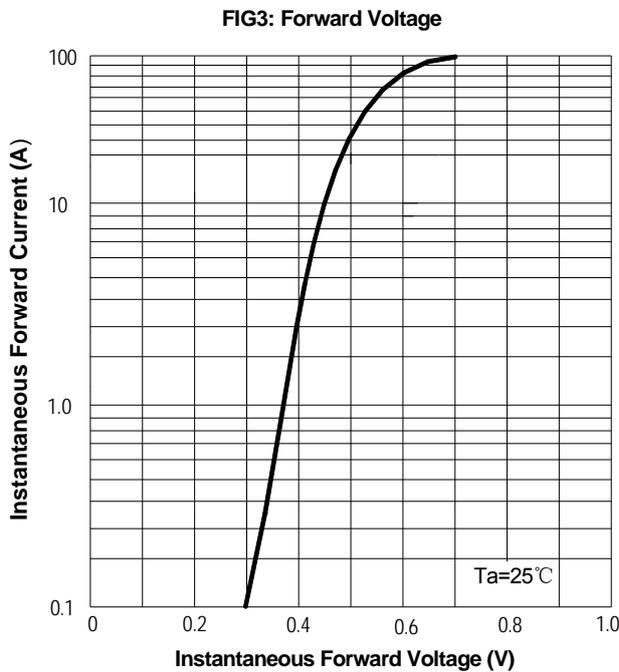
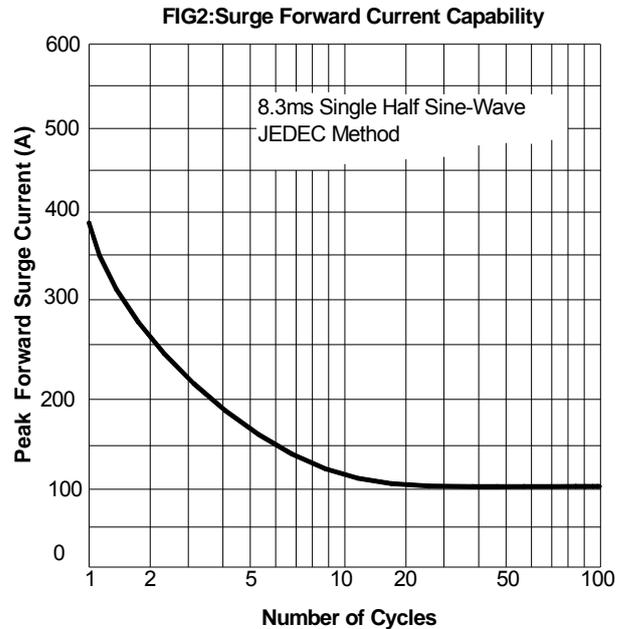
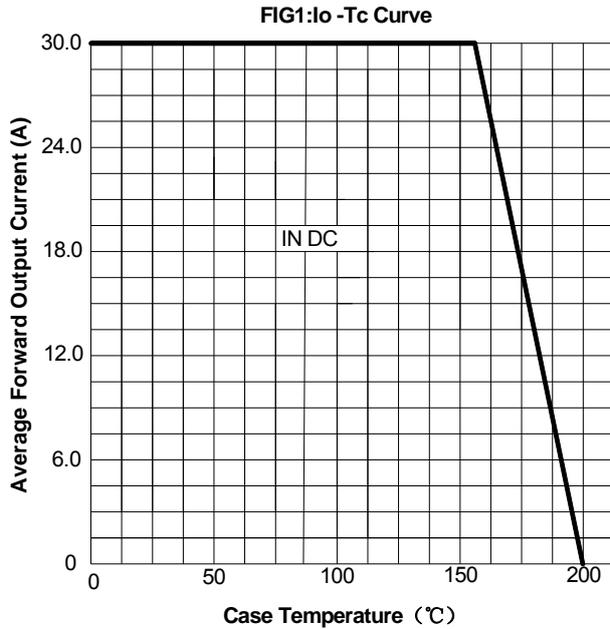


# 30SQ045

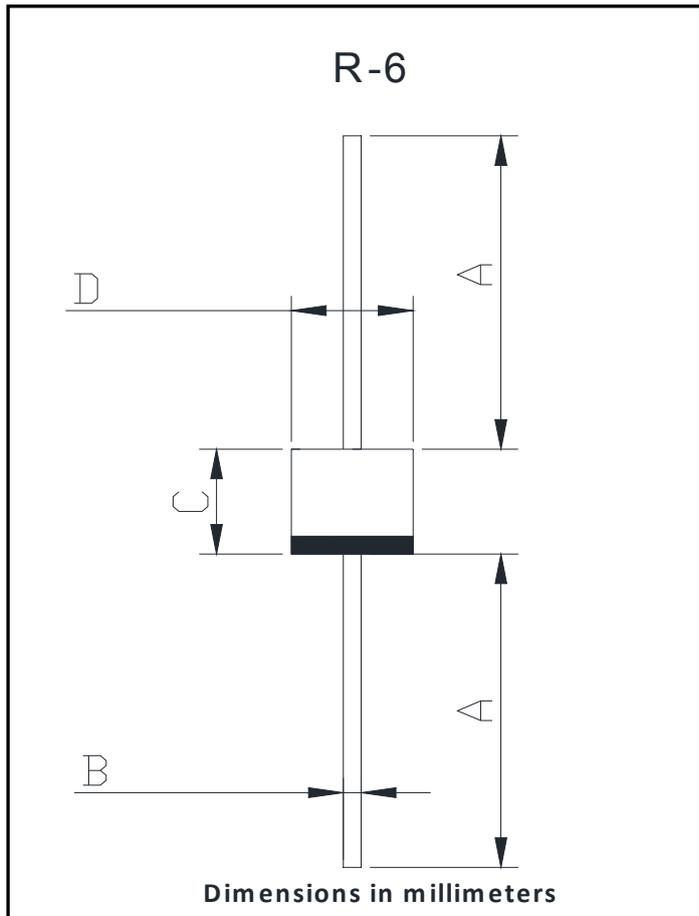
## Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g)   | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|------------------|-----------------------|-------------------------|----------------------------|---------------|
| 30SQ045      | Approximate 2.02 | 500                   | 10                      | 5000                       | Tape          |
| 30SQ045      | Approximate 2.02 | 1000                  | 4                       | 4000                       | Reel          |

## Characteristics (Typical)



## ■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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