

## 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 ( $T_a=25$ Unless otherwise specified)

| PARAMETER  | SYMBOL    | UNIT   | 20SQ045   |
|--|-----------|--------|-----------|
| Device Marking Code  |           |        | 20SQ045   |
| Repetitive Peak Reverse Voltage  | VRRM      | V      | 45        |
| Average Rectified Output Current @60Hz sine wave, R-load, $T_a=25$                                     | IO        | A      | 20        |
| Surge(Non-repetitive)Forward Current @60Hz half sine wave, 1 cycle, $T_a=25$                           | IFSM      | A      | 375       |
| Current Squared Time @1ms $t \leq 8.3ms$ $T_j=25$  | $I^2t$    | $A^2s$ | 583       |
| Storage Temperature  | $T_{stg}$ |        | -55 ~+150 |
| Junction Temperature IN DC Forward Mode-Forward Operations without reverse bias, $t \leq 1$ h (Fig. 1) | $T_j$     |        | -55 ~+200 |

### NOTE

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

### Electrical Characteristics $T_a=25$ Unless otherwise specified

| PARAMETER   | SYMBOL            | UNIT | TEST CONDITIONS       | 20SQ045 |
|---|-------------------|------|-----------------------|---------|
| Maximum instantaneous forward voltage drop per diode              | VFM               | V    | IFM=20.0A             | 0.51    |
| Maximum DC reverse current at rated DC blocking voltage per diode | I <sub>RRM1</sub> | mA   | VRM=VRRM<br>$T_a=25$  | 0.5     |
|   | I <sub>RRM2</sub> |      | VRM=VRRM<br>$T_a=100$ | 50      |

### Thermal Characteristics $T_a=25$ Unless otherwise specified

| PARAMETER          | SYMBOL                    | UNIT  | 20SQ045    |     |
|--------------------|---------------------------|-------|------------|-----|
| Thermal Resistance | Between junction and case | R J-C | $\Omega/W$ | 2.5 |

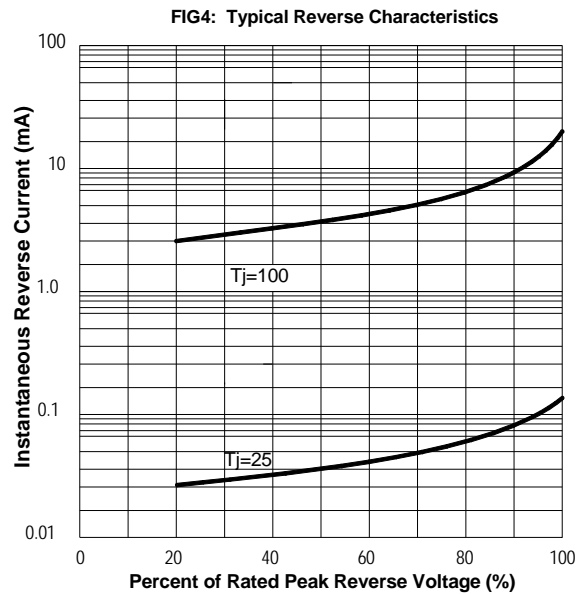
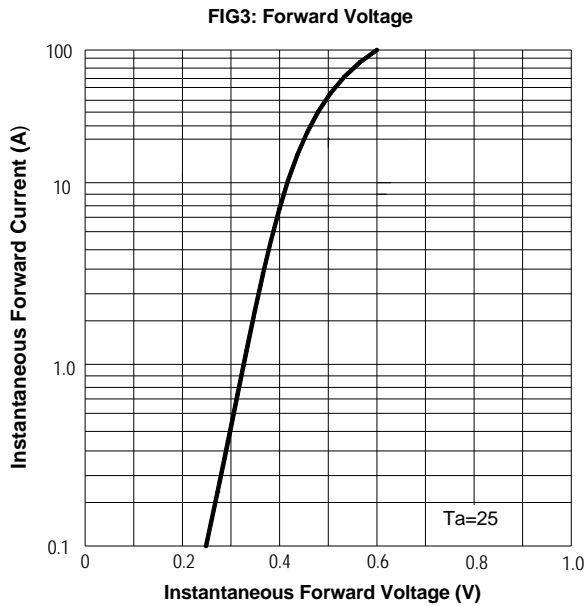
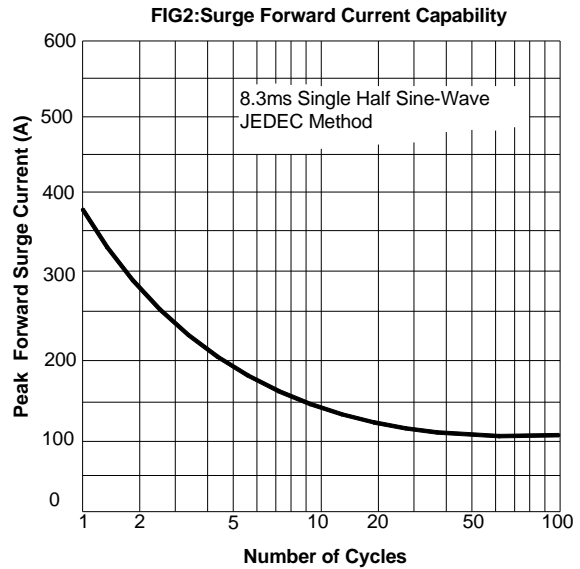
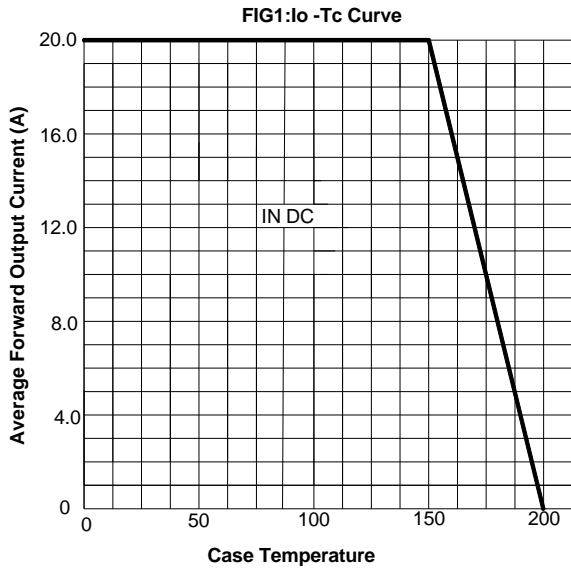


# 20SQ045

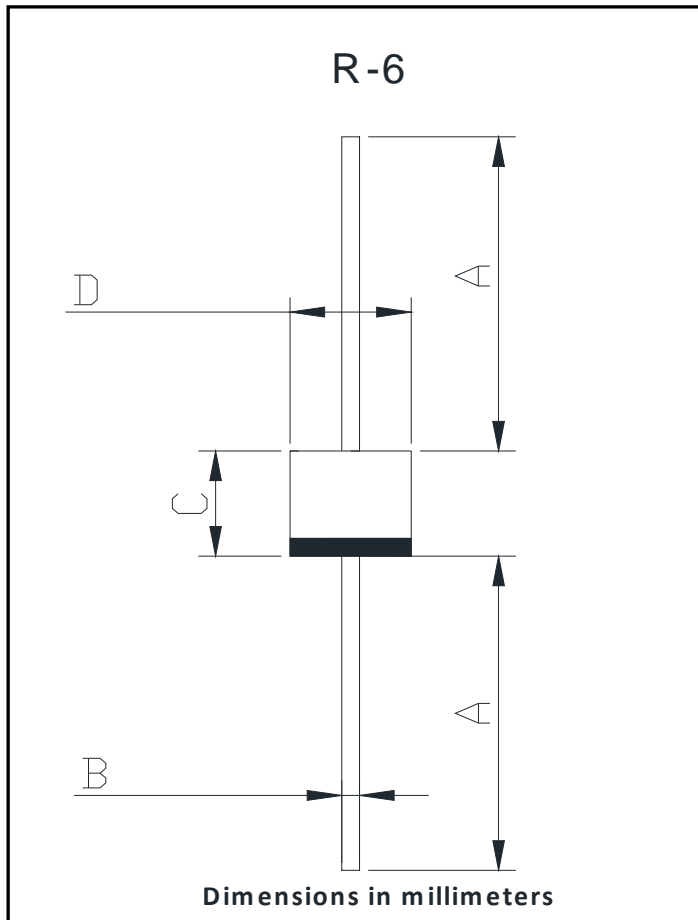
## Ordering Information (Example)

| PREFERED P/N | UNIT WEIGHT(g)   | MINIIMUM PACKAGE(pcs) | INNER BOX QUANTITY(pcs) | OUTER CARTON QUANTITY(pcs) | DELIVERY MODE |
|--------------|------------------|-----------------------|-------------------------|----------------------------|---------------|
| 20SQ045      | Approximate 1.96 | 500                   | 10                      | 5000                       | Tape          |
| 20SQ045      | Approximate 1.96 | 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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