



■ **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** ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	30SQ045
Device Marking Code			30SQ045
Repetitive Peak Reverse Voltage	VRRM	V	45
Average Rectified Output Current @60Hz sine wave, R-load, $T_a=25^{\circ}\text{C}$	I_O	A	30
Surge(Non-repetitive)Forward Current @60Hz half sine wave, 1 cycle, $T_a=25^{\circ}\text{C}$	I_{FSM}	A	380
Current Squared Time @1ms \leq t \leq 8.3ms $T_j=25^{\circ}\text{C}$	I^2t	A ² s	599
Storage Temperature	T_{stg}	$^{\circ}\text{C}$	-55 ~+150
Junction Temperature IN DC Forward Mode-Forward Operations, without reverse bias, t \leq 1 h (Fig. 1)①	T_j	$^{\circ}\text{C}$	-55 ~+200

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

■ **ELECTRICAL CHARACTERISTICS** ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	TEST CONDITIONS	30SQ045
Maximum instantaneous forward voltage drop per diode	VFM	V	$I_{FM}=30.0A$	0.55
Maximum DC reverse current at rated DC blocking voltage per diode	I _{RRM1}	mA	VRM=VRRM $T_a=25^{\circ}\text{C}$	0.5
	I _{RRM2}		VRM=VRRM $T_a=100^{\circ}\text{C}$	50

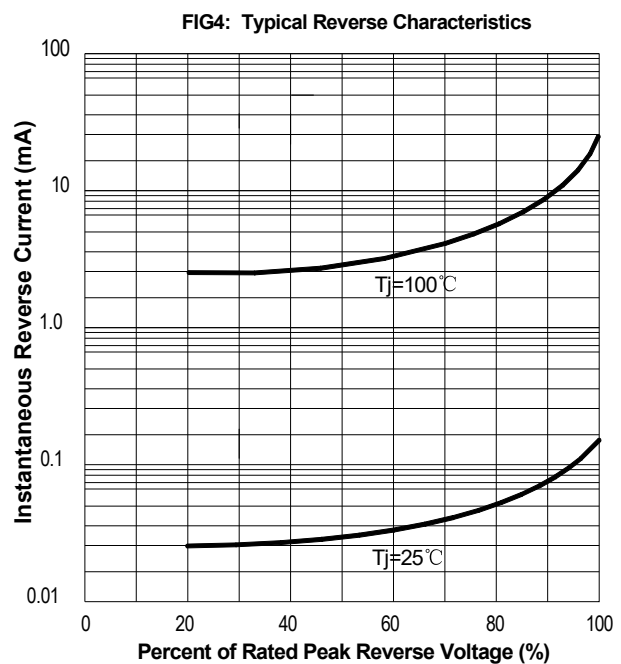
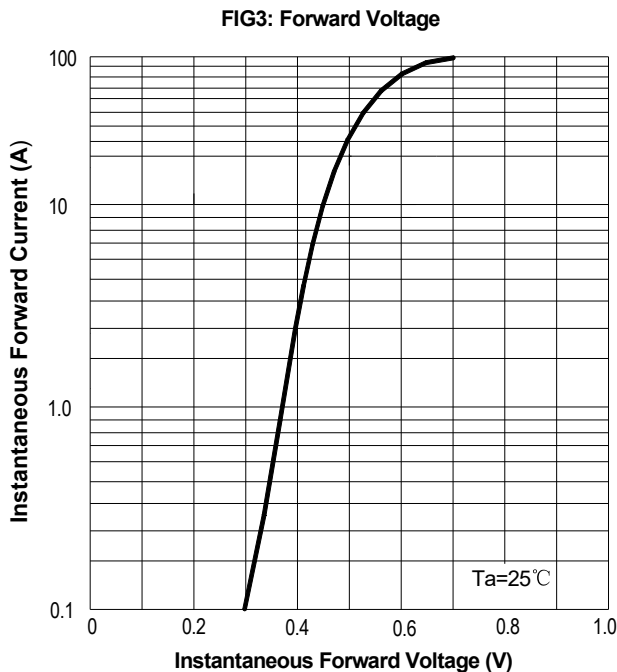
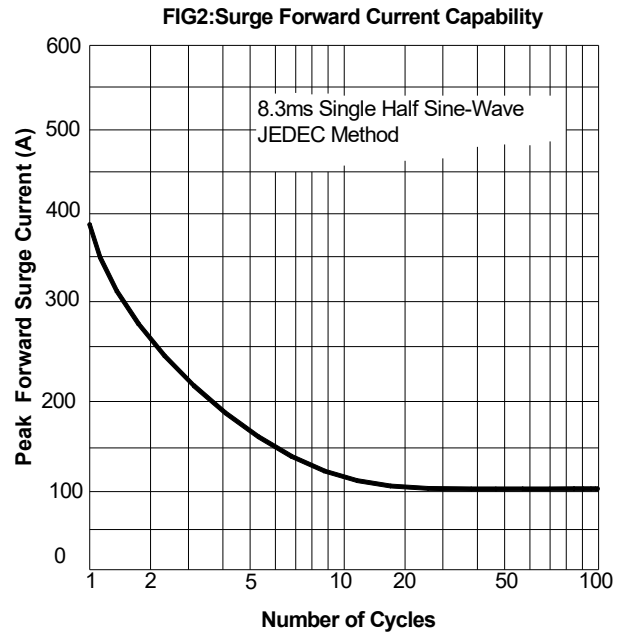
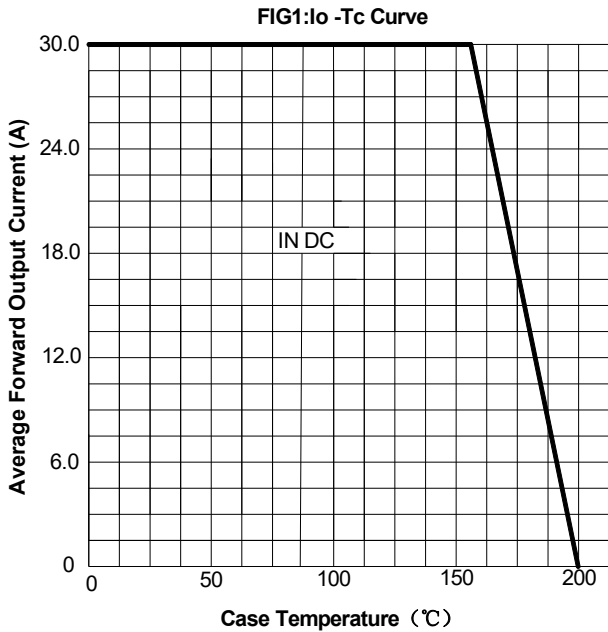
■ **THERMAL CHARACTERISTICS** ($T_a=25^{\circ}\text{C}$ Unless otherwise specified)

PARAMETER	SYMBOL	UNIT	30SQ045	
Thermal Resistance	Between junction and case	$R_{\theta J-C}$	$^{\circ}\text{C/W}$	2.5

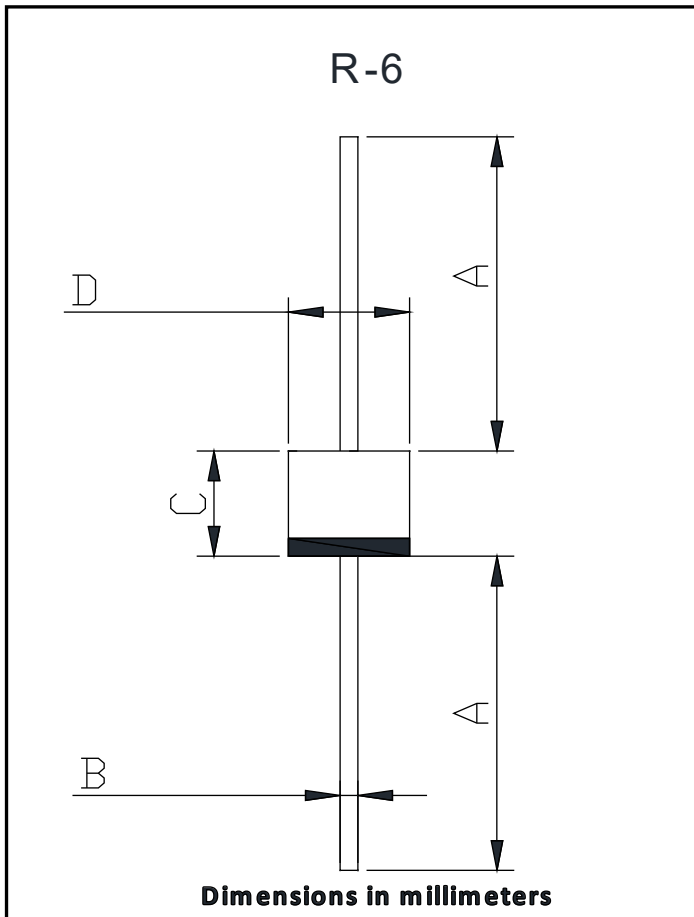
■ **PACKAGING INFORMATION**

PREFERRED 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