

## Photovoltaic Solar Cell Protection Schottky Diode

**Reverse Voltage - 45 Volts**  
**Forward Current - 30 Amperes**

### Features

- Low power loss, high efficiency
- High current capability, low  $V_F$
- High surge capacity

### Mechanical Data

- Case: JEDEC R-6 molded plastic
- Polarity: Color band denotes cathode
- Mounting position: Any

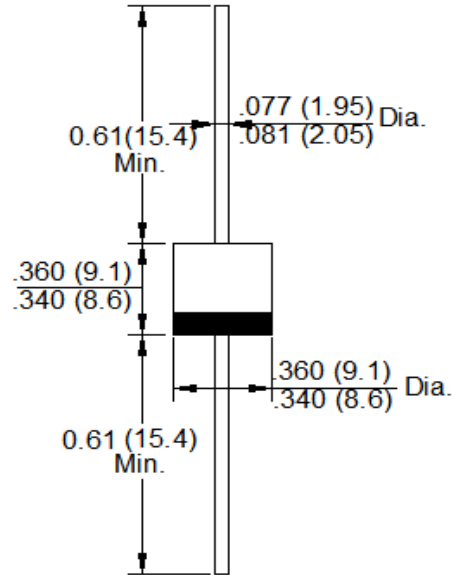
### Applications

- For use in solar cell junction box as a bypass diode

R-6(2.0)



RoHS  
COMPLIANT



Package Outline Dimensions in Inches (Millimeters)

### Maximum Ratings and Electrical Characteristics

Rating at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

Characteristics	Symbol	30SQ045	Unit
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	45	V
Maximum RMS Voltage	$V_{RMS}$	31.5	V
Maximum DC Blocking Voltage	$V_{DC}$	45	V
Maximum Average Forward Rectified Current @ $T_c=170^\circ\text{C}$	$I_{(AV)}$	30	A
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave, Superimposed on Rated Load ( JEDEC Method )	$I_{FSM}$	400	A
Peak Forward Voltage at 30A DC ( Note1 )	$V_F$	0.55	V
Maximum DC Reverse Current at Rated DC Blocking Voltage	@ $T_J=25^\circ\text{C}$	0.1	mA
	@ $T_J=75^\circ\text{C}$	2	
	@ $T_J=125^\circ\text{C}$	35	
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	1.5	$^\circ\text{C/W}$
Junction Temperature Range	$T_J$	-55 to +200	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-55 to +200	$^\circ\text{C}$

Notes: 1. 300uS pulse width, 2% duty cycle.

2. The typical data above is for reference only.



Fig. 1 - Forward Current Derating Curve

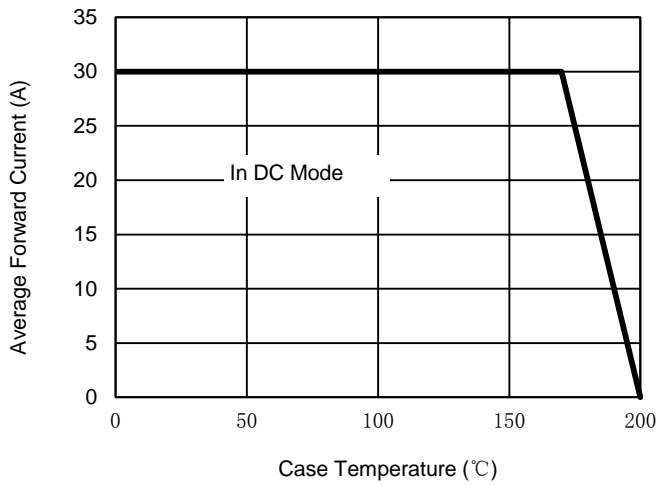


Fig. 2 - Maximum Non-Repetitive Surge Current

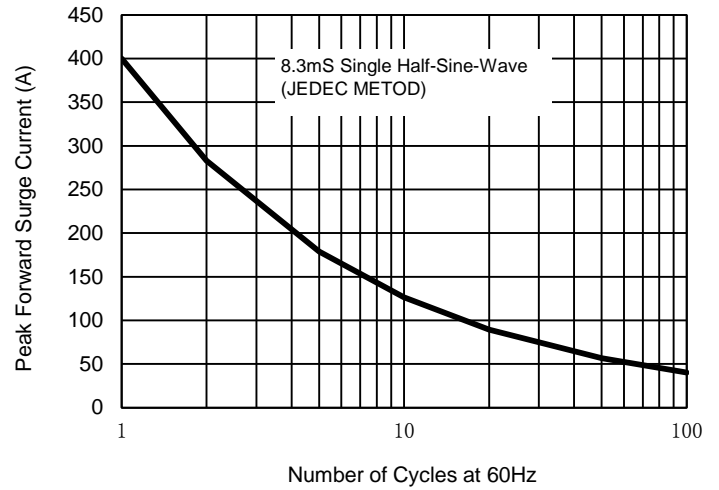


Fig. 3 - Typical Reverse Characteristics

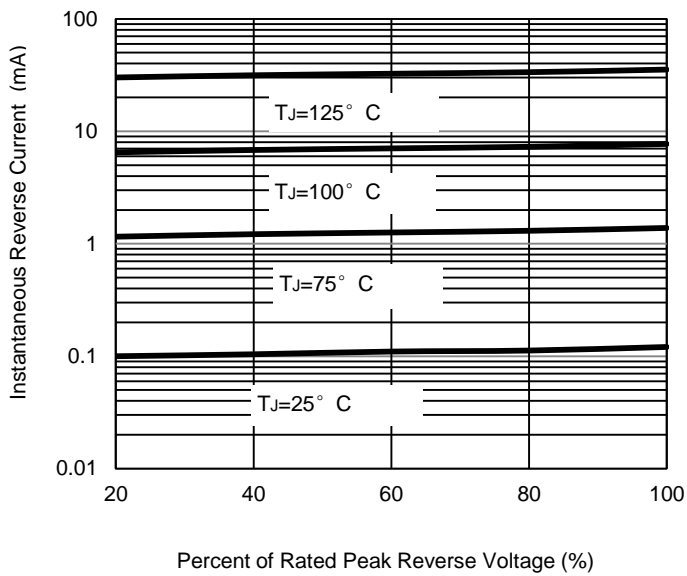
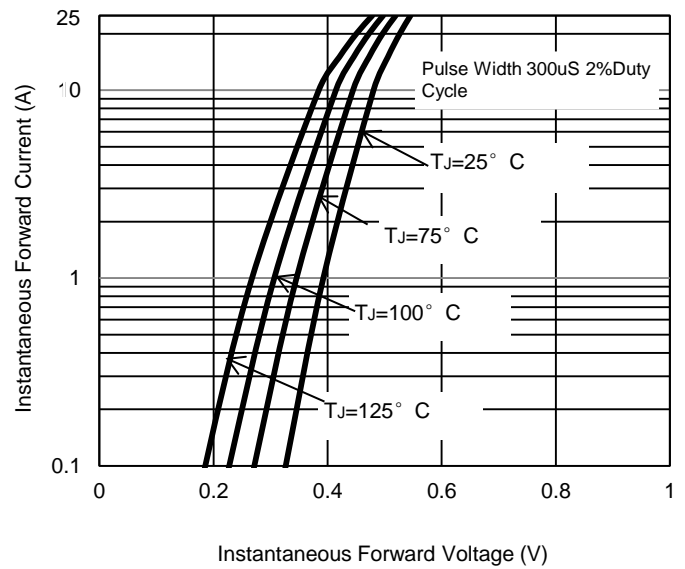


Fig. 4 - Typical Forward Characteristics



The curve above is for reference only.