



Photovoltaic Solar Cell Protection Schottky Diode

Reverse Voltage - 45 Volts
Forward Current - 40 Amperes

Features

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

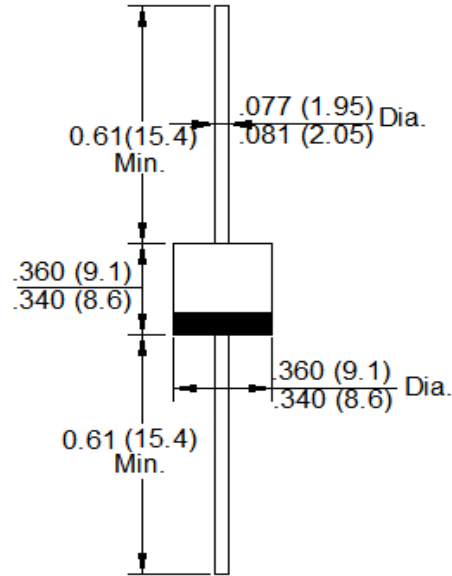
Mechanical Data

- 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)



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	40SQ045	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 @ $T_c=170^\circ\text{C}$	$I_{(AV)}$	40	A
Peak Forward Surge Current, 8.3mS Single Half Sine-Wave, Superimposed on Rated Load (JEDEC Method)	I_{FSM}	450	A
Peak Forward Voltage at 40A 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
	@ $T_J=125^\circ\text{C}$	35	
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	1.5	$^\circ\text{C}/\text{W}$
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

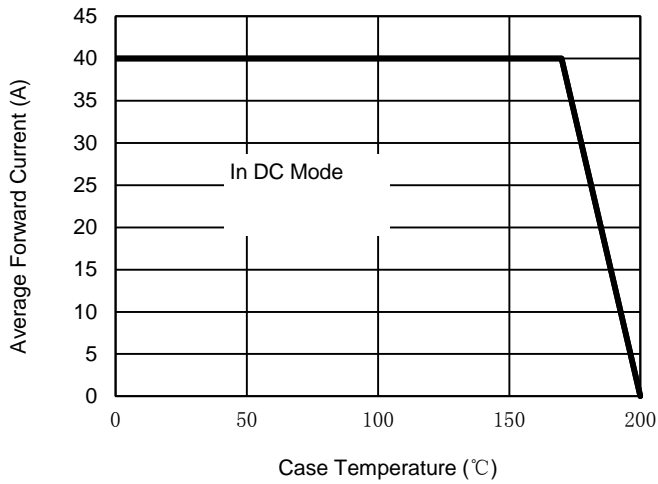


Fig. 2 - Maximum Non-Repetitive Surge Current

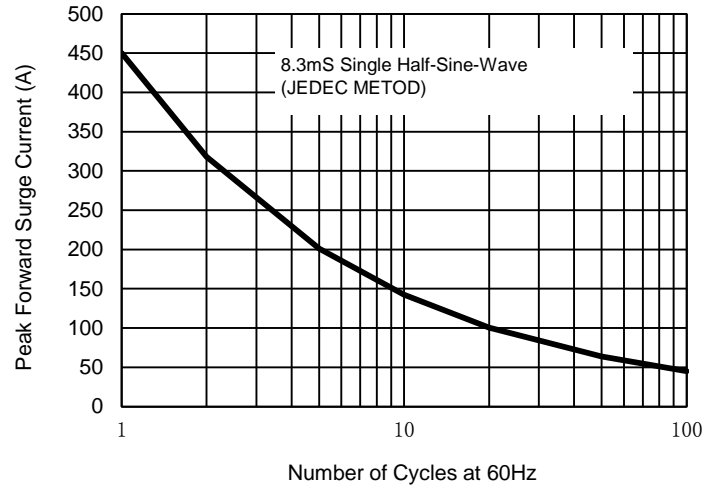


Fig. 3 - Typical Reverse Characteristics

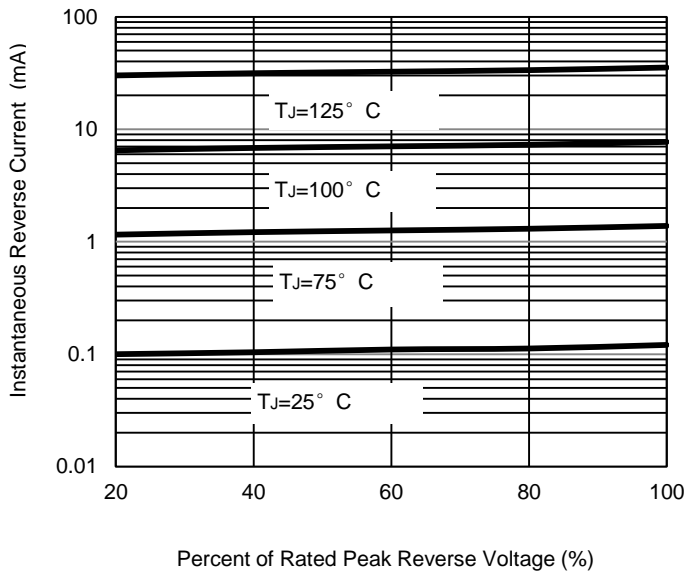
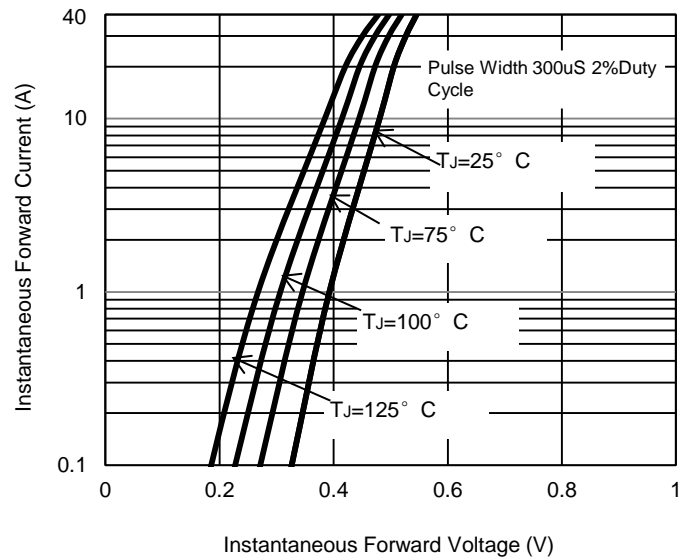


Fig. 4 - Typical Forward Characteristics



The curve above is for reference only.