

**SCHOTTKY BARRIER RECTIFIERS  
For PV Solar Cell Bypass Protection**

**REVERSE VOLTAGE - 50 Volts  
FORWARD CURRENT - 10 Amperes**

**FEATURES**

- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High surge&current capability, low VF

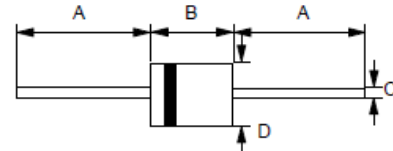
**APPLICATION**

- For use in Solar Cell junction box as a bypass diode for protection, using DC forward current without reverse bias

**MECHANICAL DATA**

- Case: JEDEC R-6 molded plastic
- Polarity : Color band denotes cathode
- Weight : 0.07 ounces, 2.1grams
- Mounting position: Any
- Soldering condition : Temp 260°C±5 (Duration 10±1s)

**R-6**



R-6		
Dim.	Min.	Max.
A	25.4	-
B	8.60	9.10
C	1.22 $\varnothing$	1.32 $\varnothing$
D	8.60 $\varnothing$	9.10 $\varnothing$
All Dimensions in millimeter		

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

Ratings at 25°C ambient temperature unless otherwise specified.

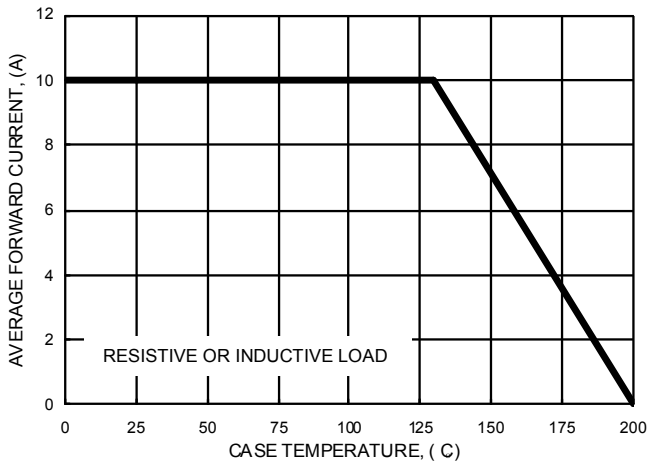
PARAMETER	SYMBOL	10SQ050	UNIT
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	V
Maximum RMS Voltage	$V_{RMS}$	35	V
Maximum DC Blocking Voltage	$V_{DC(AV)}$	50	V
Average Rectified Output Current @ $T_c=130^\circ C$	$I_F$	10	A
Peak Forward Surge Current 8.3ms single half sine-wave $T_j=25^\circ C$	$I_{FSM}$	250	A
Maximum Forward Voltage at 10A DC Note(1) $T_j=25^\circ C$	$V_F$	0.55	V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_j=25^\circ C$ $T_j=100^\circ C$	$I_R$	0.05 10	mA
Typical thermal resistance Junction to Case (Note 3)	$R_{\theta JC}$	11	$^\circ C/W$
Typical thermal resistance Junction to Ambient (Note 3)	$R_{\theta JA}$	28	$^\circ C/W$
Typical Thermal Resistance (Note 2)	$C_J$	720	pF
Operating junction temperature	$T_J$	125	$^\circ C$
Junction temperature in DC forward current without reverse bias, $t \leq 1$ h	$T_J$ (Note 4)	$\leq 200$	$^\circ C$
Storage temperature range	$T_{STG}$	-55 to +150	$^\circ C$

Note :

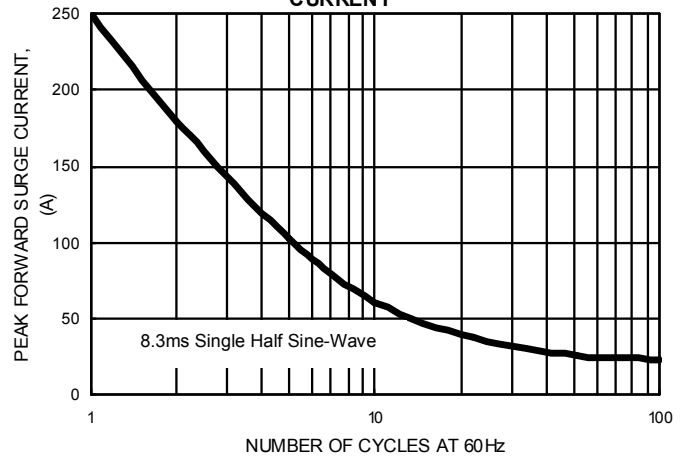
- (1) 300us Pulse Width, 2% Duty Cycle.
- (2) Measured at 1.0MHz and applied reverse voltage of 4.0  $V_{DC}$ .
- (3) Thermal Resistance test performed in accordance with JESD-51.
- (4) Meets the requirement of IEC 61215 ed. 2 bypass diode thermal test

REV. 1, Apr-2013, KDHG01

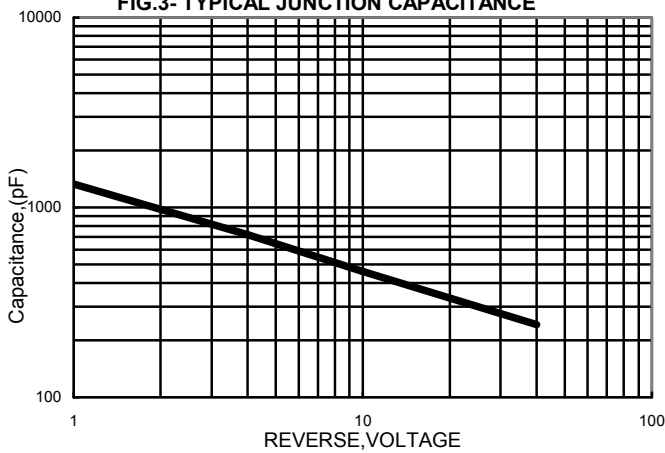
**FIG.1- FORWARD CURRENT DERATING CURVE**



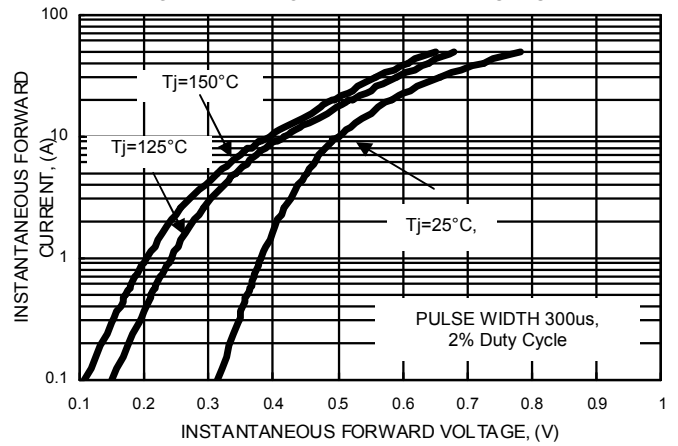
**FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT**



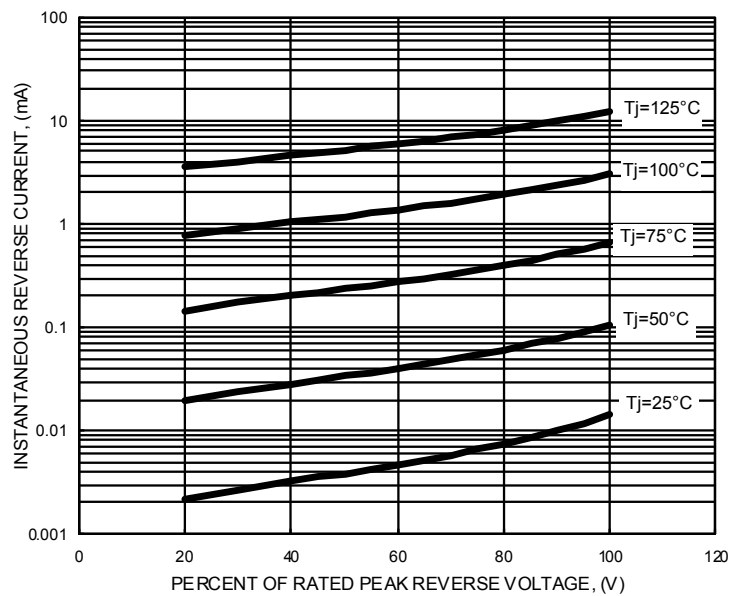
**FIG.3- TYPICAL JUNCTION CAPACITANCE**



**FIG.4- TYPICAL FORWARD CHARACTERISTICS**



**FIG.5- TYPICAL REVERSE CHARACTERISTICS**



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