

SCHOTTKY BARRIER RECTIFIERS For PV Solar Cell Bypass Protection	REVERSE VOLTAGE – 45 Volts FORWARD CURRENT – 15 Amperes
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FEATURES

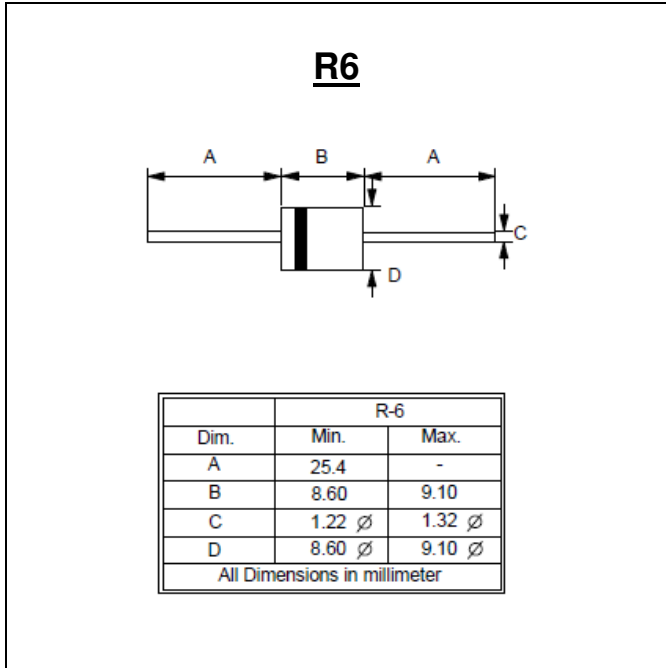
- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High surge¤t capability, low VF
- IEC 61000-4-2(ESD),>±30KV(air), >±15KV(contact)

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)



MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS
Ratings at 25°C ambient temperature unless otherwise specified.

PARAMETER	SYMBOL	15SQ045	UNIT
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	45	V
Maximum DC Blocking Voltage	$V_{DC(AV)}$	45	V
Average Rectified Output Current @Tc=115°C	I_F	15	A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I_{FSM}	275	A
Maximum Forward Voltage at 15A DC Note(1) Tj=25°C	V_F	0.55	V
Maximum DC Reverse Current at Rated DC Blocking Voltage Tj=25°C Tj=100°C	I_R	1.0 100	mA
Typical Thermal Resistance (Note 2)	C_J	1300	pF
Typical thermal resistance (Note 3)	$R_{\theta JL}$	2.0	°C/W
	$R_{\theta JC}$	7.0	
	$R_{\theta JA}$	40	
Operating junction temperature	T_J	150	°C
Junction temperature in DC forward current without reverse bias, t ≤ 1 h	T_J (Note 4)	≤ 200	°C
Storage temperature range	T_{STG}	-55 to +150	°C

Note : REV. 6, Jan-2014, KDHG02

(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;
 R_{thjL} is measured on 1mm from body and R_{thjC} is measured on surface center of body.
 (4) Meets the requirement of IEC 61215 ed. 2 bypass diode thermal test.

FIG.1- FORWARD CURRENT DERATING CURVE

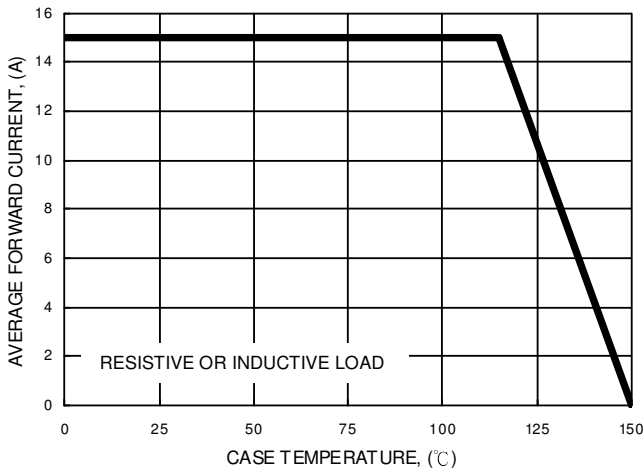


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

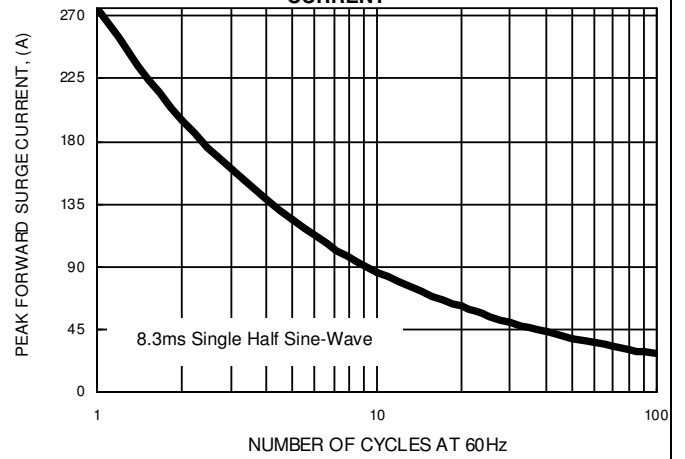


FIG.3- TYPICAL JUNCTION CAPACITANCE

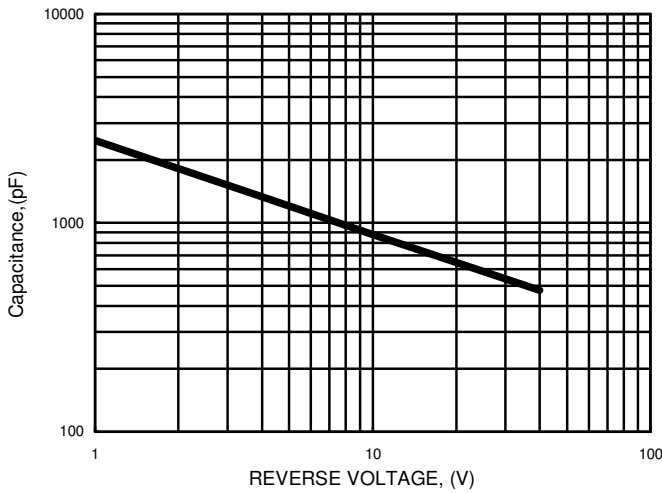


FIG.4- TYPICAL FORWARD CHARACTERISTICS

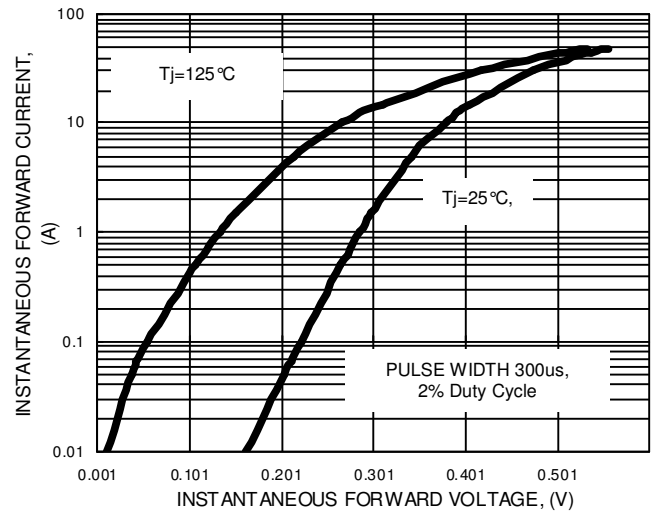
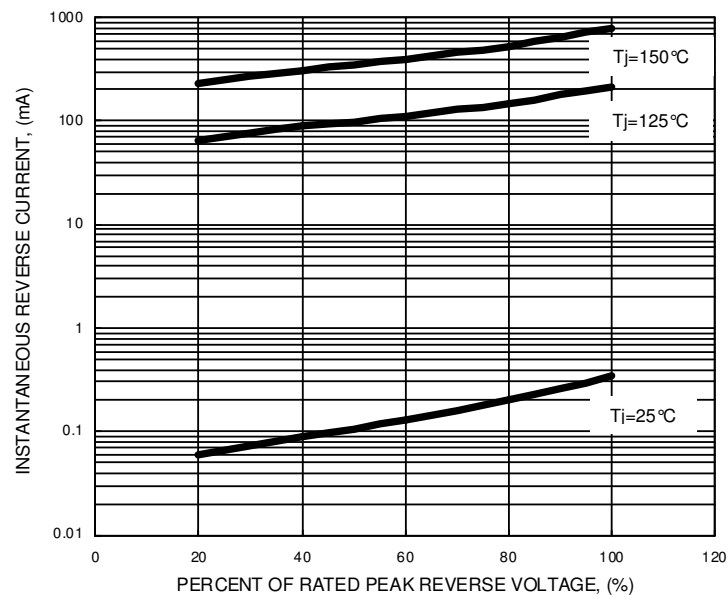


FIG.5- TYPICAL REVERSE CHARACTERISTICS



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