

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

REVERSE VOLTAGE – 40 to 45 Volts
FORWARD CURRENT – 20 Amperes

FEATURES

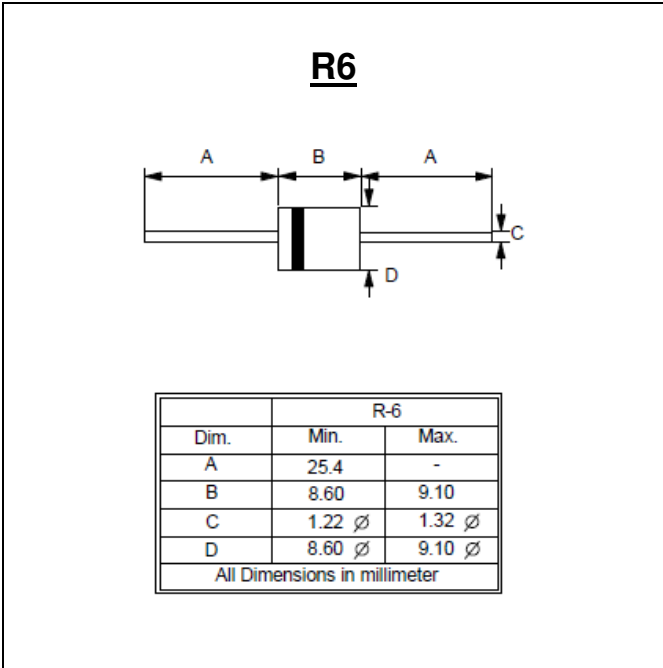
- Metal of silicon rectifier, majority carrier conduction
- Guard ring for transient protection
- Low power loss, high efficiency
- High surge¤t capability, low VF
- IEC 61000-4-2 (ESD), >±30KV(air), >±15KV(contact)

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	20SQ040	20SQ045	UNIT
Maximum Repetitive Peak Reverse Voltage	V _{RRM}	40	45	V
Maximum DC Blocking Voltage	V _{DC(AV)}	40	45	V
Average Rectified Output Current @T _c =100°C	I _F	20		A
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load	I _{FSM}	275		A
Maximum Forward Voltage at 20A DC Note (1) T _j =25°C	V _F	0.55		V
Maximum DC Reverse Current at Rated DC Blocking Voltage T _j =25°C T _j =100°C	I _R	1.0 100		mA
Typical thermal resistance Junction to Lead (Note 3)	R _{θJL}	2.0		°C/W
Typical thermal resistance Junction to Case (Note 3)	R _{θJC}	7.0		
Typical thermal resistance Junction to Ambient (Note 3)	R _{θJA}	40		
Typical Thermal Resistance (Note 2)	C _J	1300		pF
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. 3, Jan-2014, KDHG03

- (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.

FIG.1- FORWARD CURRENT DERATING CURVE

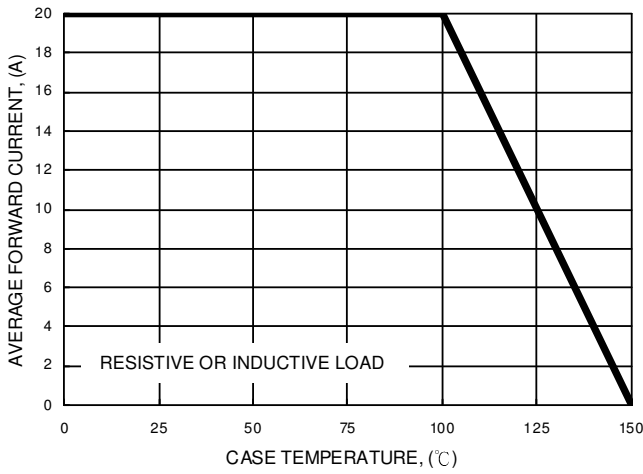


FIG.2- MAXIMUM NON-REPETITIVE SURGE CURRENT

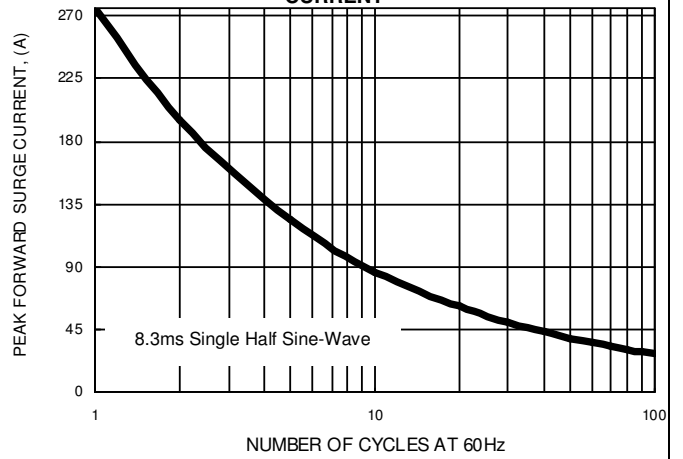


FIG.3- TYPICAL JUNCTION CAPACITANCE

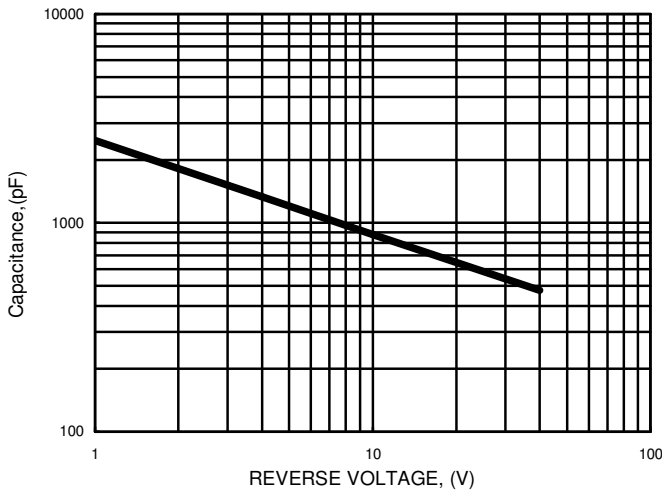


FIG.4- TYPICAL FORWARD CHARACTERISTICS

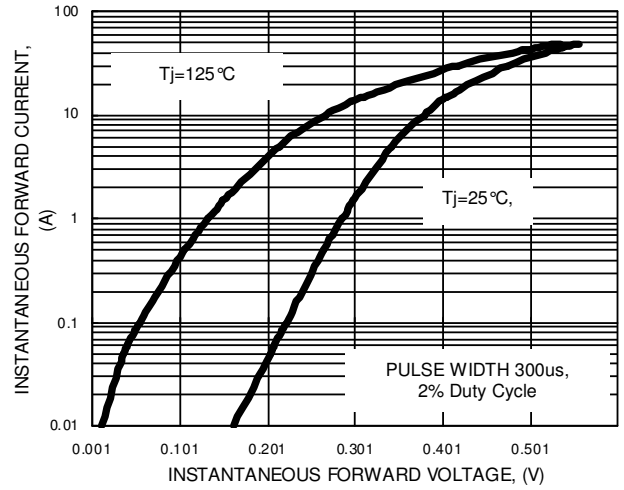
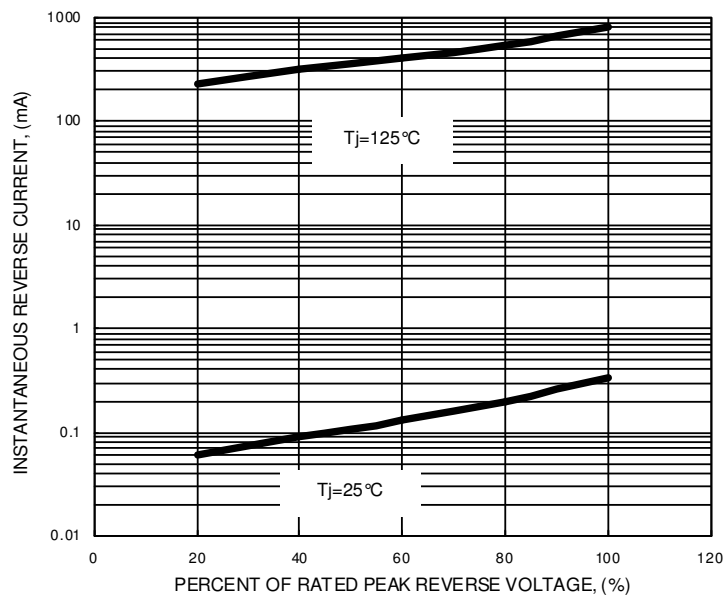


FIG.5- TYPICAL REVERSE CHARACTERISTICS



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