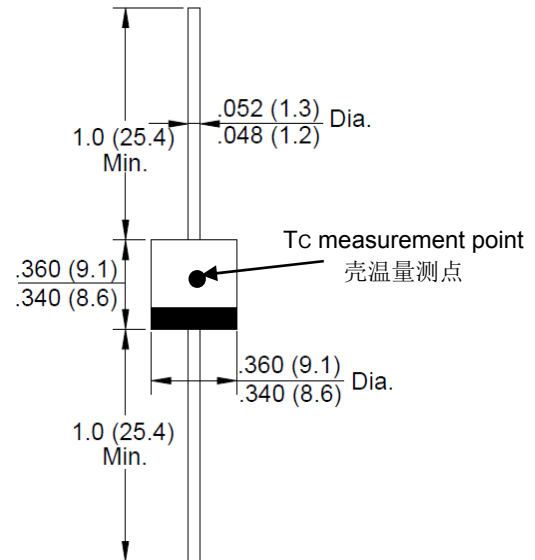


**PHOTOVOLTAIC SOLAR CELL  
PROTECTION SCHOTTKY RECTIFIER**
**REVERSE VOLTAGE - 45Volts  
FORWARD CURRENT - 15.0 Amperes**
**FEATURES**

- Trench MOS Schottky technology
- Low forward voltage drop, low power losses
- High efficiency operation
- High forward surge capability
- Solder dip 275°C max. 10s, per JESD 22-B106
- Compliant to RoHS Directive 2002/95/ec and in accordance to WEEE 2002/96/EC

**MECHANICAL DATA**

- Case: JEDEC R-6 molded plastic
- Polarity: Color band denotes cathode
- Weight: 0.07 ounces, 2.1 grams
- Mounting position: Any

**R - 6**


Dimensions in inches and (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	15TQ045	UNIT		
Maximum Recurrent Peak Reverse Voltage		V <sub>RRM</sub>	45	V		
Maximum RMS Voltage		V <sub>RMS</sub>	31.5	V		
Maximum DC Blocking Voltage		V <sub>DC</sub>	45	V		
Maximum Average Forward Rectified Current (with heatsink)		I <sub>F(AV)</sub>	15	A		
(without heatsink, free air)		I <sub>F(AV)</sub>	6			
Peak Forward Surge Current 8.3ms single half sine-wave super imposed on rated load (JEDEC Method)		I <sub>FSM</sub>	200	A		
Instantaneous Forward voltage (NOTE 1)	I <sub>F</sub> =5.0A	V <sub>F</sub>	0.44 (TYP.)		V	
	I <sub>F</sub> =7.5A		0.46 (TYP.)			
	I <sub>F</sub> =15A		0.51 (TYP.)	0.59 (MAX.)		
	I <sub>F</sub> =5.0A		0.33 (TYP.)			
	I <sub>F</sub> =7.5A		0.36 (TYP.)			
	I <sub>F</sub> =15A		0.44 (TYP.)	0.54 (MAX.)		
Reverse Current (NOTE 2)	V <sub>R</sub> =45V	I <sub>R</sub>	TA=25°C	11.6 (TYP.)	800 (MAX.)	μA
			TA=125°C	7.5 (TYP.)	25 (MAX.)	mA
Typical Junction Capacitance	4.0 V, 1 MHz	C <sub>J</sub>	1290 (TYP.)		pF	
Thermal Resistance		R <sub>θJA</sub> <sup>(3)</sup>	55		°C/W	
		R <sub>θJL</sub> <sup>(3)</sup>	3.5			
Typical Thermal Resistance		R <sub>θJL</sub> <sup>(4)</sup>	2.5		°C/W	
Operating Junction Temperature Range		T <sub>op</sub>	-40 to +150		°C	
Junction Temperature in DC Forward Current Without reverse bias, t ≤ 1h (fig. 2) (Note 5)		T <sub>J</sub>	≤200		°C	
Storage Temperature Range		T <sub>STG</sub>	-40 to +175		°C	

Notes: (1) Pulse test: 300 μs pulse width, 1% duty cycle

(2) Pulse test: 40ms pulse width

(3) Without heatsink, free air, units mounted on PCB with 2 mm X 2 mm copper pad areas at 9.5 mm lead length

(4) Leads clipped at 3 mm lead length from plastic body on 7.0 cm X 2.2 cm X 1.9 cm X 2 heatsink

(5) Meets the requirements of IEC 61215 ed. 2 bypass diode thermal test

(6) The typical data above is for reference only (典型值仅供参考).

FIG.1-FORWARD CURRENT DERATING CURVE

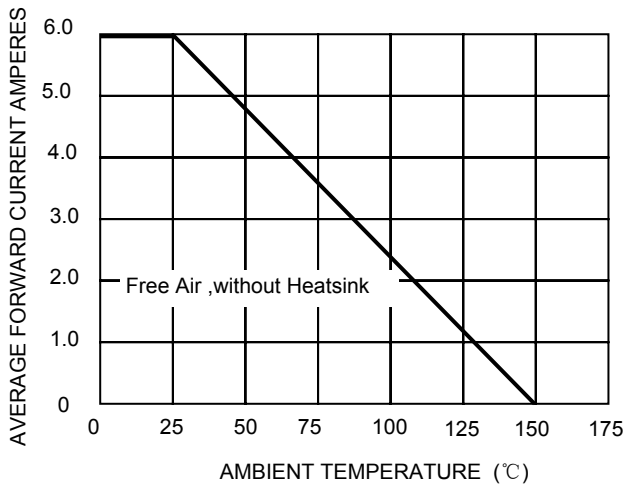


FIG.2-RATED FORWARD CURRENT vs. AMBIENT TEMPERATURE

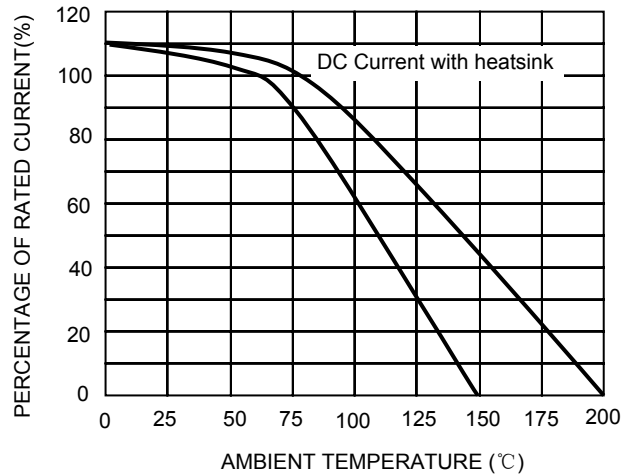


FIG.3-FORWARD POWER LOSS CHARACTERISTICS

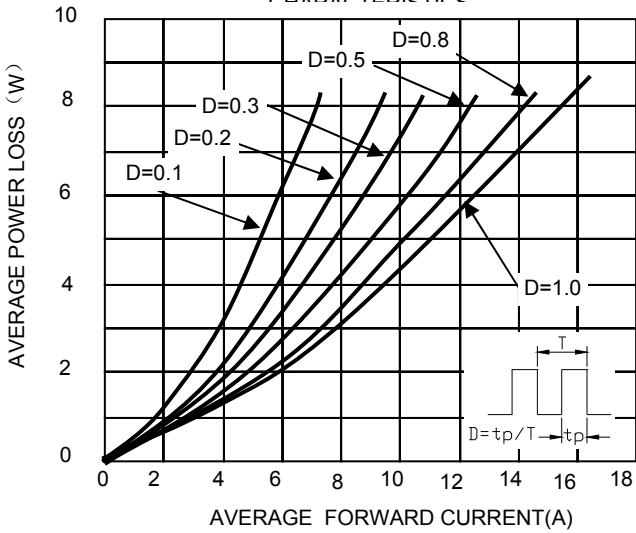


FIG.4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

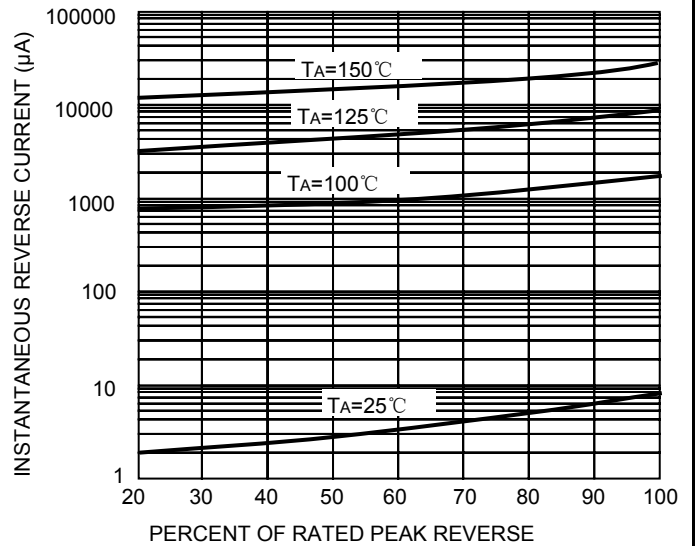


FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

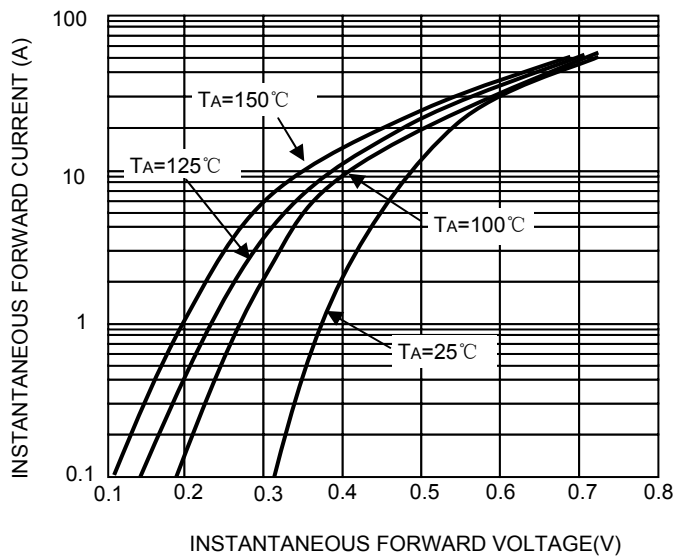
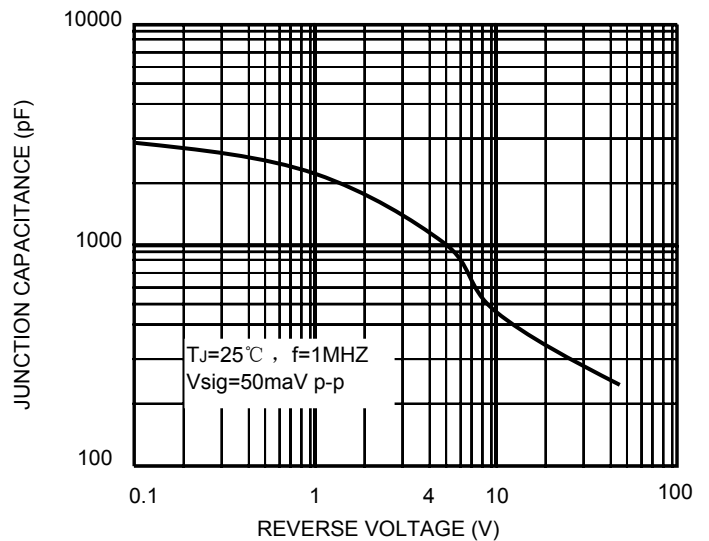


FIG.6-TYPICAL JUNCTION CAPACITANCE



The curve graph is for reference only, can't be the basis for judgment(曲线图仅供参考!)



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