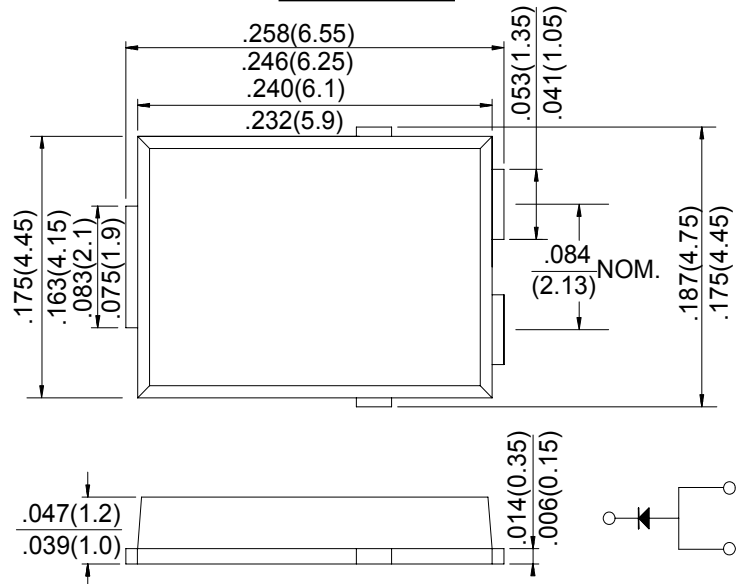


**SURFACE MOUNT
SCHOTTKY BARRIER RECTIFIERS**
**REVERSE VOLTAGE - 45Volts
FORWARD CURRENT - 10.0 Amperes**
FEATURES

- Very low profile - typical height of 1.1 mm
- Ideal for automated placement
- Trench Schottky technology
- Low forward voltage drop, low power losses
- High efficiency operation
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Compliant to RoHS Directive 2002/95/EC and in accordance to WEEE 2002/96/EC

MECHANICAL DATA

- Case: TO-277A (SMPC)
- Molding compound meets UL 94 V-0 flammability rating
- Terminals: Matte tin plated leads, solderable per J-STD-002 and JESD 22-B102

TO-277A


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	S10P45	UNIT	
Maximum Recurrent Peak Reverse Voltage		V _{RRM}	45	V	
Maximum DC Forward Current		I _F ⁽¹⁾	10	A	
		I _F ⁽²⁾	4.4		
Peak Forward Surge Current 10ms Single Half Sine-Wave Superimposed on Rated Load		I _{FSM}	180	A	
Instantaneous Forward voltage	I _F =5.0A	T _A =25°C	0.42(TYP.)		V
			I _F =10A	0.48(TYP.)	
	I _F =5.0A	T _A =125°C	0.34(TYP.)		
			I _F =10A	0.41 (TYP.)	
Reverse Current	V _R =45V	T _A =25°C	21 (TYP.)	800 (MAX.)	μA
		T _A =125°C	9 (TYP.)	35 (MAX.)	mA
Typical Thermal Resistance		R _{θJA} ⁽⁵⁾	75	°C/W	
		R _{θJM} ⁽⁶⁾	4		
Operating Temperature Range		T _J	-40 to +150	°C	
Storage Temperature Range		T _{STG}	-40 to +150	°C	

Notes:(1) Mounted on 30 mm x 30 mm pad areas aluminum PCB

(2) Free air, mounted on recommended copper pad area

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

(4) Pulse test: Pulse width ≤ 40 ms

 (5) Free air, mounted on recommended copper pad area; thermal resistance R_{θJA} - junction to ambient

 (6) Mounted on 30 mm x 30 mm aluminum PCB; thermal resistance R_{θJM} - junction to mount

FIG.1-TYPICAL TRANSIENT THERMAL IMPEDANCE

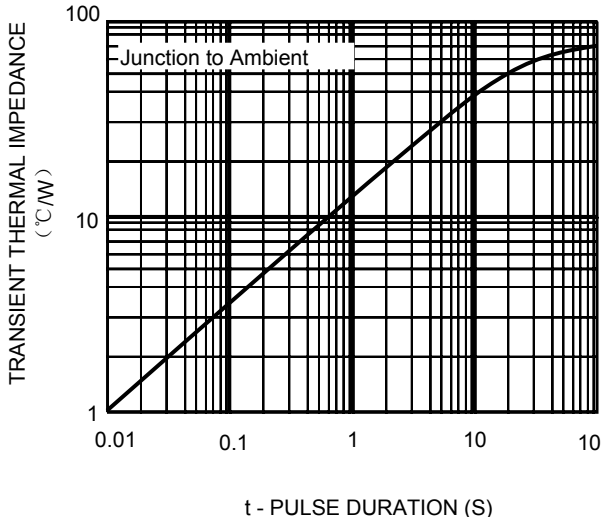


FIG.2-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

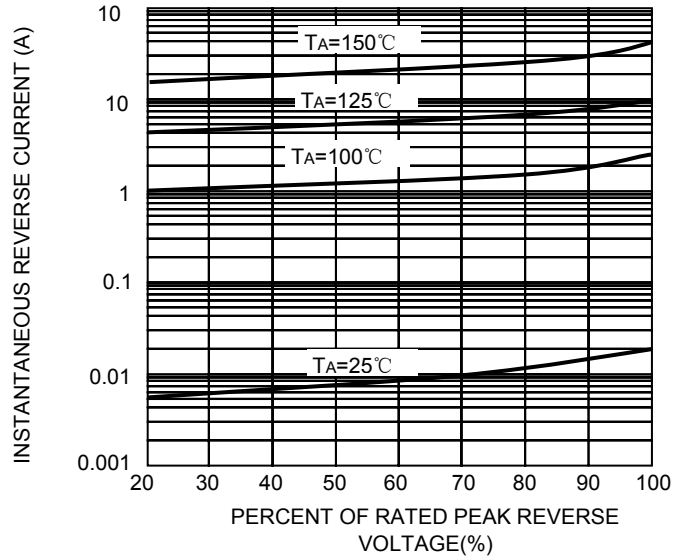


FIG.3-FORWARD POWER LOSS CHARACTERISTICS

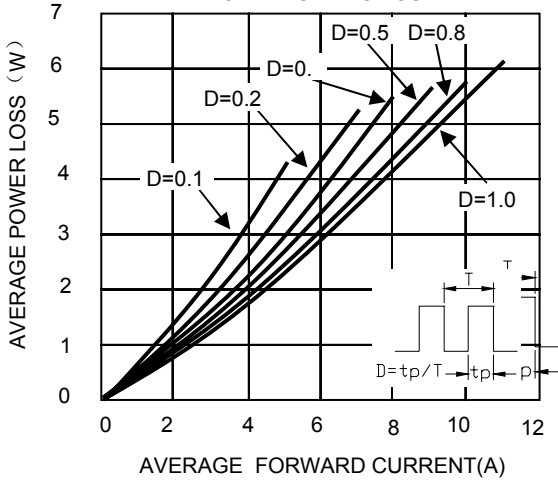


FIG.4-TYPICAL JUNCTION CAPACITANCE

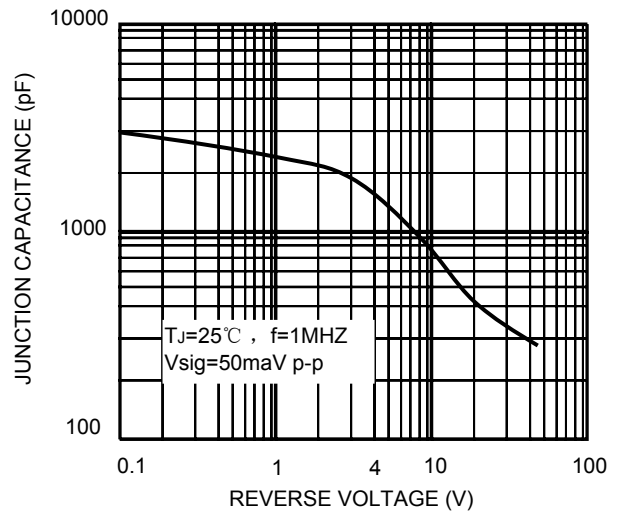


FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

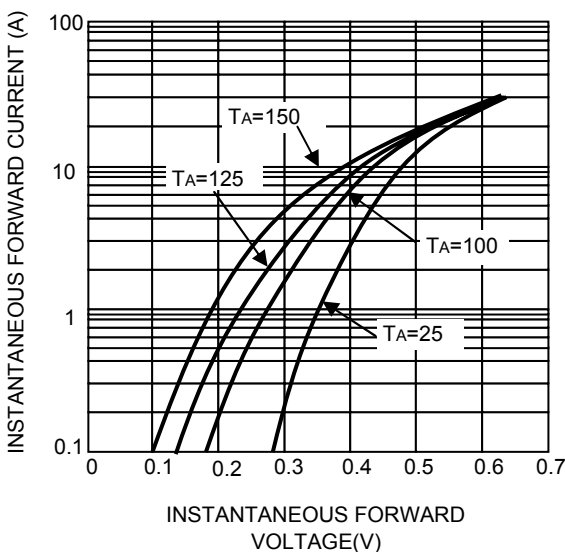
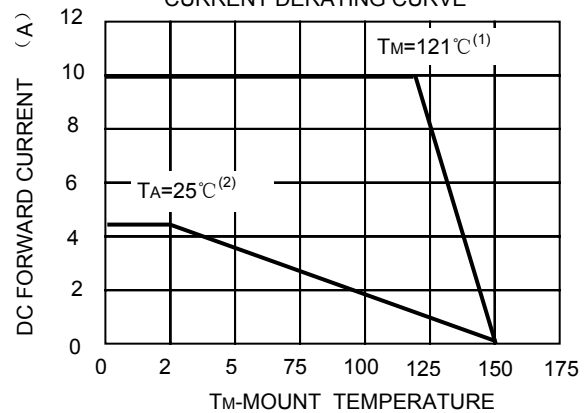


FIG.6-MAXIMUM FORWARD CURRENT DERATING CURVE



NOTE: (1) Mounted on 30 mm x 30 mm aluminum PCB; T_M measured at the terminal of cathode band ($R_{\theta JM} = 4^{\circ}\text{C}/\text{W}$)
(2) Free air, mounted on recommended copper pad area ($R_{\theta JA} = 75^{\circ}\text{C}/\text{W}$)