S10P45

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

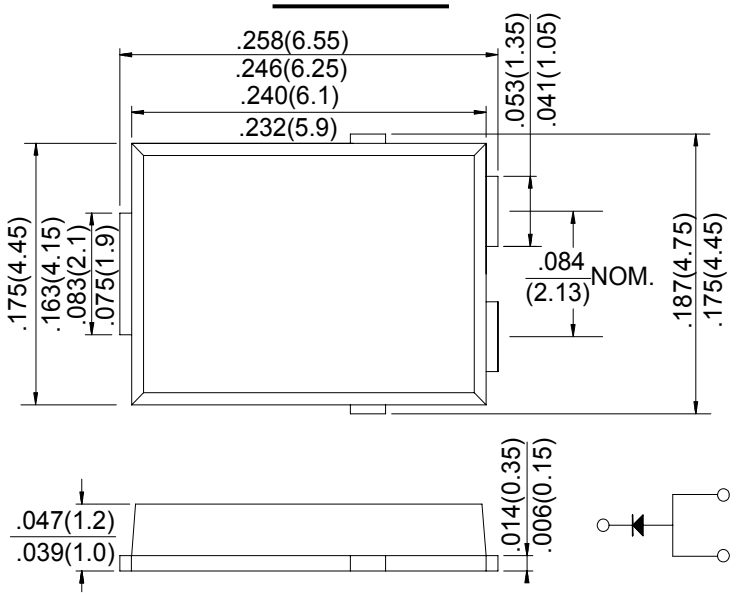
MECHANICAL DATA

- 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℃ 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℃	V_F(3)	0.42(TYP.)		V
	I_F=10A			0.48(TYP.)	0.57 (MAX.)	
	I_F=5.0A	T_A=125℃		0.34(TYP.)		
	I_F=10A			0.41 (TYP.)	0.50 (MAX.)	
Reverse Current	V_R=45V	T_A=25℃	I_R(4)	21 (TYP.)	800 (MAX.)	μA
		T_A=125℃		9 (TYP.)	35 (MAX.)	mA
Typical Thermal Resistance			$R_{\theta JA}$(5)	75		℃/W
			$R_{\theta JM}$(6)	4		
Operating Temperature Range			TJ	-40 to +150		℃
Storage Temperature Range			TSTG	-40 to +150		℃

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 $R_{\theta JA}$ - junction to ambient

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

RATING AND CHARACTERTIC CURVES
S10P45

FIG.1-TYPICAL TRANSIENT THERMAL IMPEDANCE

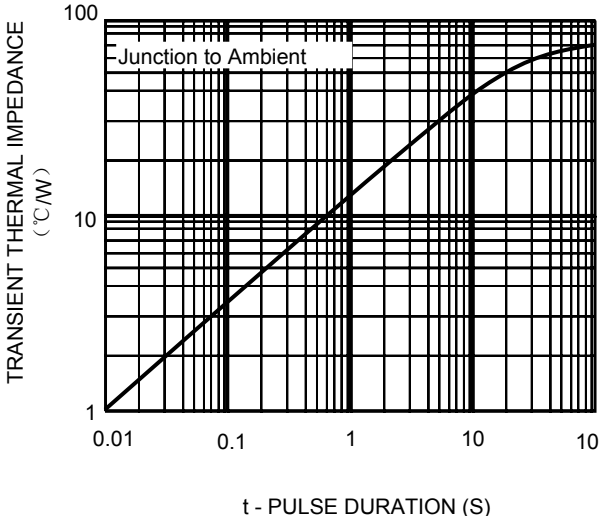


FIG.2-TYPICAL REVERSE LEAKAGE CHARACTERISTICS

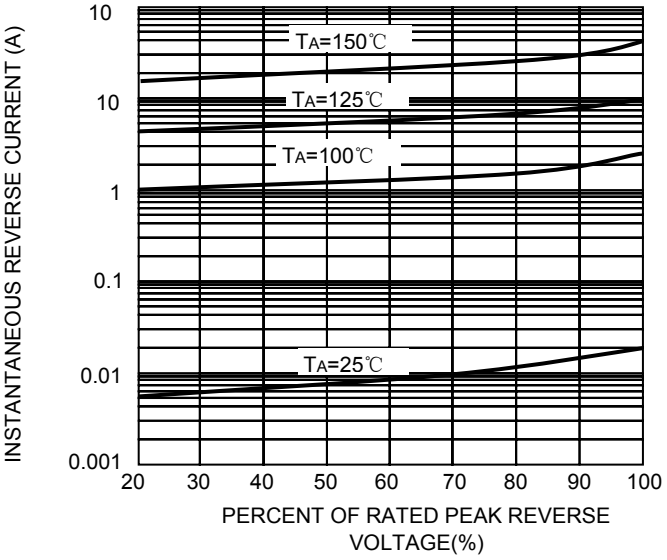


FIG.3-FORWARD POWER LOSS CHARACTERISTICS

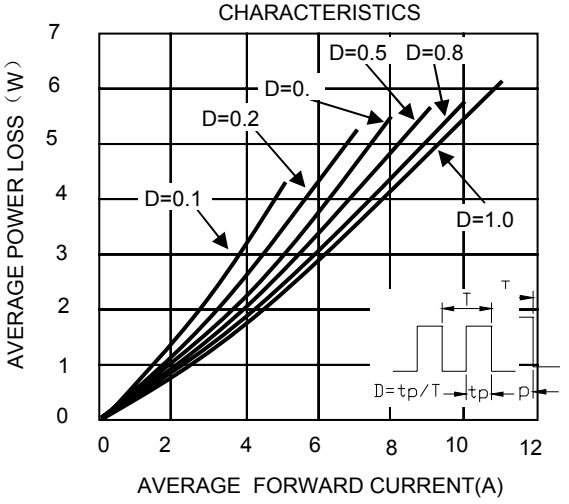


FIG.4-TYPICAL JUNCTION CAPACITANCE

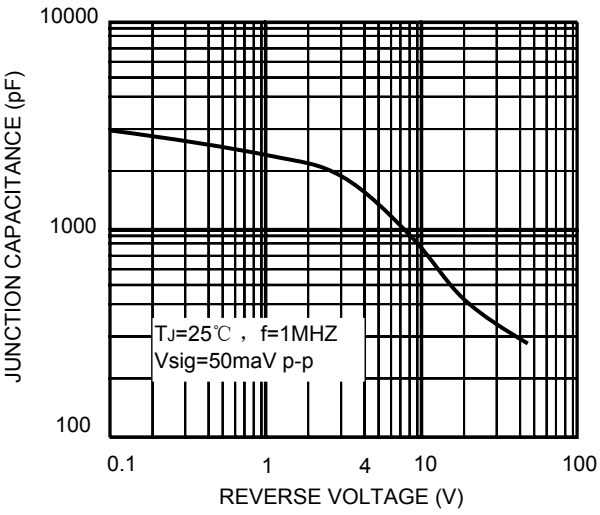


FIG.5-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

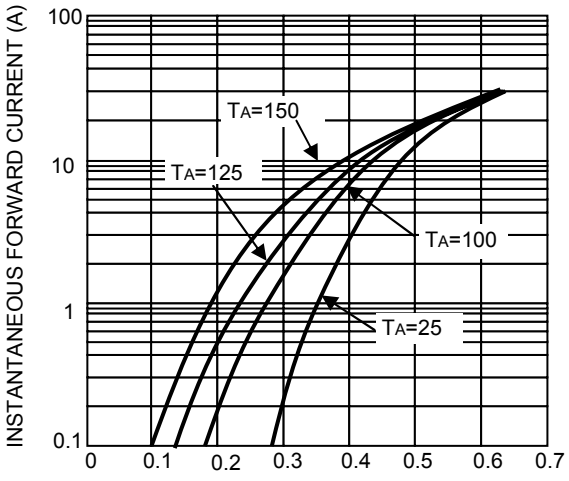
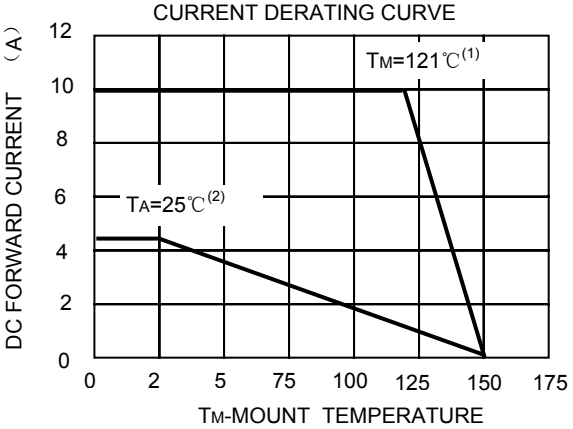


FIG.6-MAXIMUM FORWARD CURRENT DERATING CURVE



NOTE: (1) Mounted on 30 mm x 30 mm aluminum PCB; TM measured at the terminal of cathode band ($R_{\theta JM}$ = 4 °C/W)

(2) Free air, mounted on recommended copper pad area ($R_{\theta JA}$ = 75 °C/W)

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