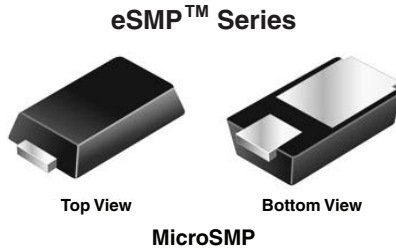


Surface Mount Schottky Barrier Rectifiers



FEATURES

- Very low profile - typical height of 0.65 mm
- Ideal for automated placement
- Low forward voltage drop, low power losses
- High efficiency
- Meets MSL level 1, per J-STD-020C, LF max peak of 260 °C
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, free-wheeling, dc-to-dc converters, and polarity protection applications.

MECHANICAL DATA

Case: MicroSMP

Epoxy meets UL 94V-0 flammability rating

Terminals: Matte tin plated leads, solderable per J-STD-002B and JESD22-B102D
E3 suffix for commercial grade

Polarity: Color band denotes the cathode end

PRIMARY CHARACTERISTICS	
$I_{F(AV)}$	1 A
V_{RRM}	50 V, 60 V
I_{FSM}	25 A
V_F at $I_F = 1.0$ A	0.52 V
T_J max.	150 °C

MAXIMUM RATINGS ($T_A = 25$ °C unless otherwise noted)				
PARAMETER	SYMBOL	MSS1P5	MSS1P6	UNIT
Device marking code		15	16	
Maximum repetitive peak reverse voltage	V_{RRM}	50	60	V
Maximum average forward rectified current (see Fig. 1)	$I_{F(AV)}$	1.0		A
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	25		A
Operating junction and storage temperature range	T_J, T_{STG}	- 55 to + 150		°C

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)					
PARAMETER	TEST CONDITIONS	SYMBOL	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage ⁽¹⁾	at $I_F = 0.5$ A, $T_J = 25$ °C at $I_F = 1.0$ A, $T_J = 25$ °C	V_F	0.45 0.56	- 0.68	V
	at $I_F = 0.5$ A, $T_J = 125$ °C at $I_F = 1.0$ A, $T_J = 125$ °C		0.40 0.52	- 0.60	
Maximum reverse current ⁽¹⁾	at rated V_R $T_J = 25$ °C $T_J = 125$ °C	I_R	20 7.0	150 12	μ A mA
Typical junction capacitance	at 4.0 V, 1 MHz	C_J	40	-	pF

Note:

(1) Pulse test: 300 μ s pulse width, 1 % duty cycle



THERMAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)				
PARAMETER	SYMBOL	MSS1P5	MSS1P6	UNIT
Typical thermal resistance ⁽¹⁾	$R_{\theta JA}$	125		$^\circ\text{C/W}$
	$R_{\theta JL}$	30		
	$R_{\theta JC}$	40		

Note:

(1) Thermal resistance from junction to ambient and junction to lead mounted on P.C.B. with 6.0 x 6.0 mm copper pad areas
 $R_{\theta JL}$ is measured at the terminal of cathode band. $R_{\theta JC}$ is measured at the top center of the body

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
MSS1P6-E3/89A	0.006	89A	4500	7" diameter plastic tape and reel

RATINGS AND CHARACTERISTICS CURVES

($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)

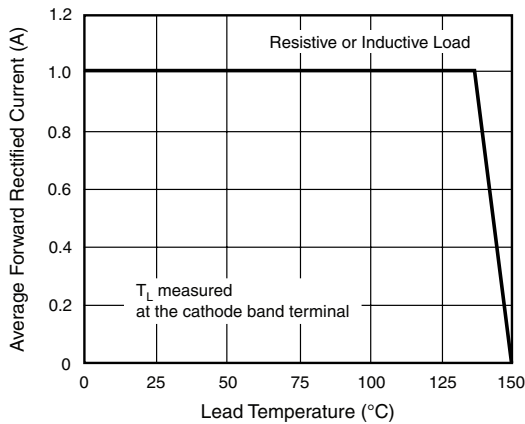


Figure 1. Maximum Forward Current Derating Curve

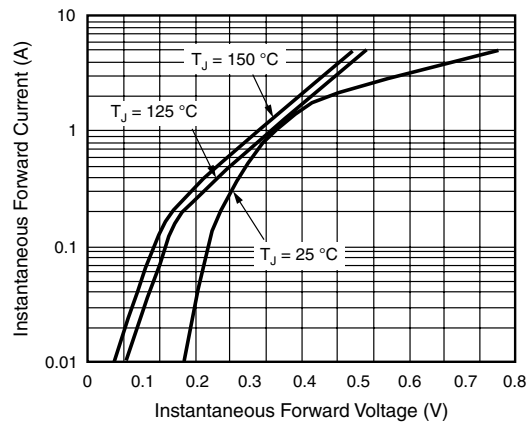


Figure 3. Typical Instantaneous Forward Characteristics

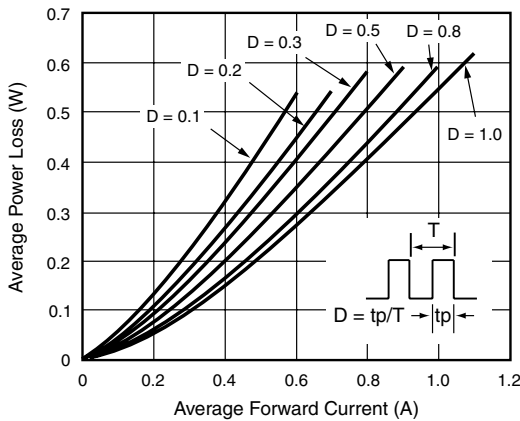


Figure 2. Forward Power Loss Characteristics

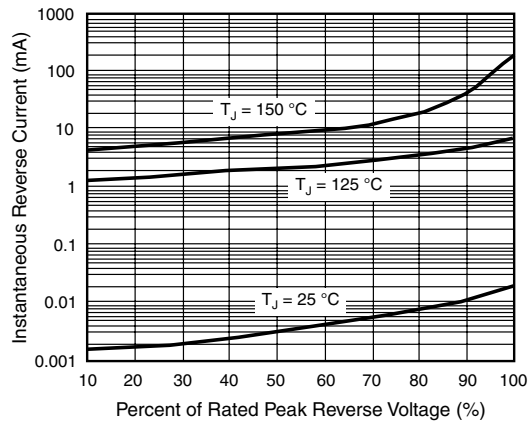


Figure 4. Typical Reverse Characteristics

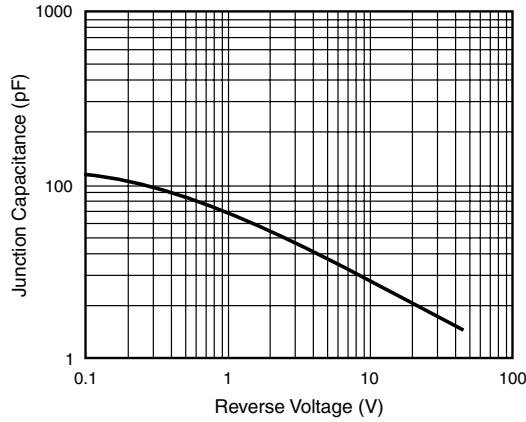


Figure 5. Typical Junction Capacitance

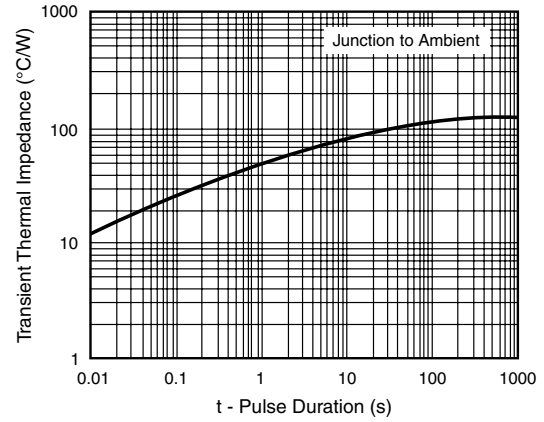
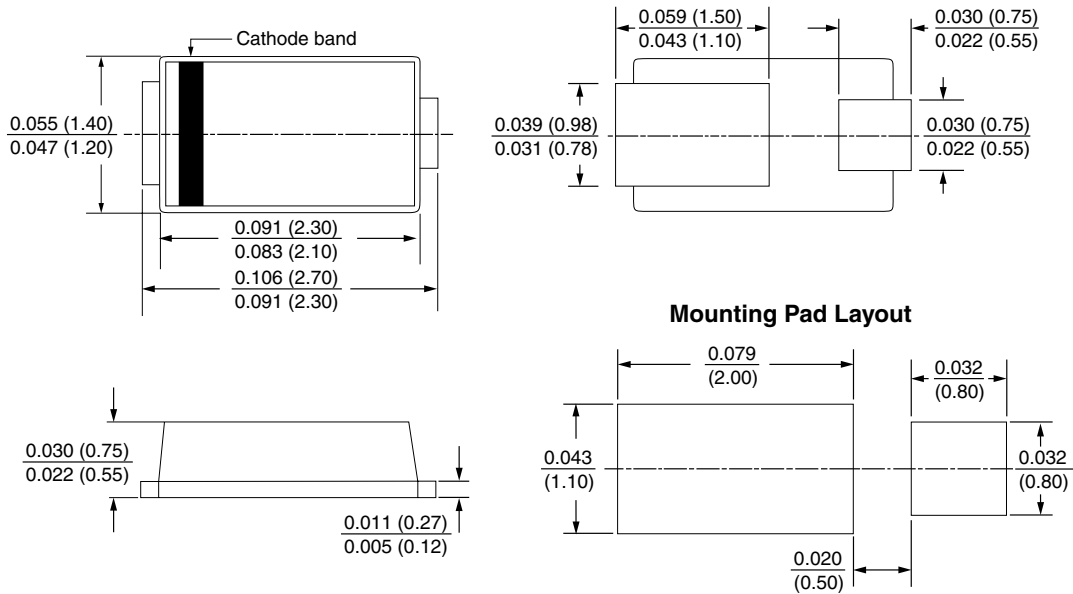


Figure 6. Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

MicroSMP





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