AUTOMOTIVE

RoHS

COMPLIANT

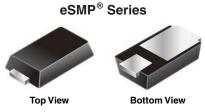
HALOGEN

FREE



Vishay General Semiconductor

Surface Mount Schottky Barrier Rectifiers



RЛ	icr	~6	RЛ	D

PRIMARY CHARACTERISTICS				
I _{F(AV)}	1.0 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			
Package	MicroSMP			
Diode variations	Single			

TYPICAL APPLICATIONS

For use in low voltage high frequency inverters, freewheeling, DC/DC converters, and polarity protection applications.

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-020, LF maximum peak of 260 °C
- AEC-Q101 qualified
- · Material categorization: For definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA

Case: MicroSMP

Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, RoHS-compliant, and

commercial grade

Base P/NHM3 - halogen-free, RoHS-compliant, and automotive grade

Terminals: Matte tin plated leads, solderable J-STD-002 and JESD 22-B102

M3 suffix meets JESD 201 class 2 whisker test, HM3 suffix

meets JESD 201 class 2 whisker test

Polarity: Color band denotes the cathode end

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 (fig. 1)	I _{F(AV)}	1.0		Α		
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	25		А		
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
	$I_F = 0.5 A$	T _J = 25 °C	- V _F ⁽¹⁾	0.45	-	V
Maximum instantaneous	I _F = 1.0 A			0.56	0.68	
forward voltage	I _F = 0.5 A	- T _J = 125 °C		0.40	-	
	I _F = 1.0 A			0.52	0.60	
Maximum reverse current	Potod V	ed V _B	1 (2)	20	150	μΑ
Maximum reverse current	Haled V _R		7.0	12	mA	
Typical junction capacitance	4.0 V, 1 MHz		CJ	40	-	pF

Notes

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

(2) Pulse test: Pulse width ≤ 40 ms



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THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	TER SYMBOL MSS1P5 MSS1P6		UNIT		
	R ₀ JA ⁽¹⁾	1:	25		
Typical thermal resistance	R ₀ JL (1)	3	30		
	R ₀ JC (1)	4	0		

Note

⁽¹⁾ Thermal resistance from junction to ambient and junction to lead mounted on PCB with 6.0 mm x 6.0 mm copper pad areas R_{θJL} is measured at the terminal of cathode band. R_{θJC} 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-M3/89A	0.006	89A	4500	7" diameter plastic tape and reel	
MSS1P6HM3/89A (1)	0.006	89A	4500	7" diameter plastic tape and reel	

Note

RATINGS AND CHARACTERISTICS CURVES (T_A = 25°C unless otherwise noted)

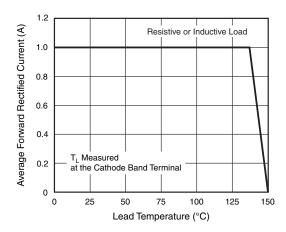


Fig. 1 - Maximum Forward Current Derating Curve

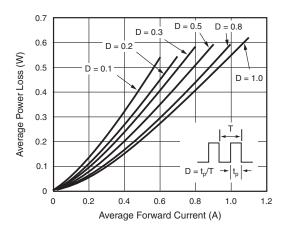


Fig. 2 - Forward Power Loss Characteristics

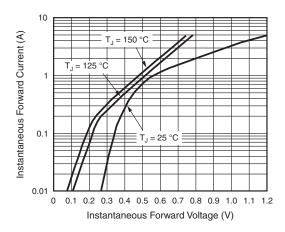


Fig. 3 - Typical Instantaneous Forward Characteristics

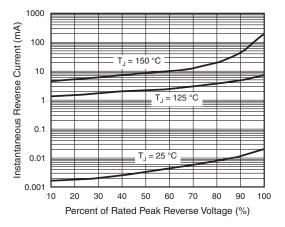


Fig. 4 - Typical Reverse Characteristics

⁽¹⁾ Automotive grade



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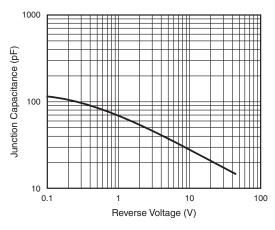


Fig. 5 - Typical Junction Capacitance

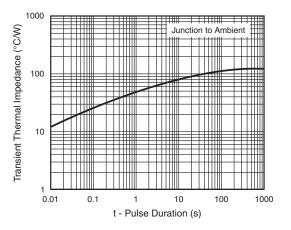
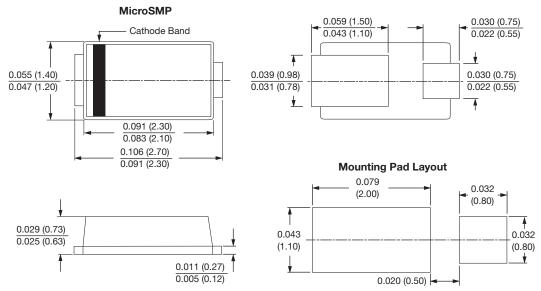


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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