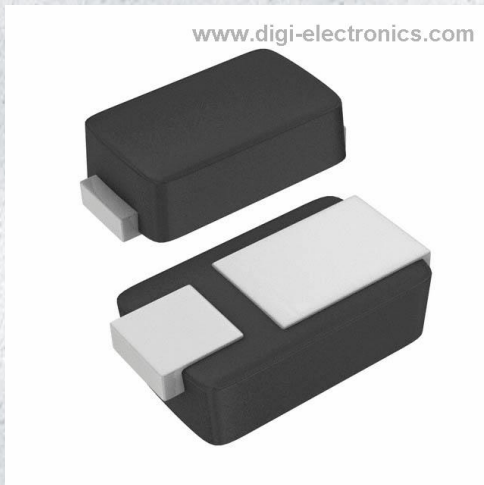


MSS1P3L-M3/89A Datasheet



<https://www.DiGi-Electronics.com>

DiGi Electronics Part Number	MSS1P3L-M3/89A-DG
Manufacturer	Vishay General Semiconductor - Diodes Division
Manufacturer Product Number	MSS1P3L-M3/89A
Description	DIODE SCHOTTKY 30V 1A MICROSMMP
Detailed Description	Diode 30 V 1A Surface Mount MicroSMMP (DO-219AD)

This model MSS1P3L-M3/89A is available at DiGi Electronics.

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Purchase and inquiry

Manufacturer Product Number:

MSS1P3L-M3/89A

Series:

eSMP®

Technology:

Schottky

Current - Average Rectified (Io):

1A

Speed:

Fast Recovery =< 500ns, > 200mA (Io)

Capacitance @ Vr, F:

65pF @ 4V, 1MHz

Package / Case:

MicroSMP

Operating Temperature - Junction:

-55°C ~ 150°C

Manufacturer:

Vishay General Semiconductor - Diodes Division

Product Status:

Active

Voltage - DC Reverse (Vr) (Max):

30 V

Voltage - Forward (Vf) (Max) @ If:

500 mV @ 1 A

Current - Reverse Leakage @ Vr:

250 µA @ 30 V

Mounting Type:

Surface Mount

Supplier Device Package:

MicroSMP (DO-219AD)

Base Product Number:

MSS1P3

Environmental & Export classification

RoHS Status:

ROHS3 Compliant

REACH Status:

REACH Unaffected

HTSUS:

8541.10.0080

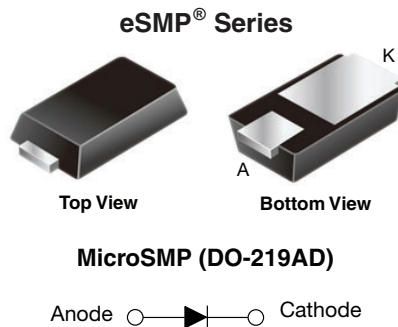
Moisture Sensitivity Level (MSL):

1 (Unlimited)

ECCN:

EAR99

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-020, LF maximum peak of 260 °C
- AEC-Q101 qualified available
- Automotive ordering code: base P/NHM3
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

LINKS TO ADDITIONAL RESOURCES



TYPICAL APPLICATIONS

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

PRIMARY CHARACTERISTICS

$I_{F(AV)}$	1.0 A
V_{RRM}	20 V, 30 V
I_{FSM}	25 A
V_F at $I_F = 1.0$ A	0.35 V
T_J max.	150 °C
Package	MicroSMP (DO-219AD)
Circuit configuration	Single

MECHANICAL DATA

Case: MicroSMP (DO-219AD)

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

Base P/NHM3_X - halogen-free, RoHS-compliant, and AEC-Q101 qualified
("X" denotes revision code e.g. A, B,.....)

Terminals: matte tin plated leads, solderable per 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	MSS1P2L	MSS1P3L	UNIT
Device marking code		12L	13L	
Maximum repetitive peak reverse voltage	V_{RRM}	20	30	V
Maximum average forward rectified current (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	I _F = 0.5 A	T _J = 25 °C	V _F ⁽¹⁾	0.39	-	V
	I _F = 1.0 A			0.44	0.50	
	I _F = 0.5 A	T _J = 125 °C		0.28	-	
	I _F = 1.0 A			0.35	0.40	
Maximum reverse current	Rated V _R	T _J = 25 °C	I _R ⁽²⁾	15	250	μA
		T _J = 125 °C		6.0	20	mA
Typical junction capacitance	4.0 V, 1 MHz		C _J	65	-	pF

Notes

- (1) Pulse test: 300 μs pulse width, 1 % duty cycle
- (2) Pulse test: Pulse width ≤ 40 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)				
PARAMETER	SYMBOL	MSS1P2L	MSS1P3L	UNIT
Typical thermal resistance	R _{θJA} ⁽¹⁾	125		°C/W
	R _{θJL} ⁽¹⁾	30		
	R _{θJC} ⁽¹⁾	40		

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
MSS1P2L-M3/89A	0.006	89A	4500	7" diameter plastic tape and reel
MSS1P2LHM3_A/H ⁽¹⁾	0.006	H	4500	7" diameter plastic tape and reel

Note

- (1) AEC-Q101 qualified

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

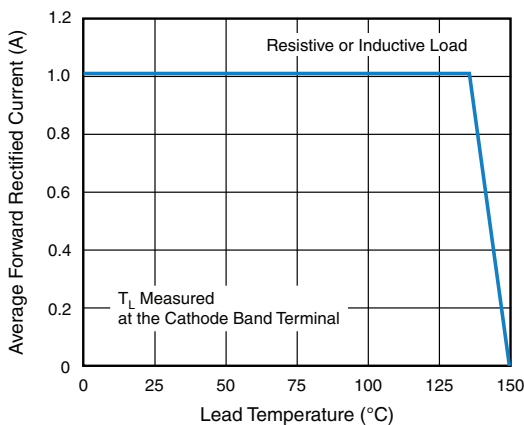


Fig. 1 - Maximum Forward Current Derating Curve

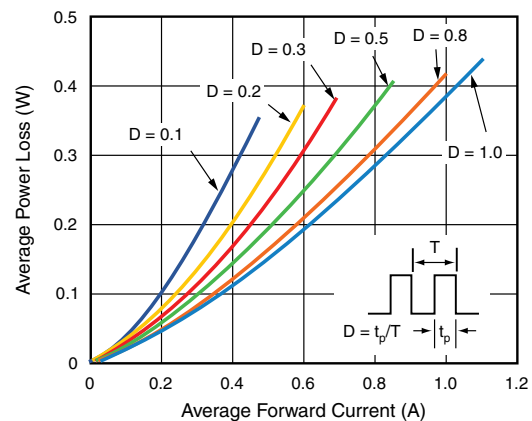


Fig. 2 - Forward Power Loss Characteristics

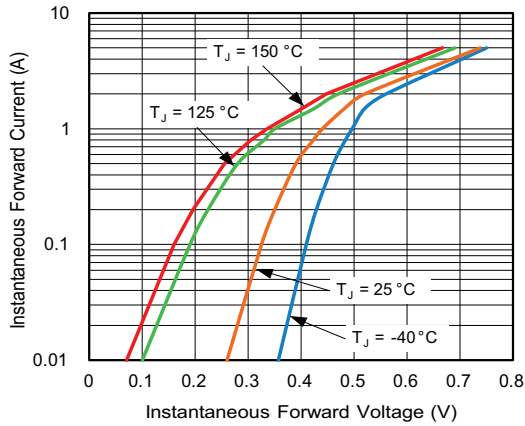


Fig. 3 - Typical Instantaneous Forward Characteristics

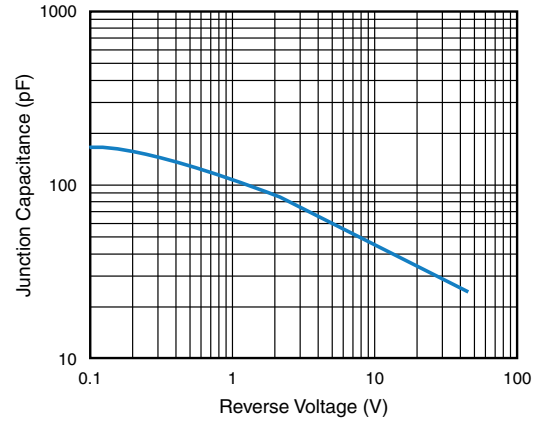


Fig. 5 - Typical Junction Capacitance

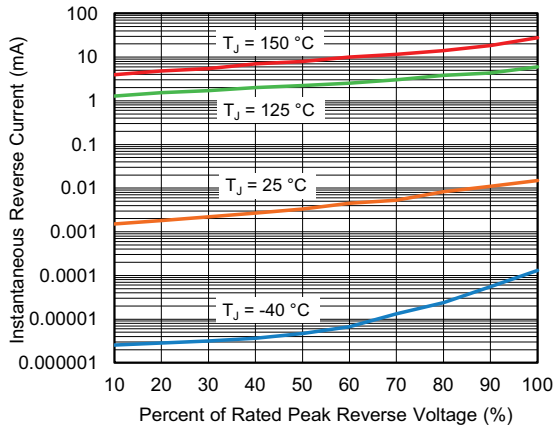


Fig. 4 - Typical Reverse Characteristics

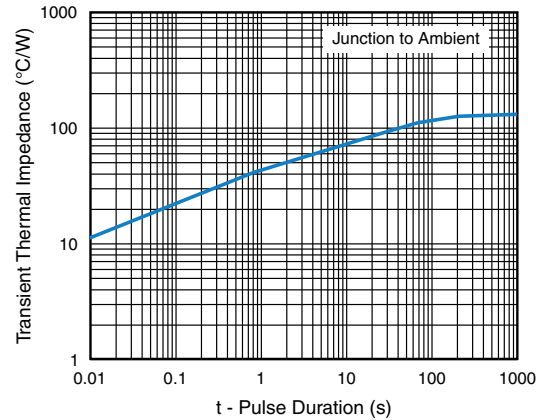
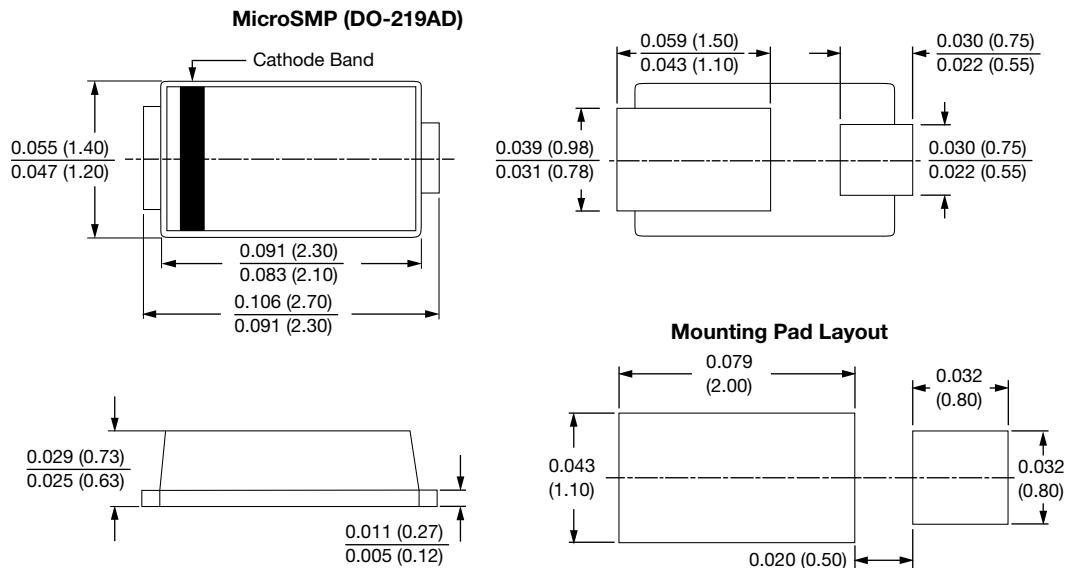


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)





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