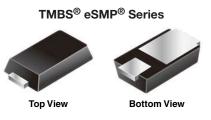
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Vishay General Semiconductor

Surface Mount Trench MOS Barrier Schottky Rectifier



MicroSMP (DO-219AD)

Anode O Cathode

click logo to get started

DESIGN SUPPORT TOOLS



PRIMARY CHARACTERISTICS			
I _{F(AV)}	2 A		
V _{RRM}	100 V		
I _{FSM}	30 A		
V _F at I _F = 2 A (125 °C)	0.62 V		
T _J max.	175 °C		
Package	MicroSMP (DO-219AD)		
Circuit configuration	Single		

FEATURES

- Very low profile typical height of 0.65 mm
- Ideal for automated placement
- Trench MOS Schottky technology
- Low forward voltage drop
- Low power loss, 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 <u>www.vishay.com/doc?99912</u>

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: MicroSMP (DO-219AD)

Molding compound meets UL 94 V-0 flammability rating Base P/N-M3 - halogen-free, and RoHS-compliant Base P/NHM3 - halogen-free, RoHS-compliant, and AEC-Q101 qualified

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

M3 and HM3 suffix meets JESD 201 class 2 whisker test

Polarity: color band denotes the cathode end

MAXIMUM RATINGS ($T_A = 25 \text{ °C}$ unless otherwise noted)				
PARAMETER	SYMBOL	V2PM10	UNIT	
Device marking code		2MB		
Maximum repetitive peak reverse voltage	V _{RRM}	100	V	
Maximum DC forward current	I _{F(AV)} ⁽¹⁾	1.5	А	
	I _{F(AV)} ⁽²⁾	2	А	
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I _{FSM}	30	А	
Operating junction and storage temperature range	T _J ⁽³⁾ , T _{STG}	-40 to +175	°C	

Notes

⁽¹⁾ Free air, mounted on recommended copper pad area

⁽²⁾ Mounted on 8.0 mm x 8.0 mm pad area

 $^{(3)}$ The heat generated must be less than the thermal conductivity from junction to ambient: $dP_D/dT_J < 1/R_{\theta JA}$

Revision: 03-May-2018

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COMPLIANT

HALOGEN

FREE



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V2PM10

ELECTRICAL CHARACTERISTICS ($T_A = 25$ °C unless otherwise noted)						
PARAMETER	TEST C	TEST CONDITIONS		TYP.	MAX.	UNIT
Instantaneous forward voltage	I _F = 1.0 A	T _A = 25 °C		0.61	-	V
	I _F = 2.0 A	T _A = 25 °C	V _F ⁽¹⁾	0.75	0.83	
	I _F = 1.0 A	T _A = 125 °C		0.53	-	
	I _F = 2.0 A	T _A = 125 °C		0.62	0.7	
Reverse current	V _B = 70 V	T _A = 25 °C	I _R ⁽²⁾	0.001	-	mA
	$v_{\rm R} = 70 v$	T _A = 125 °C		0.25	-	
	V 100 V	T _A = 25 °C		-	0.05	
	V _R = 100 V	T _A = 125 °C		0.5	2	
Typical junction capacitance	4.0 V, 1 MHz	:	CJ	150	-	pF

Notes

 $^{(1)}\,$ Pulse test: 300 μs pulse width, 1 % duty cycle

⁽²⁾ Pulse test: pulse width \leq 5 ms

THERMAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	V2PM10	UNIT		
Typical thermal resistance	R _{0JA} (1)(2)	130	°C/W		
	R _{0JM} ⁽³⁾	20			

Notes

⁽¹⁾ The heat generated must be less than the thermal conductivity from junction-to-ambient: $dP_D/dT_J < 1/R_{0JA}$

⁽²⁾ Free air, mounted on FR4 PCB, 2 oz. standard footprint, $R_{\theta JA}$ - junction to ambient

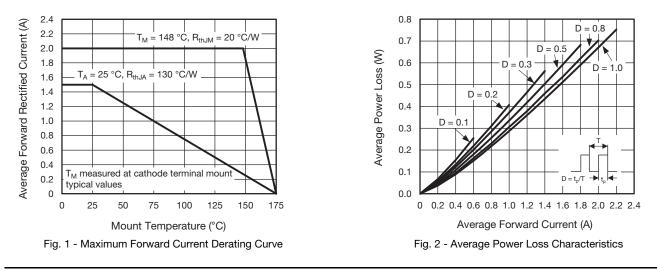
 $^{(3)}$ Mounted on PCB with 8.0 mm x 8.0 mm copper pad areas, $R_{\theta JM}$ - junction to mount

ORDERING INFORMATION (Example)					
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE	
V2PM10-M3/H	0.006	Н	4500	7" diameter plastic tape and reel	
V2PM10HM3/H ⁽¹⁾	0.006	Н	4500	7" diameter plastic tape and reel	

Note

(1) AEC-Q101 qualified

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



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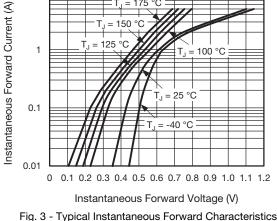
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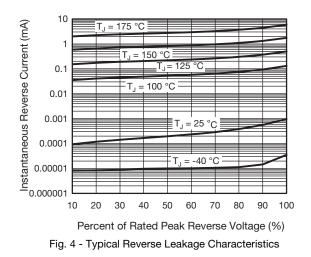
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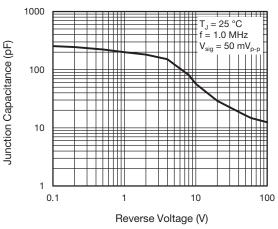


Fig. 5 - Typical Junction Capacitance

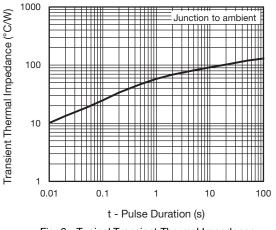
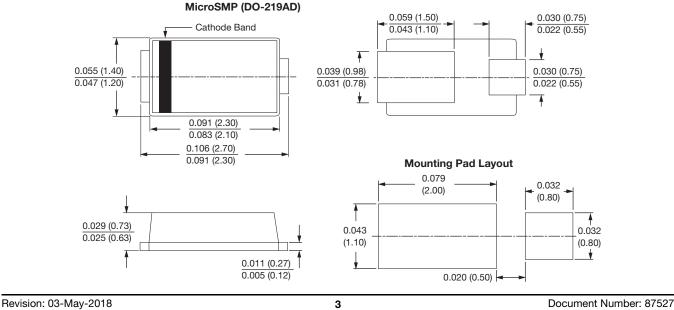


Fig. 6 - Typical Transient Thermal Impedance

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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