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COMPLIANT

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Vishay General Semiconductor

High Current Density Surface-Mount Schottky Barrier Rectifiers



LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS				
I _{F(AV)}	2.0 A			
V_{RRM}	50 V, 60 V			
I _{FSM}	50 A			
E _{AS}	11.25 mJ			
V _F	0.54 V			
T _J max.	150 °C			
Package	SMP (DO-220AA)			
Circuit configuration	Single			

FEATURES

- Very low profile typical height of 1.1 mm
- · Ideal for automated placement
- · Low forward voltage drop, low power losses
- High efficiency
- · Low thermal resistance
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- AEC-Q101 qualified available
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

TYPICAL APPLICATIONS

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

MECHANICAL DATA

Case: SMP (DO-220AA)

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 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	SS2P5	SS2P6	UNIT	
Device marking code		25	26		
Maximum repetitive peak reverse voltage	V_{RRM}	50	60	V	
Maximum average forward rectified current (fig. 1)	I _{F(AV)}	2.0		Α	
Peak forward surge current 10 ms single half sine-wave superimposed on rated load	I _{FSM}	50		А	
Non-repetitive avalanche energy at $I_{AS} = 1.5 \text{ A}$, $L = 10 \text{ mH}$, $T_J = 25 ^{\circ}\text{C}$	E _{AS}	11.25		mJ	
Voltage rate of change (rated V _R)	dV/dt	10 000		V/µs	
Operating junction and storage temperature range	T _J , T _{STG}	-55 to +150		°C	



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ELECTRICAL CHARACTERISTICS (T _A = 25 °C unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Maximum instantaneous forward voltage	I _F = 2 A	T _J = 25 °C	V _F ⁽¹⁾	0.62	0.70	V
	I _F = 2 A	T _J = 125 °C		0.54	0.60	
Maximum reverse current at rated V-		T _J = 25 °C	I _R ⁽²⁾	-	100	μA
Maximum reverse current at rated V _R		T _J = 125 °C		1.6	10	mA
Typical junction capacitance	4.0 V, 1 MHz		CJ	80		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 specified)						
PARAMETER	SYMBOL	SS2P5	SS2P6	UNIT		
	R _{0JA} ⁽¹⁾	115		°C/W		
Typical thermal resistance	R _{0JL} ⁽¹⁾	15				
	R ₀ JC (1)	20	0			

Note

(1) Thermal resistance from junction to ambient and junction to lead mounted on PCB with 5.0 mm x 5.0 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	
SS2P5-M3/84A	0.024	84A	3000	7" diameter plastic tape and reel	
SS2P5-M3/85A	0.024	85A	10 000	13" diameter plastic tape and reel	
SS2P5HM3/84A (1)	0.024	84A	3000	7" diameter plastic tape and reel	
SS2P5HM3/85A (1)	0.024	85A	10 000	13" diameter plastic tape and reel	

Note

(1) Automotive grade



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

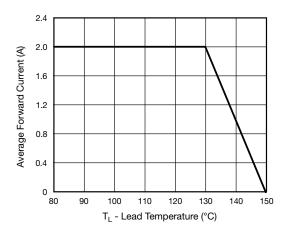


Fig. 1 - Forward Current Derating Curve

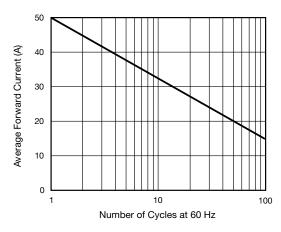


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

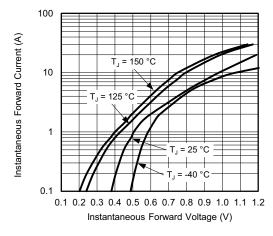


Fig. 3 - Typical Instantaneous Forward Characteristics

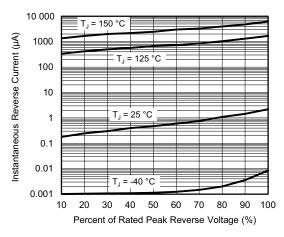


Fig. 4 - Typical Reverse Leakage Characteristics

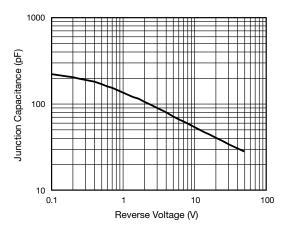


Fig. 5 - Typical Junction Capacitance

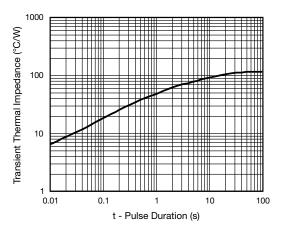


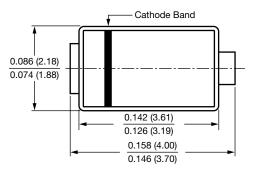
Fig. 6 - Typical Transient Thermal Impedance

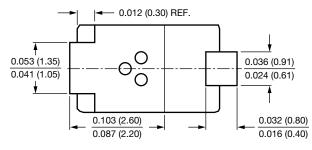


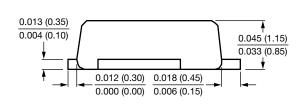
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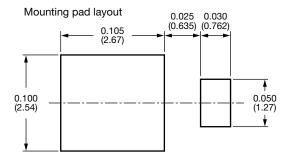
PACKAGE OUTLINE DIMENSIONS in inches (millimeters)

SMP (DO-220AA)











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