AUTOMOTIVE GRADE

COMPLIANT

HALOGEN FREE



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Vishay General Semiconductor

High Current Density Surface-Mount Schottky Rectifier



LINKS TO ADDITIONAL RESOURCES



PRIMARY CHARACTERISTICS				
I _{F(AV)}	3.0 A			
V_{RRM}	50 V, 60 V			
I _{FSM} 45 A				
E _{AS}	11.25 mJ			
V_F at $I_F = 3.0 A$	0.61 V			
T _J max.	150 °C			
Package	SMP (DO-220AA)			
Circuit configuration	Single			

FEATURES

- Very low profile typical height of 1.0 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

Dara DALLIMO

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 cathode end

MAXIMUM RATINGS (T _A = 25 °C unless otherwise noted)					
PARAMETER	SYMBOL	SS3P5	SS3P6	UNIT	
Device marking code		35			
Maximum repetitive peak reverse voltage	V_{RRM}	50	60	V	
Maximum average forward rectified current (fig. 1)	I _{F(AV)}	3.0		Α	
Peak forward surge current 8.3 ms single half sine-wave superimposed on rated load	I _{FSM}	45		А	
Non-repetitive avalanche energy at T _J = 25 °C, I _{AS} = 1.5 A, L = 10 mH	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 = 3 A	T _J = 25 °C	V _F ⁽¹⁾	0.71	0.78	V
	I _F = 3 A	T _J = 125 °C		0.61	0.65	
Maximum reverse current at rated V _R		T _J = 25 °C	I _R ⁽²⁾	-	100	μΑ
Waximum reverse current at rated v _R		T _J = 125 °C		2.0	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	SS3P6	UNIT	
	R ₀ JA (1)	115	°C/W	
Typical thermal resistance (1)	R _{0JL} (1)	15		
	R ₀ JC (1)	20		

Note

Thermal resistance from junction to ambient and junction to lead mounted on PCB with 15 mm x 15 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		
SS3P6-M3/84A	0.024	84A	3000	7" diameter plastic tape and reel		
SS3P6-M3/85A	0.024	85A	10 000	13" diameter plastic tape and reel		
SS3P6HM3/84A (1)	0.024	84A	3000	7" diameter plastic tape and reel		
SS3P6HM3/85A (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 specified)

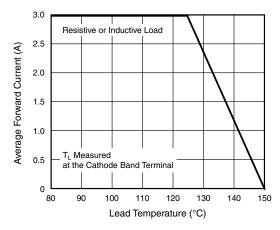


Fig. 1 - Forward Current Derating Curve

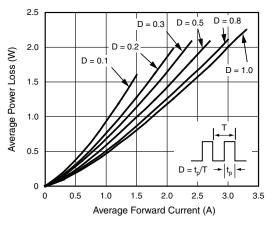


Fig. 2 - Forward Power Loss Characteristics

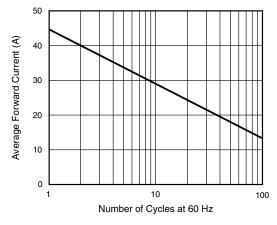


Fig. 3 - Maximum Non-Repetitive Peak Forward Surge Current

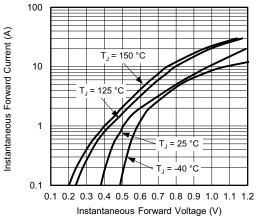


Fig. 4 - Typical Instantaneous Forward Characteristics

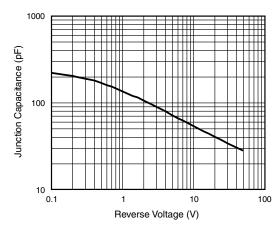


Fig. 5 - Typical Junction Capacitance

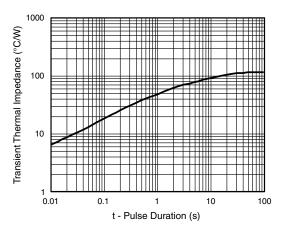


Fig. 6 - Typical Transient Thermal Impedance



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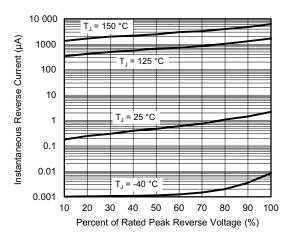
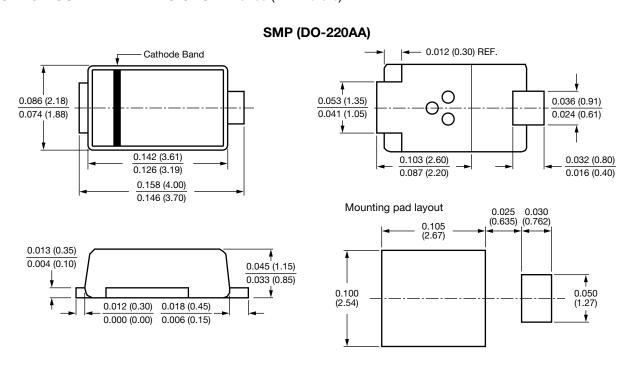


Fig. 7 - Typical Reverse Leakage Characteristics

PACKAGE OUTLINE DIMENSIONS in inches (millimeters)



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