SS2FN6

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Vishay General Semiconductor

# Surface-Mount Schottky Barrier Rectifier



Cathode O Anode

## **ADDITIONAL RESOURCES**



PRIMARY CHARACTERISTICS				
I <sub>F(AV)</sub>	2.0 A			
V <sub>RRM</sub>	60 V			
I <sub>FSM</sub>	50 A			
$V_F$ at $I_F$ = 2.0 A ( $T_A$ = 125 °C)	0.48 V			
T <sub>J</sub> max. (AC mode)	150 °C			
T <sub>J</sub> max. (DC forward current)	175 °C			
Package	SMF (DO-219AB)			
Circuit configuration	Single			

### FEATURES

- Low profile package
- Ideal for automated placement
- Low forward voltage drop, low power losses
- Low leakage current
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Wave and reflow solderable
- AEC-Q101 qualified
  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 high frequency inverters, freewheeling, DC/DC converters, and polarity protection in commercial, industrial, and automotive applications.

## **MECHANICAL DATA**

**Case:** SMF (DO-219AB)Molding compound meets UL 94 V-0 flammability rating

Base P/N-M3 - halogen-free, 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

<b>MAXIMUM RATINGS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)				
PARAMETER	SYMBOL	SS2FN6	UNIT	
Device marking code		2N6		
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	60	V	
Maximum average forward rectified current (fig. 1)	I <sub>F(AV)</sub> <sup>(1)</sup>	2.0	A	
Non-repetitive peak forward surge current 8.3 ms single half sine-wave at $T_{J \text{ (init)}} = 25 \text{ °C}$	I <sub>FSM</sub> 50		A	
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C	
Junction temperature in DC forward current without reverse bias	TJ	+175	°C	

Note

<sup>(1)</sup> Free air, mounted on recommended copper pad area





COMPLIANT

HALOGEN

FREE

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<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)						
PARAMETER	TEST CONDITIONS		SYMBOL	TYP.	MAX.	UNIT
Instantaneous forward voltage	I <sub>F</sub> = 1.6 A	T. – 25 °C	- V <sub>F</sub> <sup>(1)</sup>	0.49	-	V
	I <sub>F</sub> = 2.0 A			0.52	0.60	
	I <sub>F</sub> = 1.6 A	– T <sub>A</sub> = 125 °C		0.45	-	
	I <sub>F</sub> = 2.0 A			0.48	0.57	
Reverse current	V <sub>B</sub> = 60 V	T <sub>A</sub> = 25 °C T <sub>A</sub> = 125 °C	I <sub>R</sub> <sup>(2)</sup>	-	900	μA
	v <sub>R</sub> = 00 v			20	60	mA
Typical junction capacitance	4.0 V, 1 MHz		CJ	100	-	pF

Notes

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

<sup>(2)</sup> Pulse test: Pulse width  $\leq$  5 ms

<b>THERMAL CHARACTERISTICS</b> ( $T_A = 25$ °c unless otherwise noted)				
PARAMETER	SYMBOL	SS2FN6	UNIT	
Typical thermal resistance	R <sub>0JA</sub> (1)(2)(3)	125	°C/W	
	R <sub>0JM</sub> <sup>(2)(3)</sup>	14	0/11	

#### Notes

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

<sup>(2)</sup> Device mounted on FR4 PCB, 2 oz. standard footprint

 $^{(3)}$  Thermal resistance  $R_{\theta JA}$  - junction to ambient;  $R_{\theta JM}$  - junction to mount

ORDERING INFORMATION (Example)				
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE
SS2FN6-M3/H	0.015	Н	3000	7" diameter plastic tape and reel
SS2FN6-M3/I	0.015	I	10 000	13" diameter plastic tape and reel
SS2FN6HM3/H (1)	0.015	Н	3000	7" diameter plastic tape and reel
SS2FN6HM3/I <sup>(1)</sup>	0.015	I	10 000	13" diameter plastic tape and reel

#### Note

(1) AEC-Q101 qualified



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## RATINGS AND CHARACTERISTICS CURVES (T<sub>A</sub> = 25 °C unless otherwise noted)

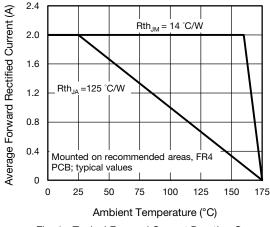
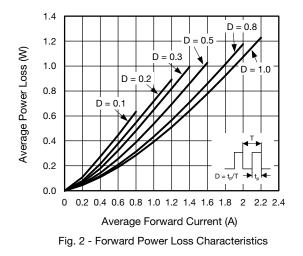
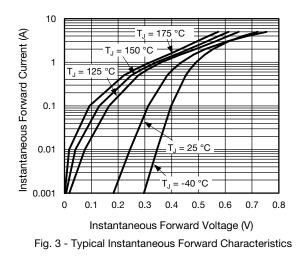
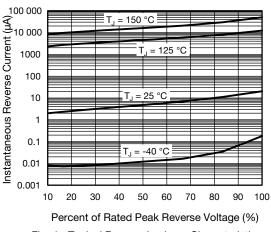


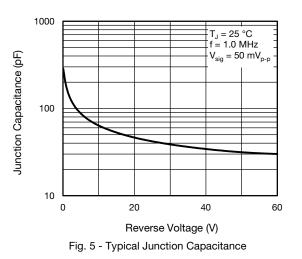
Fig. 1 - Typical Forward Current Derating Curve

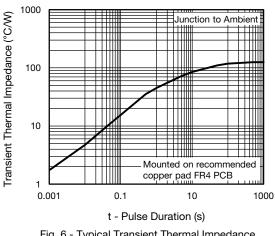


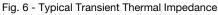












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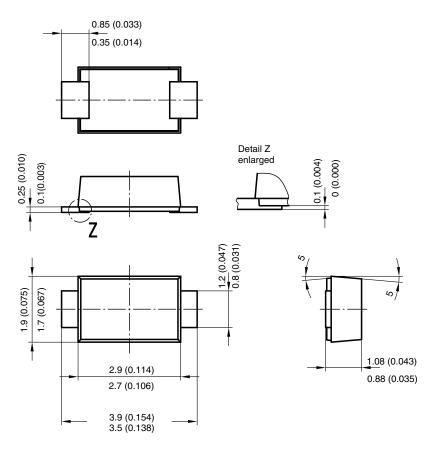
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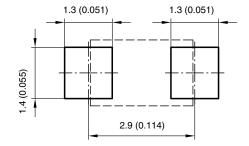


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## PACKAGE OUTLINE DIMENSIONS in millimeters (inches): SMF (DO-219AB)



Foot print recommendation:



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