SS2FH6

www.vishay.com

Vishay General Semiconductor

# **Surface Mount Schottky Barrier Rectifiers**



PRIMARY CHARACTERISTICS								
I <sub>F(AV)</sub>	2.0 A							
V <sub>RRM</sub>	60 V							
I <sub>FSM</sub>	40 A							
$V_F$ at $I_F$ = 2.0 A ( $T_A$ = 125 °C)	0.64 V							
T <sub>J</sub> max.	175 °C							
Package	DO-219AB (SMF)							
Diode variations	Single die							

### **FEATURES**

- Low profile package
- · Ideal for automated placement
- · Low forward voltage drop, low power losses
- Low leakage current
- MSL level 1, per Meets 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

### **TYPICAL APPLICATIONS**

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

### **MECHANICAL DATA**

Case: DO-219AB (SMF) 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 gualified

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	SS2FH6	UNIT				
Device marking code		26					
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				
Peak forward surge current 8.3 ms single half sine-wave $T_{J \text{ (init)}} = 25 ^{\circ}\text{C}$	I <sub>FSM</sub>	40	А				
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +175	°C				

Note

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



COMPLIANT HALOGEN FREE

www.vishay.com

# SS2FH6



<b>ELECTRICAL CHARACTERISTICS</b> ( $T_A = 25 \text{ °C}$ unless otherwise noted)								
PARAMETER	TEST C	ONDITIONS	SYMBOL	TYP.	MAX.	UNIT		
Instantaneous forward voltage	I <sub>F</sub> = 1.6 A	T 05 %C		0.69	-	V		
	I <sub>F</sub> = 2.0 A	– T <sub>A</sub> = 25 °C	V <sub>E</sub> (1)	0.72	0.78			
	I <sub>F</sub> = 1.6 A	T <sub>A</sub> = 125 °C	VF	0.61	-			
	I <sub>F</sub> = 2.0 A			0.64	0.69			
Reverse current	N 60.V	T <sub>A</sub> = 25 °C	L (2)	-	3	μA		
	V <sub>R</sub> = 60 V	T <sub>A</sub> = 125 °C	I <sub>R</sub> <sup>(2)</sup>	90	450			
Typical junction capacitance	4.0 V, 1 MHz		CJ	90	-	pF		

Notes

<sup>(1)</sup> Pulse test: 300 µs 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	SS2FH6	UNIT				
Typical thermal resistance	R <sub>0JA</sub> (1)(2)(3)	125	°C/W				
	R <sub>0JM</sub> (1)(2)(3)	21	0/11				

#### Notes

 $^{(1)}$  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;  $R_{\theta JM}^{\phantom{0}}$  - junction to mount

ORDERING INFORMATION (Example)								
PREFERRED P/N	UNIT WEIGHT (g)	PREFERRED PACKAGE CODE	BASE QUANTITY	DELIVERY MODE				
SS2FH6-M3/H	0.015	Н	3000	7" diameter plastic tape and reel				
SS2FH6-M3/I	0.015	I	10 000	13" diameter plastic tape and reel				
SS2FH6HM3/H (1)	0.015	н	3000	7" diameter plastic tape and reel				
SS2FH6HM3/I <sup>(1)</sup>	0.015	l	10 000	13" diameter plastic tape and reel				

Note

(1) AEC-Q101 qualified



## Vishay General Semiconductor

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

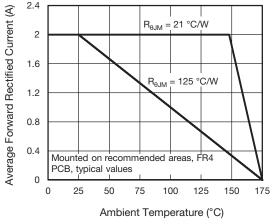


Fig. 1 - Maximum Forward Current Derating Curve

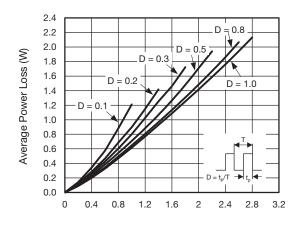
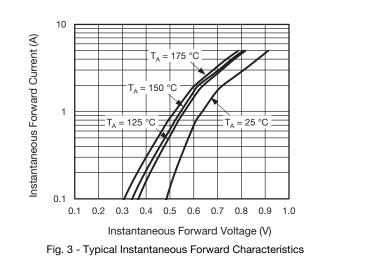


Fig. 2 - Average Power Loss Characteristics



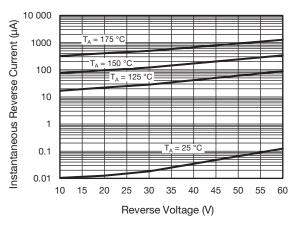


Fig. 4 - Typical Reverse Leakage Characteristics

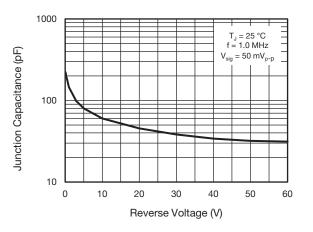
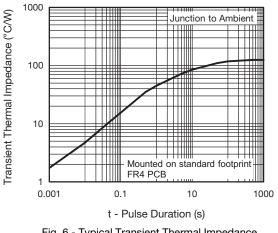


Fig. 5 - Typical Junction Capacitance





Revision: 24-Nov-14

3

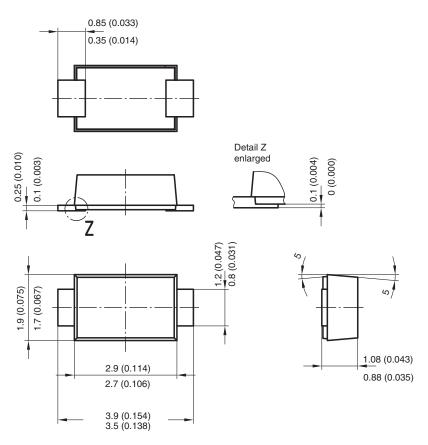
Document Number: 87731

For technical questions within your region: DiodesAmericas@vishay.com, DiodesA sia@vishay.com, DiodesEurope@vishay.com THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

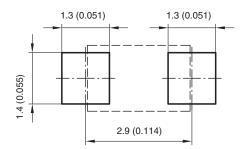


# Vishay General Semiconductor

#### **PACKAGE OUTLINE DIMENSIONS** in millimeters (inches)



Foot print recommendation:



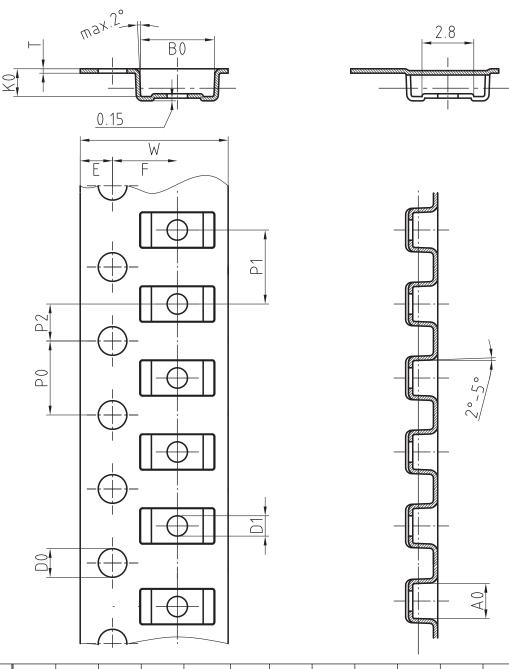
Created - Date: 15. February 2005 Rev. 3 - Date: 13. March 2007 Document no.:S8-V-3915.01-001 (4) 17247





Vishay General Semiconductor

### BLISTERTAPE DIMENSIONS in millimeters: DO-219AB (SMF)



Mat:	A0	B0	K0	W	Т	Ρ0	P2	P1	D0	D1	E	F
PS	1.9	4.0	1.5	8.0	0.235	4.0	2.0	4.0	1.5	1	1.75	3.5

Document-No.: S8-V-3717.02-001 (3)

18513

For technical questions within your region: <u>DiodesAmericas@vishay.com</u>, <u>DiodesAsia@vishay.com</u>, <u>DiodesEurope@vishay.com</u> THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000</u>



Vishay

# Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and/or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.

# **Material Category Policy**

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.

Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.

Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.