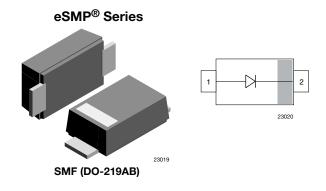
Vishay Semiconductors

Standard Recovery Rectifier High Voltage Surface Mount



www.vishay.com

LINKS TO ADDITIONAL RESOURCES



FEATURES

- · For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- RoHS • Meets MSL level 1, per J-STD-020, LF maximum COMPLIANT peak of 260 °C
- Meets JESD 201 class 2 whisker test
- Wave and reflow solderable
- Base P/N-E3 RoHS-compliant Base P/N-GS - RoHS-compliant and AEC-Q101 gualified
- · Compatible to SOD-123W package case outline or SOD-123F and SOD-123FL
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

MECHANICAL DATA

Case: SMF (DO-219AB) Polarity: band denotes cathode end Weight: approx. 15 mg Packaging codes / options: GS18/10K per 13" reel (8 mm tape) GS08/3K per 7" reel (8 mm tape) Circuit configuration: single

PARTS TABLE				
PART	ORDERING CODE	MARKING	REMARKS	
S07B	S07B-E3-18 or S07B-E3-08	YO	Tape and reel	
	S07B-GS18 or S07B-GS08	SB	Tape and reel	
S07D	S07D-E3-18 or S07D-E3-08	Y1	Tape and reel	
	S07D-GS18 or S07D-GS08	SD	Tape and reel	
S07G	S07G-E3-18 or S07G-E3-08	Y2	Tape and reel	
	S07G-GS18 or S07G-GS08	SG	Tape and Teel	
S07J	S07J-E3-18 or S07J-E3-08	Y3	Tape and reel	
	S07J-GS18 or S07J-GS08	SJ	rape and reel	
S07M	S07M-E3-18 or S07M-E3-08	Y4	Tape and reel	
	S07M-GS18 or S07M-GS08	SM	Tape and Teel	



S07B, S07D, S07G, S07J, S07M

Vishay Semiconductors

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		S07B	V _{RRM}	100	V
		S07D	V _{RRM}	200	V
		S07G	V _{RRM}	400	V
		S07J	V _{RRM}	600	V
		S07M	V _{RRM}	1000	V
		S07B	V _{RMS}	70	V
		S07D	V _{RMS}	140	V
Maximum RMS voltage		S07G	V _{RMS}	280	V
		S07J	V _{RMS}	420	V
		S07M	V _{RMS}	700	V
		S07B	V _{DC}	100	V
		S07D	V _{DC}	200	V
Maximum DC blocking voltage		S07G	V _{DC}	400	V
		S07J	V _{DC}	600	V
		S07M	V _{DC}	1000	V
Maximum average forward rectified current	T _L = 110 °C ⁽¹⁾		I _{F(AV)}	1.5	А
Maximum average forward rectilied current	T _A = 65 °C ⁽¹⁾		I _{F(AV)}	0.7	А
Peak forward surge current 8.3 ms single half sine-wave	T _L = 25 °C		I _{FSM}	25	А

Note

⁽¹⁾ Averaged over any 20 ms period

THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Thermal resistance junction to ambient air ⁽¹⁾		R _{thJA}	180	K/W	
Operating junction and storage temperature range		T _j , T _{stg}	-65 to +175	°C	

Note

⁽¹⁾ Mounted on epoxy substrate with 3 mm x 3 mm Cu pads (\geq 40 µm thick)

PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Instantaneous forward voltage	I _F = 1 A ⁽¹⁾	S07B	V _F			1.1	V
		S07D	V _F			1.1	V
		S07G	V _F			1.1	V
		S07J	V _F			1.1	V
		S07M	V _F			1.1	V
	T _A = 25 °C	S07B	I _R			10	μA
		S07D	I _R			10	μA
		S07G	I _R			10	μA
		S07J	I _R			10	μA
Maximum DC reverse current at		S07M	I _R			10	μA
rated DC blocking voltage	T _A = 125 °C	S07B	I _R			50	μA
		S07D	I _R			50	μA
		S07G	I _R			50	μA
		S07J	I _R			50	μA
		S07M	I _R			50	μA
	I _F = 0.5 A, I _R = 1 A, I _{rr} = 0.25 A	S07B	t _{rr}			1800	ns
		S07D	t _{rr}			1800	ns
Reverse recovery time		S07G	t _{rr}			1800	ns
		S07J	t _{rr}			1800	ns
		S07M	t _{rr}			1800	ns
Typical capacitance	4 V, 1 MHz	S07B	Cj		4		pF
		S07D	Cj		4		pF
		S07G	Cj		4		pF
		S07J	C _i		4		pF
		S07M	Ci		4		pF

Note

⁽¹⁾ Pulse test: 300 µs pulse width, 1 % duty cycle

Rev. 2.7, 10-May-2023

Document Number: 85733

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>



S07B, S07D, S07G, S07J, S07M

Vishay Semiconductors

TYPICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

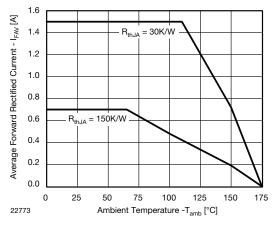


Fig. 1 - Forward Current Derating Curve

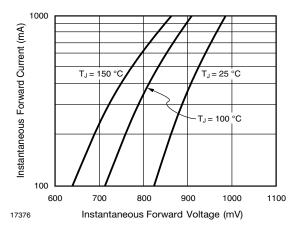


Fig. 2 - Typical Instantaneous Forward Characteristics

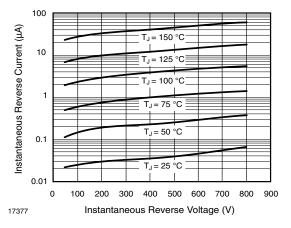


Fig. 3 - Typical Instantaneous Reverse Characteristics

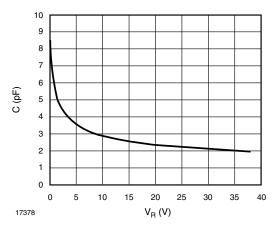


Fig. 4 - Capacitance vs. Reverse Voltage

Rev. 2.7, 10-May-2023

3

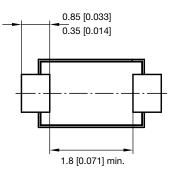
Document Number: 85733

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>

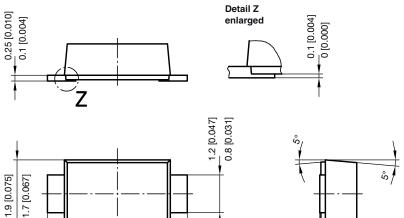


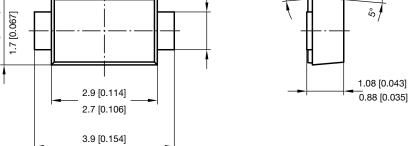
Vishay Semiconductors

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

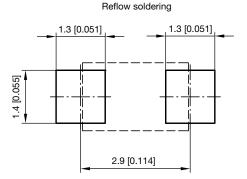


3.5 [0.138]





foot print recommendation:



Created - Date: 15. February 2005 Rev. 6 - Date: 24.Feb.2021 Document no.: S8-V-3915.01-001 (4) 22989

Rev. 2.7, 10-May-2023

4

Document Number: 85733

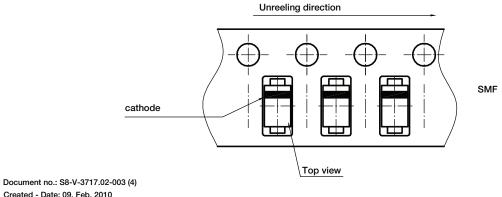
For technical questions within your region: <u>DiodesAmericas@vishay.com</u>, <u>DiodesAsia@vishay.com</u>, <u>DiodesEurope@vishay.com</u> THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT <u>www.vishay.com/doc?91000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



S07B, S07D, S07G, S07J, S07M

Vishay Semiconductors

ORIENTATION IN CARRIER TAPE - SMF (DO-219AB)



Created - Date: 09. Feb. 2010 22670

Rev. 2.7, 10-May-2023 Document Number: 85733 5 For technical questions within your region: DiodesAmericas@vishay.com, DiodesAsia@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

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.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. 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.

© 2025 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED

Revision: 01-Jan-2025

1