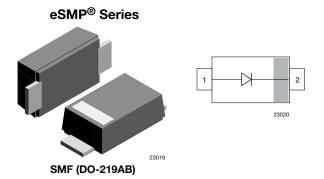


www.vishay.com

Vishay Semiconductors

Standard Recovery Rectifier, High Voltage Surface-Mount



LINKS TO ADDITIONAL RESOURCES



FEATURES

• For surface mounted applications



· Ideal for automated placement

Glass passivated

 High temperature soldering: 260 °C / 10 s at terminals



RoHS COMPLIANT

• Wave and reflow solderable

- 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), MOQ = 50K GS08/3K per 7" reel (8 mm tape), MOQ = 30K

Circuit configuration: single

PARTS TABLE						
PART	ORDERING CODE	MARKING	REMARKS			
S1FLB	S1FLB-GS18 or S1FLB-GS08	FB	Tape and reel			
S1FLD	S1FLD-GS18 or S1FLD-GS08	FD	Tape and reel			
S1FLG	S1FLG-GS18 or S1FLG-GS08	FG	Tape and reel			
S1FLJ	S1FLJ-GS18 or S1FLJ-GS08	FJ	Tape and reel			
S1FLK	S1FLK-GS18 or S1FLK-GS08	FK	Tape and reel			
S1FLM	S1FLM-GS18 or S1FLM-GS08	FM	Tape and reel			

ABSOLUTE MAXIMUM RATINGS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT		
Maximum repetitive peak reverse voltage		S1FLB	V_{RRM}	100	V		
		S1FLD	V_{RRM}	200	V		
		S1FLG	V_{RRM}	400	V		
		S1FLJ	V_{RRM}	600	V		
		S1FLK	V_{RRM}	800	V		
		S1FLM	V_{RRM}	1000	V		
Maximum RMS voltage		S1FLB	V_{RMS}	70	V		
		S1FLD	V_{RMS}	140	V		
		S1FLG	V_{RMS}	280	V		
		S1FLJ	V _{RMS}	420	V		
		S1FLK	V_{RMS}	560	V		
		S1FLM	V_{RMS}	700	V		
		S1FLB	V_{DC}	100	V		
		S1FLD	V_{DC}	200	V		
Maximum DC blocking voltage		S1FLG	V_{DC}	400	V		
Maximum DC blocking voltage		S1FLJ	V_{DC}	600	V		
		S1FLK	V_{DC}	800	V		
		S1FLM	V_{DC}	1000	V		
Manipulation and the state of t	T _L = 75 °C		I _{F(AV)}	1.5	Α		
Maximum average forward rectified current	$T_A = 65 ^{\circ}C^{(1)}$		I _{F(AV)}	0.7	Α		
Peak forward surge current 8.3 ms single half sine-wave	T _L = 25 °C		I _{FSM}	22	Α		

Note

(1) Averaged over any 20 ms period



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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}	-55 to +150	°C		

Note

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

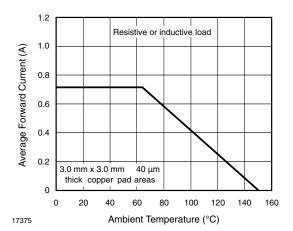
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
	1 A ⁽¹⁾	S1FLB	V _F			1.1	V
		S1FLD	V _F			1.1	V
Maximum instantaneous forward		S1FLG	V _F			1.1	V
voltage		S1FLJ	V _F			1.1	V
		S1FLK	V _F			1.1	V
		S1FLM	V _F			1.1	V
	T _A = 25 °C	S1FLB	I _R			10	μΑ
		S1FLD	I _R			10	μΑ
		S1FLG	I _R			10	μΑ
		S1FLJ	I _R			10	μΑ
		S1FLK	I _R			10	μA
Maximum DC reverse current at rated		S1FLM	I _R			10	μΑ
DC blocking voltage	T _A = 125 °C	S1FLB	I _R			50	μΑ
		S1FLD	I _R			50	μΑ
		S1FLG	I _R			50	μΑ
		S1FLJ	I _R			50	μΑ
		S1FLK	I _R			50	μΑ
		S1FLM	I _R			50	μΑ
	I _F = 0.5 A, I _R = 1 A, I _{rr} = 0.25 A	S1FLB	t _{rr}			1800	ns
		S1FLD	t _{rr}			1800	ns
D		S1FLG	t _{rr}			1800	ns
Reverse recovery time		S1FLJ	t _{rr}			1800	ns
		S1FLK	t _{rr}			1800	ns
		S1FLM	t _{rr}			1800	ns
	4 V, 1 MHz	S1FLB	C _j		4		pF
T. deal constitution		S1FLD	Cj		4		pF
		S1FLG	Cj		4		pF
Typical capacitance		S1FLJ	Cj		4		pF
		S1FLK	C _j		4		pF
		S1FLM	Ci		4		pF

Note

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

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



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Fig. 1 - Forward Current Derating Curve

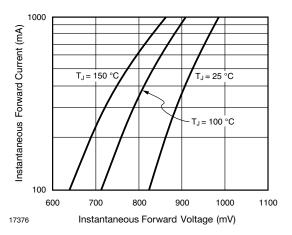


Fig. 2 - Typical Instantaneous Forward Characteristics

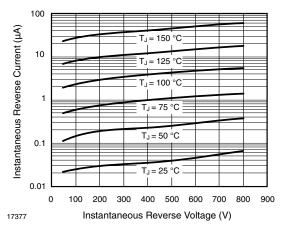


Fig. 3 - Typical Instantaneous Reverse Characteristics

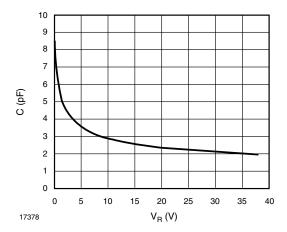
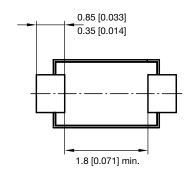
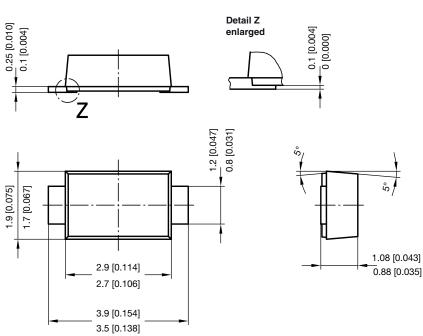


Fig. 4 - Capacitance vs. Reverse Voltage

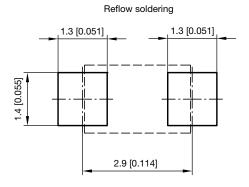
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PACKAGE DIMENSIONS in millimeters (inches): SMF (DO-219AB)





foot print recommendation:



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

Unreeling direction

Cathode

Top view

Document no.: S8-V-3717.02-003 (4) Created - Date: 09. Feb. 2010

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