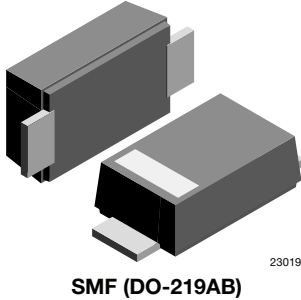


Fast Rectifier Surface-Mount

eSMP® Series



FEATURES

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- Meets MSL level 1, per J-STD-020, LF maximum peak of 260 °C
- Meets JESD 201 class 2 whisker test
- Wave and reflow solderable
- AEC-Q101 qualified
- 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


RoHS
COMPLIANT

LINKS TO ADDITIONAL RESOURCES



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
RS07B	RS07B-GS18 or RS07B-GS08	RB	Tape and reel
RS07D	RS07D-GS18 or RS07D-GS08	RD	Tape and reel
RS07G	RS07G-GS18 or RS07G-GS08	RG	Tape and reel
RS07J	RS07J-GS18 or RS07J-GS08	RJ	Tape and reel
RS07K	RS07K-GS18 or RS07K-GS08	RK	Tape and reel

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	TEST CONDITION	PART	SYMBOL	VALUE	UNIT
Maximum repetitive peak reverse voltage		RS07B	V_{RRM}	100	V
		RS07D	V_{RRM}	200	V
		RS07G	V_{RRM}	400	V
		RS07J	V_{RRM}	600	V
		RS07K	V_{RRM}	800	V
Maximum RMS voltage		RS07B	V_{RMS}	70	V
		RS07D	V_{RMS}	140	V
		RS07G	V_{RMS}	280	V
		RS07J	V_{RMS}	420	V
		RS07K	V_{RMS}	560	V
Maximum DC blocking voltage		RS07B	V_{DC}	100	V
		RS07D	V_{DC}	200	V
		RS07G	V_{DC}	400	V
		RS07J	V_{DC}	600	V
Maximum average forward rectified current	$T_L = 65\text{ }^{\circ}\text{C}$		$I_{F(AV)}$	1.4	A
	$T_A = 45\text{ }^{\circ}\text{C}$		$I_{F(AV)}$	0.5	A
Peak forward surge current 8.3 ms half sine-wave	$T_L = 25\text{ }^{\circ}\text{C}$		I_{FSM}	30	A



THERMAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)				
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Thermal resistance junction to lead		R _{thJL}	30	K/W
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 glass PCB with 3 mm x 3 mm Cu pads (≥ 40 μm thick)

ELECTRICAL CHARACTERISTICS (T _{amb} = 25 °C, unless otherwise specified)							
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT
Instantaneous forward voltage	I _F = 0.7 A ⁽¹⁾	RS07B	V _F			1.15	V
		RS07D	V _F			1.15	V
		RS07G	V _F			1.15	V
		RS07J	V _F			1.15	V
		RS07K	V _F			1.3	V
Maximum DC reverse current at rated DC blocking voltage	T _A = 25 °C	RS07B	I _R			10	μA
		RS07D	I _R			10	μA
		RS07G	I _R			10	μA
		RS07J	I _R			10	μA
		RS07K	I _R			2	μA
	T _A = 125 °C	RS07B	I _R			50	μA
		RS07D	I _R			50	μA
		RS07G	I _R			50	μA
		RS07J	I _R			50	μA
		RS07K	I _R			150	μA
Reverse recovery time	I _F = 0.5 A, I _R = 1 A, I _{rr} = 0.25 A	RS07B	t _{rr}			150	ns
		RS07D	t _{rr}			150	ns
		RS07G	t _{rr}			150	ns
		RS07J	t _{rr}			250	ns
		RS07K	t _{rr}			300	ns
Typical capacitance	4 V, 1 MHz	RS07B	C _j		9		pF
		RS07D	C _j		9		pF
		RS07G	C _j		9		pF
		RS07J	C _j		9		pF
		RS07K	C _j		4		pF

Note

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

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

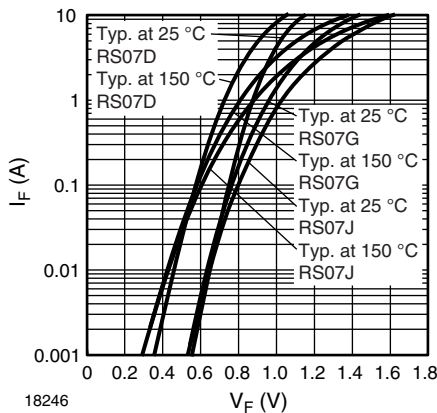


Fig. 1 - Typical Forward Characteristics

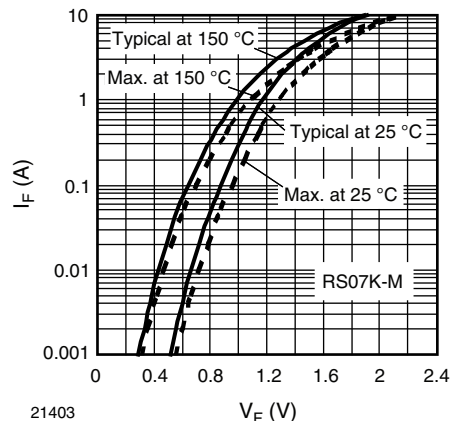


Fig. 2 - Typical Forward Characteristics

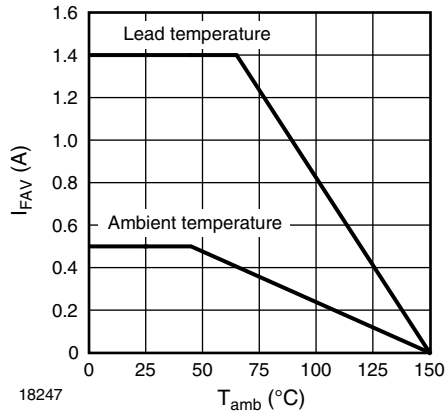


Fig. 3 - Forward Current Derating Curve

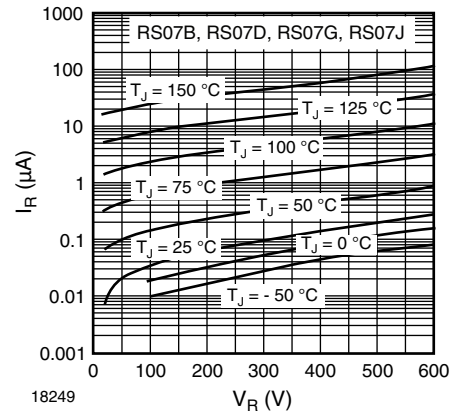


Fig. 6 - Typical Reverse Characteristics

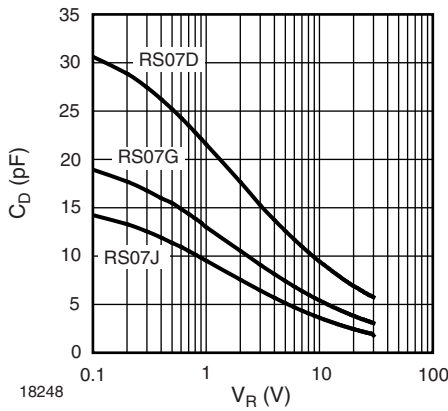


Fig. 4 - Typical Diode Capacitance vs. Reverse Voltage

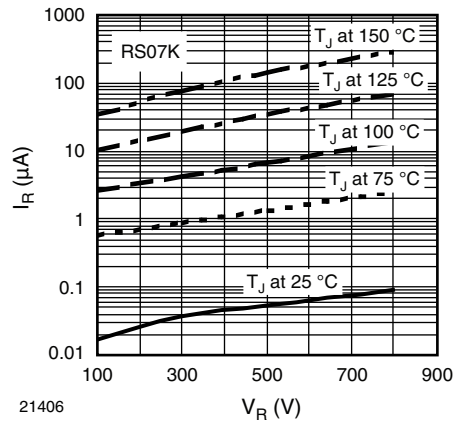


Fig. 7 - Typical Reverse Characteristics

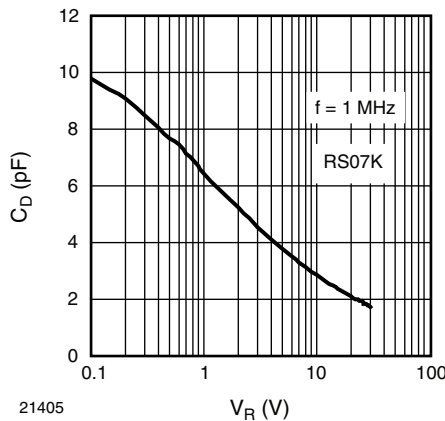
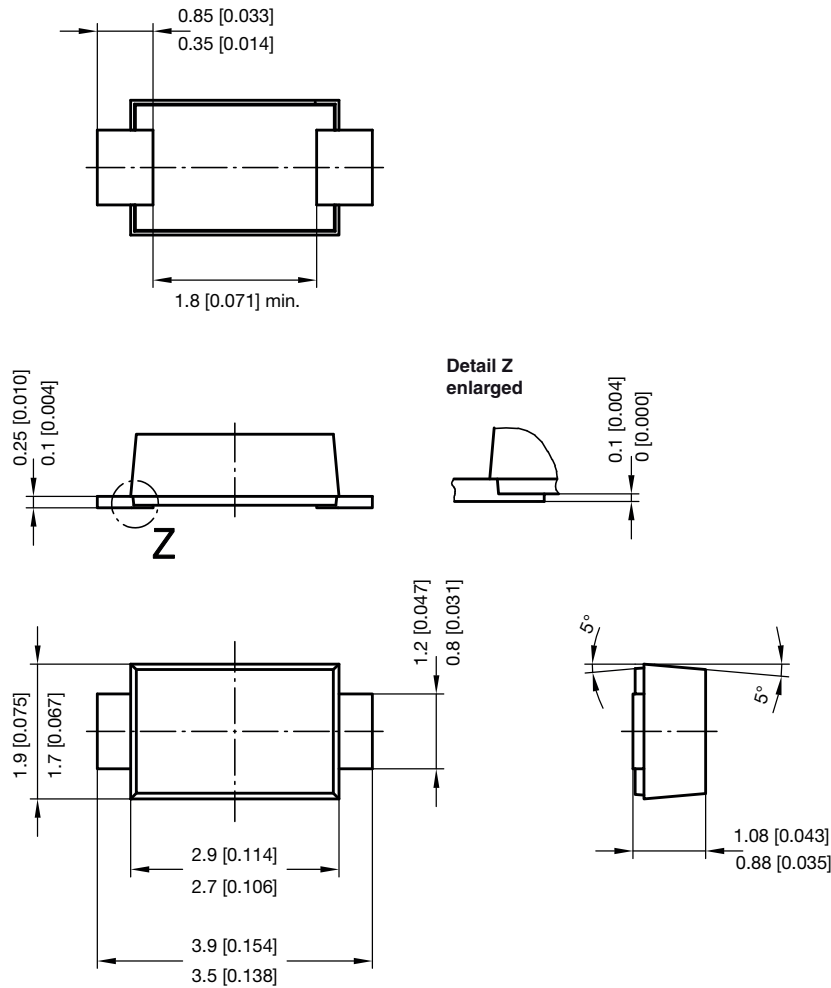


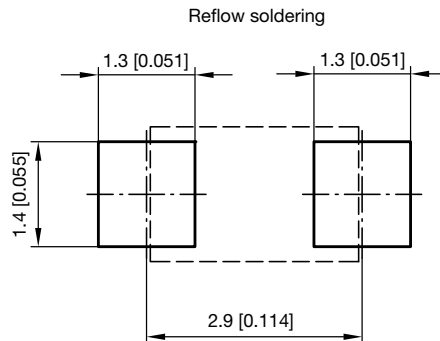
Fig. 5 - Typical Diode Capacitance vs. Reverse Voltage



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



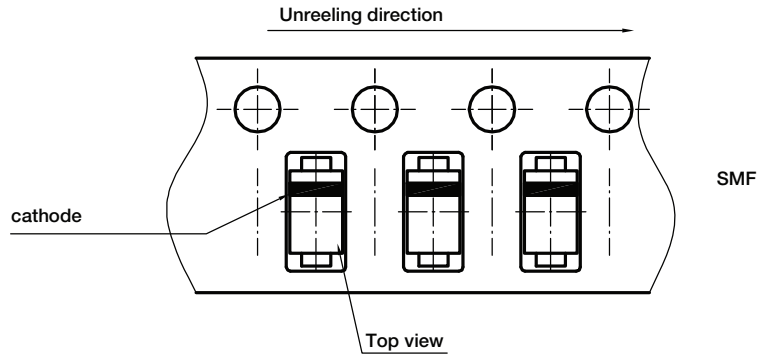
foot print recommendation:



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



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



Document no.: S8-V-3717.02-003 (4)
Created - Date: 09. Feb. 2010
22670



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