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Vishay Semiconductors

**REMARKS** 

Tape and reel

Tape and reel

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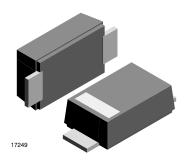
Tape and reel

30

 $I_{FSM}$ 

Α

### **Fast Rectifier Surface Mount**



#### **MECHANICAL DATA**

Case: DO-219AB (SMF)

**PARTS TABLE** 

**PART** 

RS07B-M

RS07D-M

RS07G-M

RS07J-M

sine-wave

Polarity: band denotes cathode end

Weight: approx. 15 mg Packaging codes / options: 18/10K per 13" reel (8 mm tape) 08/3K per 7" reel (8 mm tape) Int. construction: single

#### **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

**MARKING** 

TB

TD

TG

TJ

• Material categorization: for definitions of compliance please see www.vishav.com/doc?99912





**HALOGEN** FREE

ΤK RS07K-M RS07K-M-18 or RS07K-M-08 Tape and reel ABSOLUTE MAXIMUM RATINGS (T<sub>amb</sub> = 25 °C, unless otherwise specified) **PARAMETER TEST CONDITION PART** SYMBOL **VALUE** UNIT RS07B-M  $V_{RRM}$ 100 ٧ RS07D-M  $V_{RRM}$ 200 ٧ Maximum repetitive peak reverse voltage RS07G-M 400 ٧  $V_{RRM}$ 600 ٧ RS07J-M  $V_{RRM}$ RS07K-M 800 ٧  $V_{RRM}$ 70 ٧ RS07B-M  $V_{RMS}$ RS07D-M  $V_{\text{RMS}}$ 140 ٧ RS07G-M 280 V Maximum RMS voltage  $V_{RMS}$ RS07J-M  $V_{\text{RMS}}$ 420 V RS07K-M V  $V_{RMS}$ 560 RS07B-M  $V_{\text{DC}} \\$ 100 V RS07D-M  $V_{DC}$ 200 ٧ Maximum DC blocking voltage RS07G-M  $V_{DC}$ 400 ٧ RS07J-M 600 V  $V_{DC}$ RS07K-M 800 ٧  $V_{DC}$  $T_{tp} = 65 \, ^{\circ}C$ I<sub>F(AV)</sub> 1.4 Α Maximum average forward rectified current T<sub>A</sub> = 45 °C 0.5 Α I<sub>F(AV)</sub> Peak forward surge current 8.3 ms half

**ORDERING CODE** 

RS07B-M-18 or RS07B-M-08

RS07D-M-18 or RS07D-M-08

RS07G-M-18 or RS07G-M-08

RS07J-M-18 or RS07J-M-08

 $T_L = 25 \, ^{\circ}C$ 

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THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT		
Thermal resistance junction to tie point		R <sub>thJP</sub>	30	K/W		
Thermal resistance junction to ambient air (1)		R <sub>thJA</sub>	180	K/W		
Operating junction and storage temperature range		T <sub>j</sub> , T <sub>stg</sub>	-55 to 150	°C		

Note Mounted on epoxy glass PCB with 3 mm x 3 mm Cu pads (≥ 40 µm thick)

<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)										
PARAMETER	TEST CONDITION	PART	SYMBOL	MIN.	TYP.	MAX.	UNIT			
Instaneous forward voltage	$I_F = 0.7 A^{(1)}$	RS07B-M	V <sub>F</sub>			1.15	V			
		RS07D-M	V <sub>F</sub>			1.15	V			
		RS07G-M	V <sub>F</sub>			1.15	V			
		RS07J-M	V <sub>F</sub>			1.15	V			
	I <sub>F</sub> = 1 A <sup>(1)</sup>	RS07K-M	V <sub>F</sub>			1.3	V			
Maximum DC reverse current at rated DC blocking voltage	T <sub>A</sub> = 25 °C	RS07B-M	I <sub>R</sub>			10	μΑ			
		RS07D-M	I <sub>R</sub>			10	μΑ			
		RS07G-M	I <sub>R</sub>			10	μΑ			
		RS07J-M	I <sub>R</sub>			10	μΑ			
		RS07K-M	I <sub>R</sub>			2	μΑ			
	T <sub>A</sub> = 125 °C	RS07B-M	I <sub>R</sub>			50	μΑ			
		RS07D-M	I <sub>R</sub>			50	μΑ			
		RS07G-M	I <sub>R</sub>			50	μΑ			
		RS07J-M	I <sub>R</sub>			50	μΑ			
		RS07K-M	I <sub>R</sub>			150	μΑ			
Reverse recovery time	I <sub>F</sub> = 0.5 A, I <sub>R</sub> = 1 A, I <sub>rr</sub> = 0.25 A	RS07B-M	t <sub>rr</sub>			150	ns			
		RS07D-M	t <sub>rr</sub>			150	ns			
		RS07G-M	t <sub>rr</sub>			150	ns			
		RS07J-M	t <sub>rr</sub>			250	ns			
		RS07K-M	t <sub>rr</sub>			300	ns			
Typical capacitance	4 V, 1 MHz	RS07B-M	Cj		9		pF			
		RS07D-M	Cj		9		pF			
		RS07G-M	Cj		9		pF			
		RS07J-M	Cj		9		pF			
		RS07K-M	Ci		4		pF			

#### TYPICAL CHARACTERISTICS (T<sub>amb</sub> = 25 °C, unless otherwise specified)

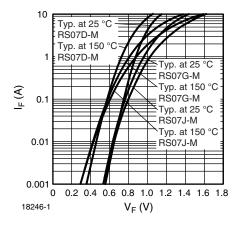


Fig. 1 - Typical Forward Characteristics

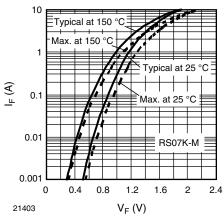


Fig. 2 - Typical Forward Characteristics

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

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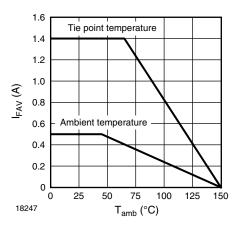


Fig. 3 - Forward Current Derating Curve

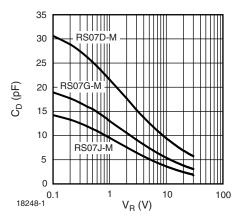


Fig. 4 - Typical Diode Capacitance vs. Reverse Voltage

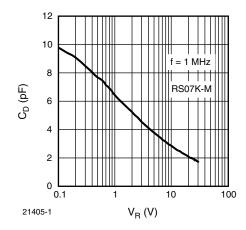


Fig. 5 - Typical Diode Capacitance vs. Reverse Voltage

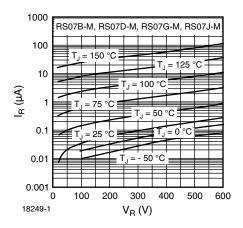


Fig. 6 - Typical Reverse Characteristics

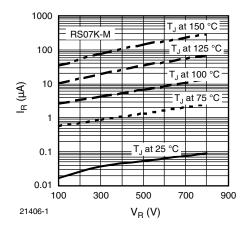
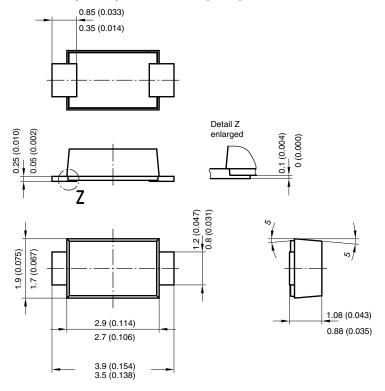


Fig. 7 - Typical Reverse Characteristics

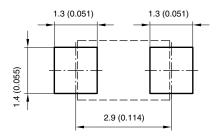
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#### PACKAGE DIMENSIONS in millimeters (inches): DO-219AB (SMF)



Foot print recommendation:

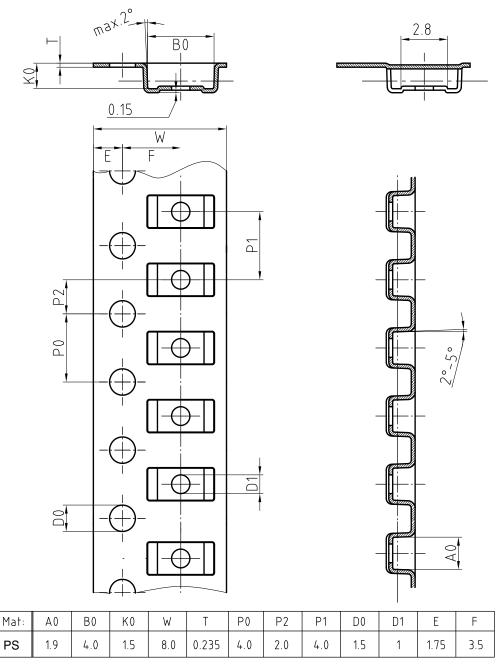


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#### **BLISTERTAPE DIMENSIONS** in millimeters: **DO-219 AB (SMF)**



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