RS07B-M, RS07D-M, RS07G-M, RS07J-M, RS07K-M



Vishay Semiconductors

Small Signal Fast Switching Diode, High Voltage

Features

- · For surface mounted applications
- · Low profile package
- Ideal for automated placement
- Glass passivated
- RoHS High temperature soldering: 260 °C/10 s COMPLIANT at terminals HALOGEN FREE
- Wave and reflow solderable
- AEC-Q101 gualified
- · Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

Mechanical Data

Case: DO-219AB (SMF) 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)

Parts Table

Part	Ordering code	Marking	Remarks		
RS07B-M	RS07B-M-18 or RS07B-M-08	ТВ	Tape and reel		
RS07D-M	RS07D-M-18 or RS07D-M-08	TD	Tape and reel		
RS07G-M	RS07G-M-18 or RS07G-M08	TG	Tape and reel		
RS07J-M	RS07J-M-18 or RS07J-M-08	TJ	Tape and reel		
RS07K-M	RS07K-M-18 or RS07K-M-08	ТК	Tape and reel		

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
		RS07B-M	V _{RRM}	100	V
		RS07D-M	V _{RRM}	200	V
Maximum repetitive peak reverse		RS07G-M	V _{RRM}	400	V
voltage		RS07J-M	V _{RRM}	600	V
		RS07K-M	V _{RRM}	800	V
		RS07B-M	V _{RMS}	70	V
		RS07D-M	V _{RMS}	140	V
Maximum RMS voltage		RS07G-M	V _{RMS}	280	V
		RS07J-M	V _{RMS}	420	V
		RS07K-M	V _{RMS}	560	V
		RS07B-M	V _{DC}	100	V
		RS07D-M	V _{DC}	200	V
Maximum DC blocking voltage		RS07G-M	V _{DC}	400	V
		RS07J-M	V _{DC}	600	V
		RS07K-M	V _{DC}	800	V
Maximum average forward	T _{tp} = 65 °C		I _{F(AV)}	1.4	A
rectified current	T _A = 45 °C		I _{F(AV)}	0.5	A
Peak forward surge current 8.3 ms half sine-wave	T _L = 25 °C		I _{FSM}	30	А



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Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to tie point		R _{thJtp}	30	K/W
Thermal resistance junction to ambient air ¹⁾		R _{thJA}	180	K/W
Operating junction and storage temperature range		Τ _j , Τ _{stg}	- 55 to + 150	۵°

Note:

 $^{1)}$ Mounted on epoxy glass PCB with 3 mm x 3 mm, Cu pads (\geq 40 μm thick)

Electrical Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min.	Тур.	Max.	Unit
		RS07B-M	V _F			1.15	V
	0.7 A ¹⁾	RS07D-M	V _F			1.15	V
Maximum instantaneous		RS07G-M	V _F			1.15	V
lorward voltage		RS07J-M	V _F			1.15	V
	1 A ¹⁾	RS07K-M	V _F			1.3	V
		RS07B-M	I _R			10	μΑ
		RS07D-M	I _R			10	μΑ
	T _A = 25°C	RS07G-M	I _R			10	μΑ
		RS07J-M	I _R			10	μΑ
Maximum DC reverse current at		RS07K-M	I _R			2	μΑ
rated DC blocking voltage	T _A = 125°C	RS07B-M	I _R			50	μΑ
		RS07D-M	I _R			50	μΑ
		RS07G-M	I _R			50	μA
		RS07J-M	I _R			50	μA
		RS07K-M	۱ _R			150	μΑ
		RS07B-M	t _{rr}			150	ns
	I _F = 0.5 A, I _R = 1 A, I _{rr} = 0.25 A	RS07D-M	t _{rr}			150	ns
Reverse recovery time		RS07G-M	t _{rr}			150	ns
		RS07J-M	t _{rr}			250	ns
		RS07K-M	t _{rr}			300	ns
		RS07B-M	CD		9		pF
		RS07D-M	CD		9		pF
Typical capacitance	4 V, 1 MHz	RS07G-M	CD		9		pF
		RS07J-M	CD		9		pF
		RS07K-M	CD		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



Figure 1. Typical Forward Characteristics



Figure 2. Typical Forward Characteristics



Figure 3. Forward Current Derating Curve



Figure 4. Typ. Diode Capacitance vs. Reverse Voltage



Figure 5. Typ. Diode Capacitance vs. Reverse Voltage



Figure 6. Typical Reverse Characteristics



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Figure 7. Typical Reverse Characteristics

Package Dimensions in millimeters (inches): DO-219AB (SMF)



Foot print recommendation:

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



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Blistertape Dimensions for SMF in millimeters



Mat:	A 0	B0	K0	W	Т	P0	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



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