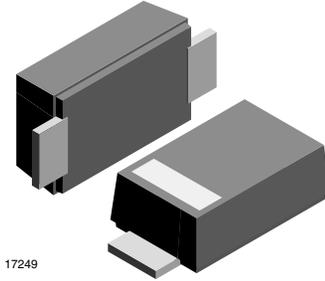




Small Signal Fast Switching Diode, High Voltage

Features

- For surface mounted applications
- Low profile package
- Ideal for automated placement
- Glass passivated
- High temperature soldering: 260 °C/ 10 s at terminals
- Wave and reflow solderable
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



Mechanical Data

Case: DO-219AB (SMF)

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)

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 °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
		RS07K	V _{DC}	800	V
Maximum average forward rectified current	T _{tp} = 65 °C		I _{F(AV)}	1.4	A
	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	A

Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, 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		T_j, T_{stg}	- 55 to + 150	$^{\circ}\text{C}$

Note:

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

Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

Parameter	Test condition	Part	Symbol	Min.	Typ.	Max.	Unit	
Maximum instantaneous forward voltage	$0.7\text{ A}^{\text{1)}$	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	$T_A = 25\text{ }^{\circ}\text{C}$	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	
	$T_A = 125\text{ }^{\circ}\text{C}$	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	$I_F = 0.5\text{ A}, I_R = 1\text{ A}, I_{rr} = 0.25\text{ A}$	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_D		9		pF	
		RS07D	C_D		9		pF	
		RS07G	C_D		9		pF	
		RS07J	C_D		9		pF	
		RS07K	C_D		4		pF	

Note:

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



Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$, unless otherwise specified

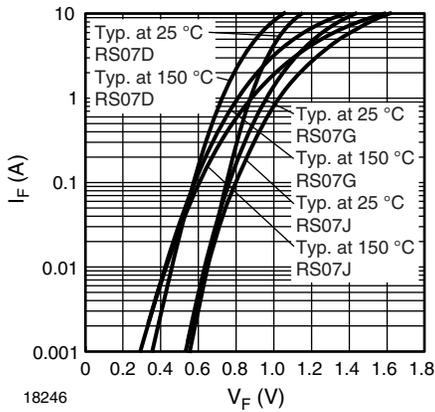


Figure 1. Typical Forward Characteristics

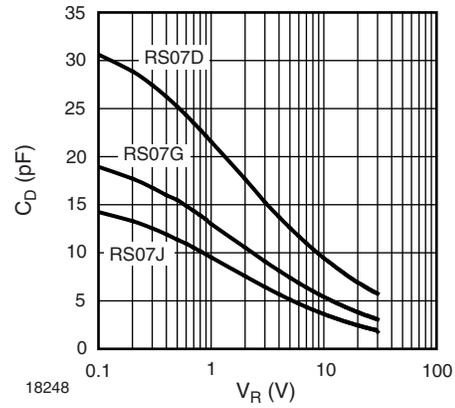


Figure 4. Typ. Diode Capacitance vs. Reverse Voltage

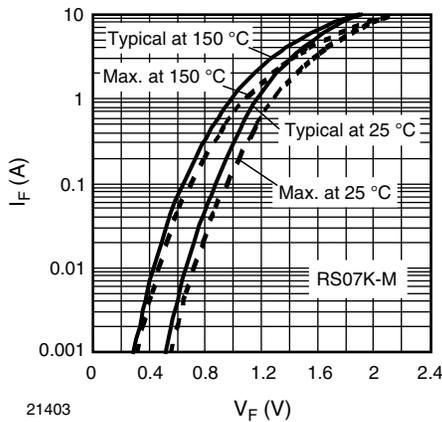


Figure 2. Typical Forward Characteristics

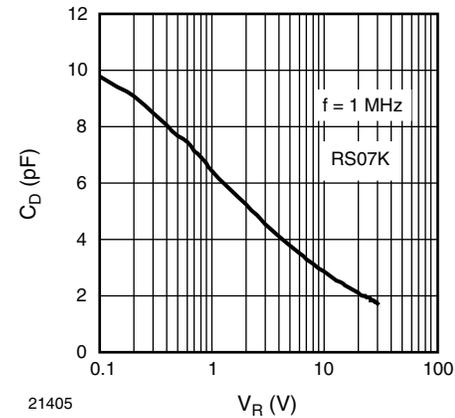


Figure 5. Typ. Diode Capacitance vs. Reverse Voltage

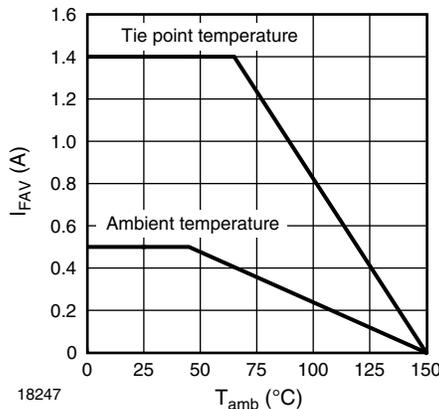


Figure 3. Forward Current Derating Curve

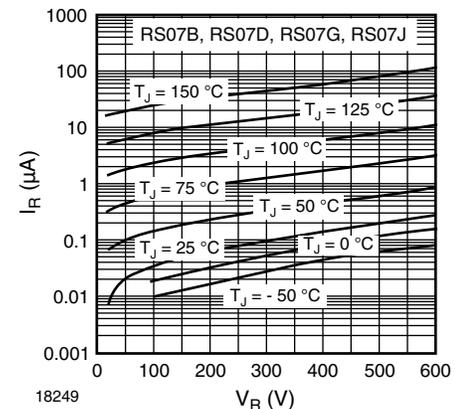


Figure 6. Typical Reverse Characteristics

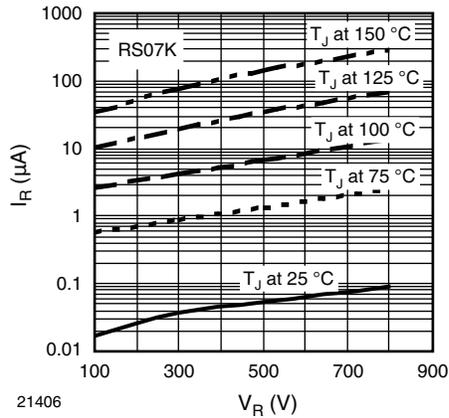
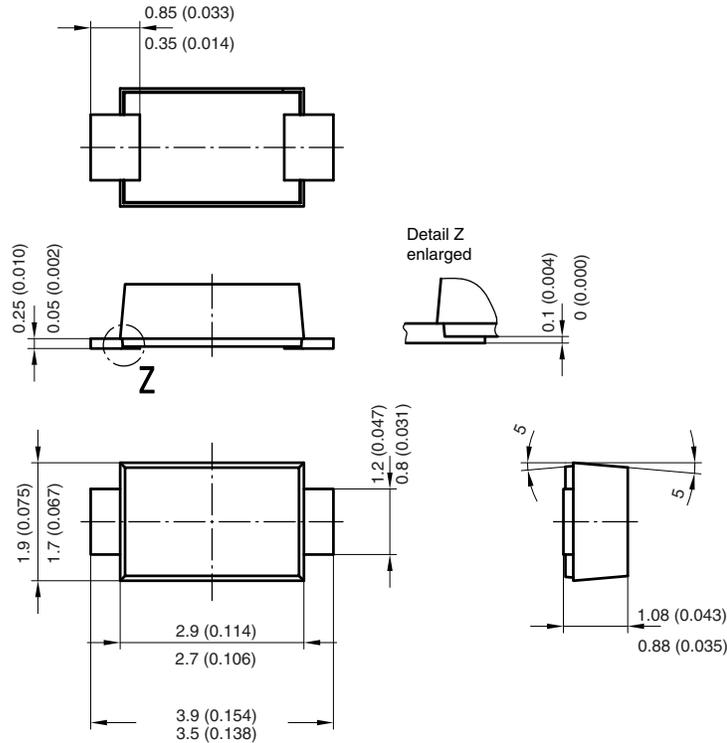
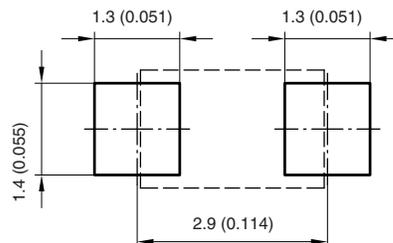


Figure 7. Typical Reverse Characteristics

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



Foot print recommendation:



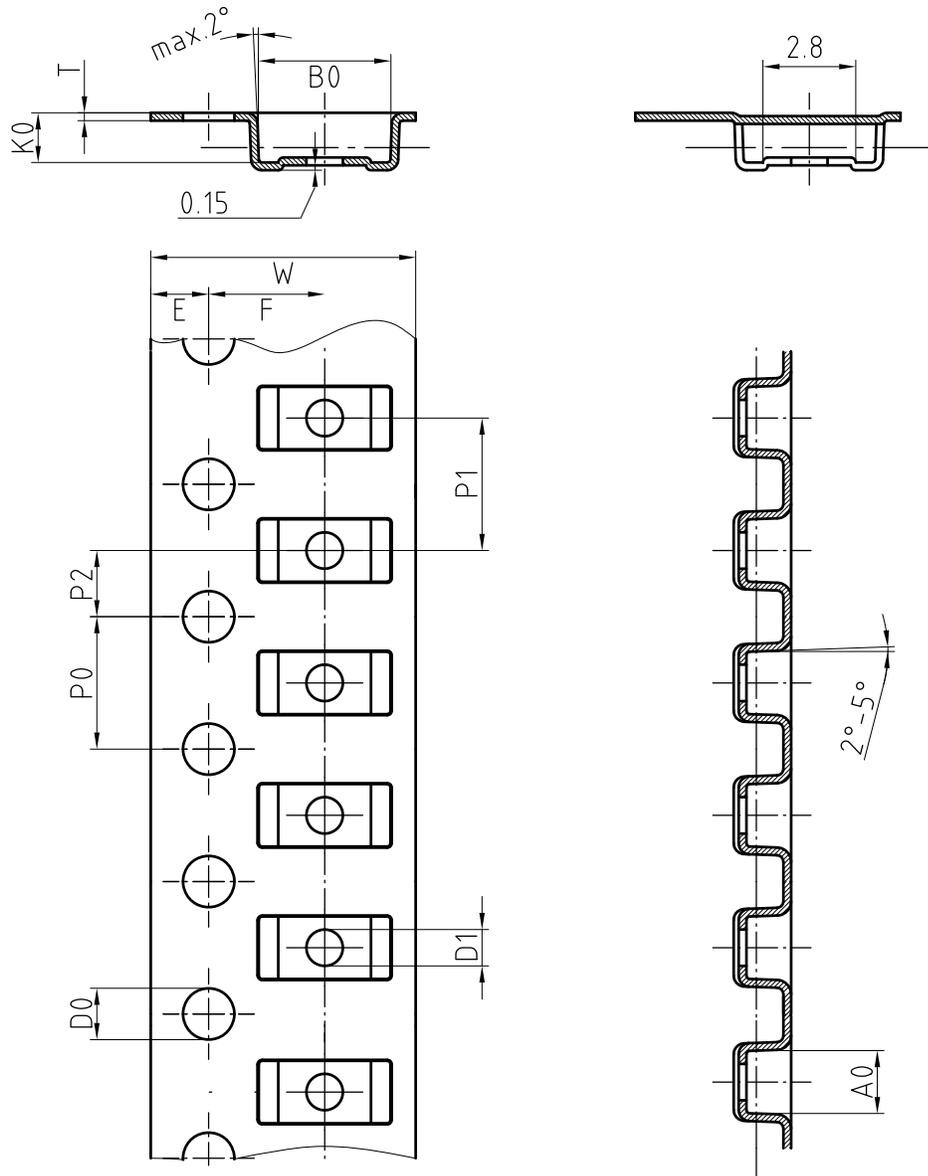
Created - Date: 15. February 2005
 Rev. 3 - Date: 13. March 2007
 Document no.:S8-V-3915.01-001 (4)
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RS07B, RS07D, RS07G, RS07J, RS07K

Vishay Semiconductors

Blisertape Dimensions for SMF in millimeters



Mat:	A0	B0	K0	W	T	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)

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