



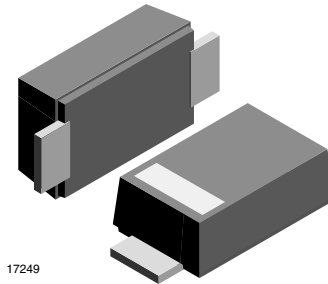
## Small Signal Fast Switching Diode, High Voltage

### 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



RoHS COMPLIANT



17249

### 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<sub>amb</sub> = 25 °C, unless otherwise specified

Parameter	Test condition	Part	Symbol	Value	Unit
Maximum repetitive peak reverse voltage		RS07B	V <sub>RRM</sub>	100	V
		RS07D	V <sub>RRM</sub>	200	V
		RS07G	V <sub>RRM</sub>	400	V
		RS07J	V <sub>RRM</sub>	600	V
		RS07K	V <sub>RRM</sub>	800	V
Maximum RMS voltage		RS07B	V <sub>RMS</sub>	70	V
		RS07D	V <sub>RMS</sub>	140	V
		RS07G	V <sub>RMS</sub>	280	V
		RS07J	V <sub>RMS</sub>	420	V
		RS07K	V <sub>RMS</sub>	560	V
Maximum DC blocking voltage		RS07B	V <sub>DC</sub>	100	V
		RS07D	V <sub>DC</sub>	200	V
		RS07G	V <sub>DC</sub>	400	V
		RS07J	V <sub>DC</sub>	600	V
		RS07K	V <sub>DC</sub>	800	V
Maximum average forward rectified current	T <sub>tp</sub> = 65 °C		I <sub>F(AV)</sub>	1.4	A
	T <sub>A</sub> = 45 °C		I <sub>F(AV)</sub>	0.5	A
Peak forward surge current 8.3 ms half sine-wave	T <sub>L</sub> = 25 °C		I <sub>FSM</sub>	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 <sup>1)</sup>		$R_{thJA}$	180	K/W
Operating junction and storage temperature range		$T_j, T_{stg}$	- 55 to + 150	$^{\circ}\text{C}$

Note:

<sup>1)</sup> 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	$0.7\text{ A }^1)$	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	$\mu\text{A}$	
		RS07D	$I_R$			10	$\mu\text{A}$	
		RS07G	$I_R$			10	$\mu\text{A}$	
		RS07J	$I_R$			10	$\mu\text{A}$	
		RS07K	$I_R$			2	$\mu\text{A}$	
	$T_A = 125\text{ }^{\circ}\text{C}$	RS07B	$I_R$				50	$\mu\text{A}$
		RS07D	$I_R$				50	$\mu\text{A}$
		RS07G	$I_R$				50	$\mu\text{A}$
		RS07J	$I_R$				50	$\mu\text{A}$
		RS07K	$I_R$				150	$\mu\text{A}$
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:

<sup>1)</sup> Pulse test, 300  $\mu\text{s}$  pulse width 1 % duty cycle



## Typical Characteristics

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

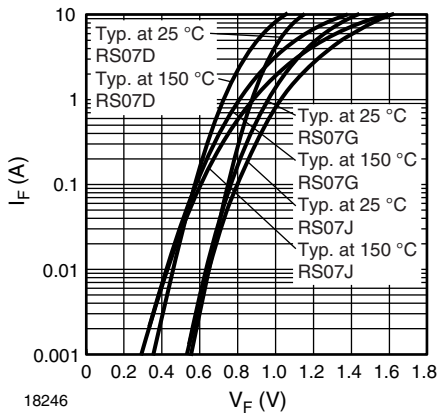


Figure 1. Typical Forward Characteristics

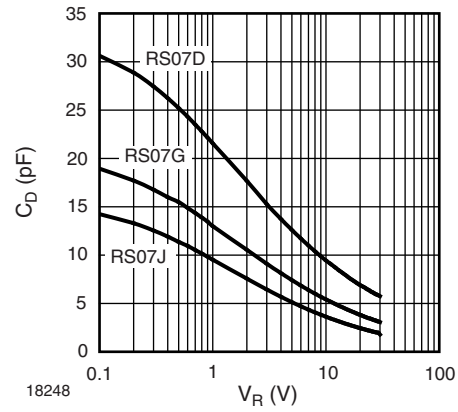


Figure 4. Typ. Diode Capacitance vs. Reverse Voltage

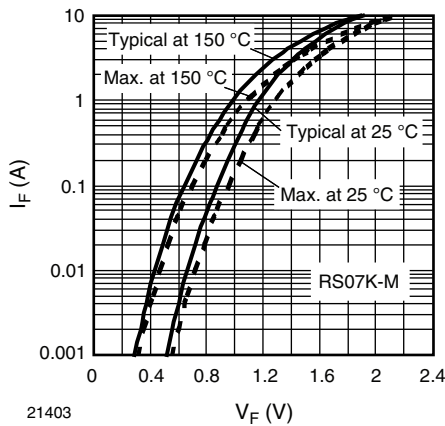


Figure 2. Typical Forward Characteristics

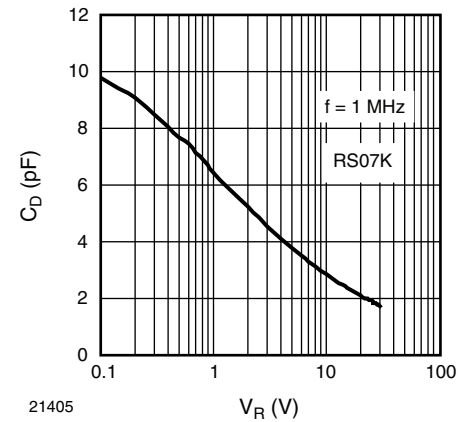


Figure 5. Typ. Diode Capacitance vs. Reverse Voltage

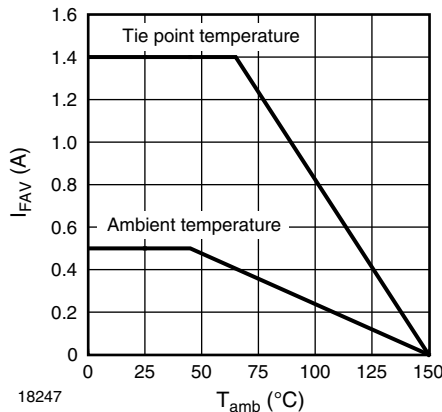


Figure 3. Forward Current Derating Curve

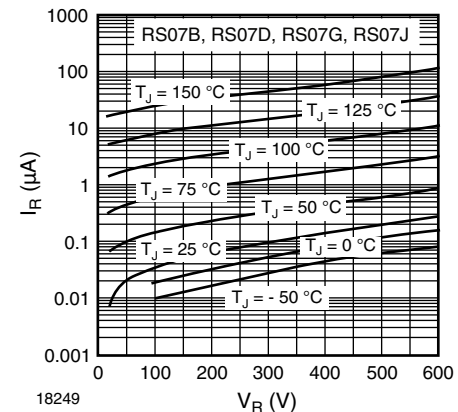


Figure 6. Typical Reverse Characteristics

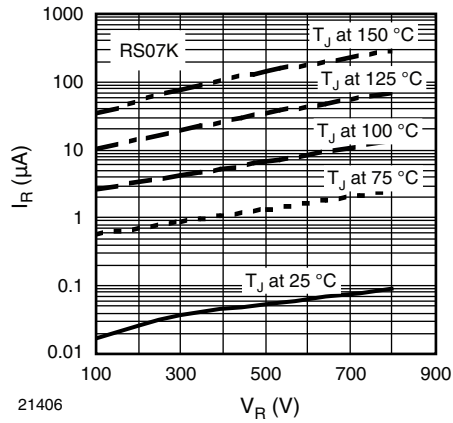
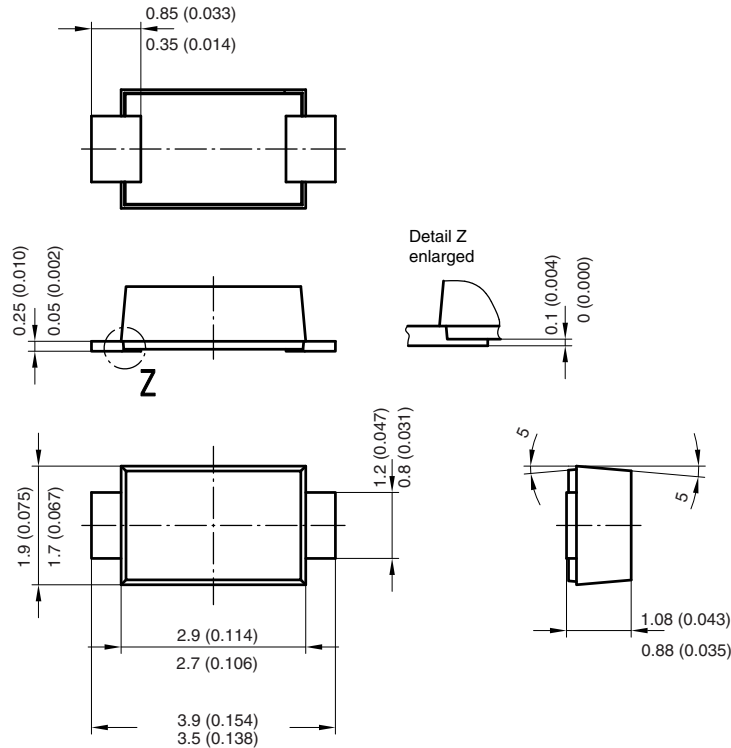
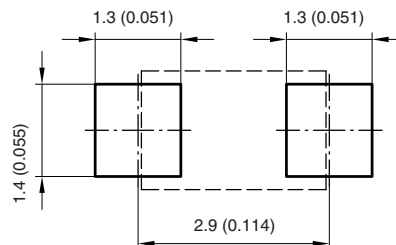


Figure 7. Typical Reverse Characteristics

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

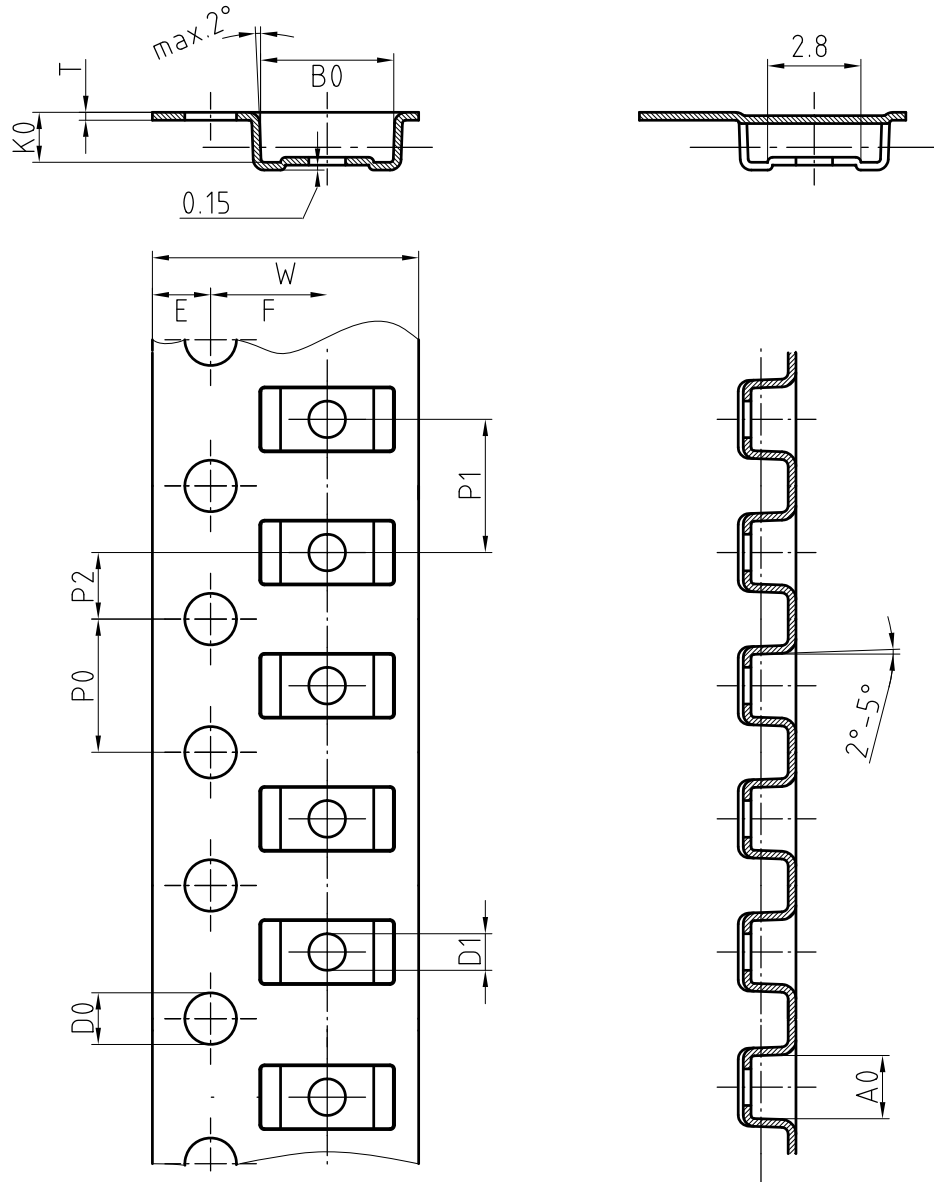


Foot print recommendation:



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

## 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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