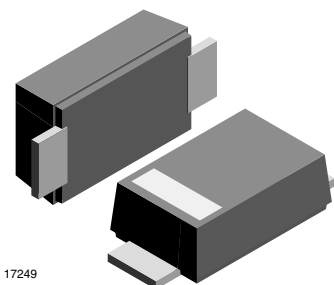




## Fast Rectifier Surface Mount



## 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)

**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
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

RoHS  
COMPLIANT

## 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 ( $T_{amb} = 25\text{ °C}$ , 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        | $T_{tp} = 65\text{ °C}$ |       | $I_{F(AV)}$ | 1.4   | A    |
|                                                  | $T_A = 45\text{ °C}$    |       | $I_{F(AV)}$ | 0.5   | A    |
| Peak forward surge current 8.3 ms half sine-wave | $T_L = 25\text{ °C}$    |       | $I_{FSM}$   | 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                  |                | $R_{thJP}$     | 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          |
|---------------------------------------------------------|----------------------------------------------------------------|-------|----------|------|------|------|---------------|
| Instantaneous forward voltage                           | $I_F = 0.7\text{ A}$ <sup>(1)</sup>                            | 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             |
|                                                         | $I_F = 1\text{ A}$ <sup>(1)</sup>                              | 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 | $C_j$    |      | 9    |      | pF            |
|                                                         |                                                                | RS07D | $C_j$    |      | 9    |      | pF            |
|                                                         |                                                                | RS07G | $C_j$    |      | 9    |      | pF            |
|                                                         |                                                                | RS07J | $C_j$    |      | 9    |      | pF            |
|                                                         |                                                                | RS07K | $C_j$    |      | 4    |      | pF            |

**Note**

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

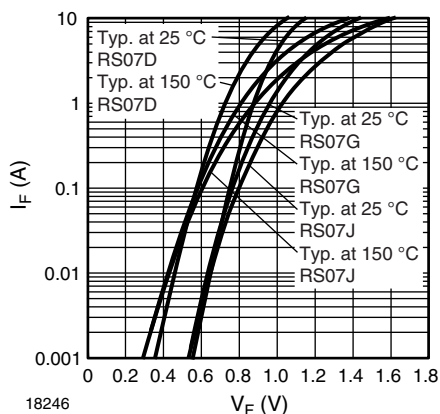
**TYPICAL CHARACTERISTICS** ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)

Fig. 1 - Typical Forward Characteristics

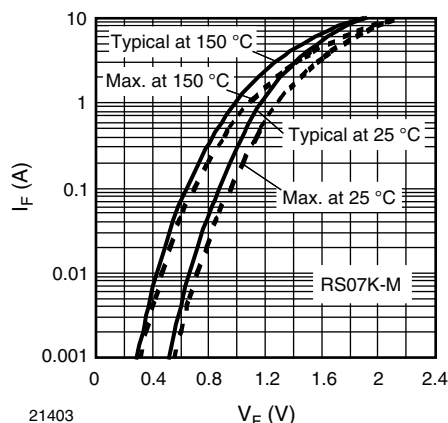


Fig. 2 - Typical Forward Characteristics

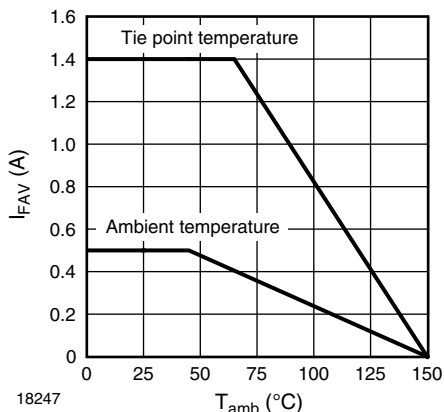


Fig. 3 - Forward Current Derating Curve

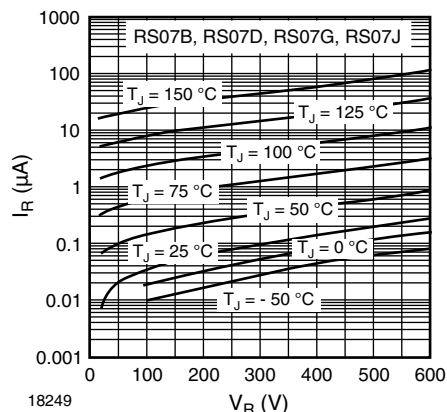


Fig. 6 - Typical Reverse Characteristics

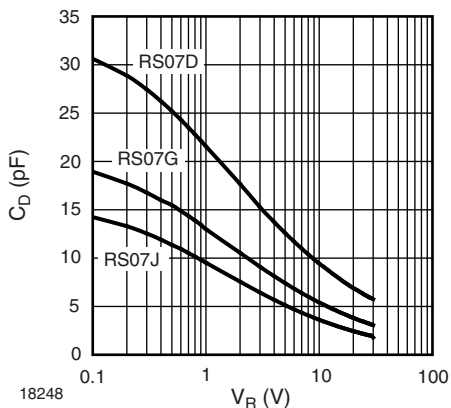


Fig. 4 - Typical Diode Capacitance vs. Reverse Voltage

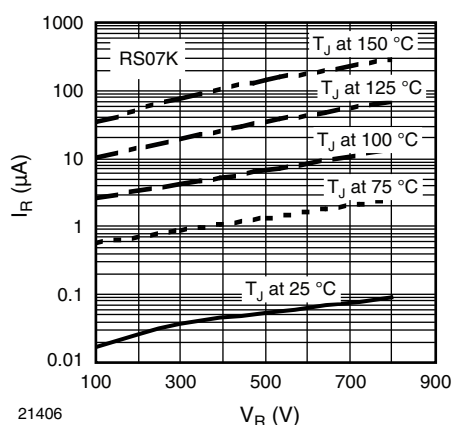


Fig. 7 - Typical Reverse Characteristics

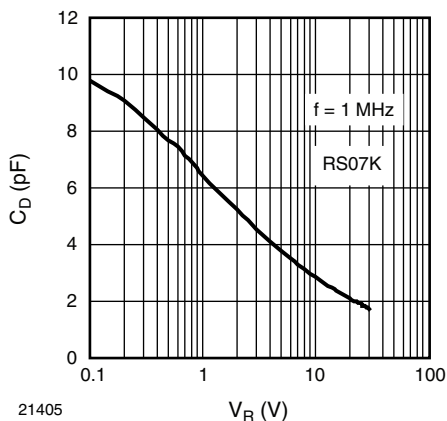
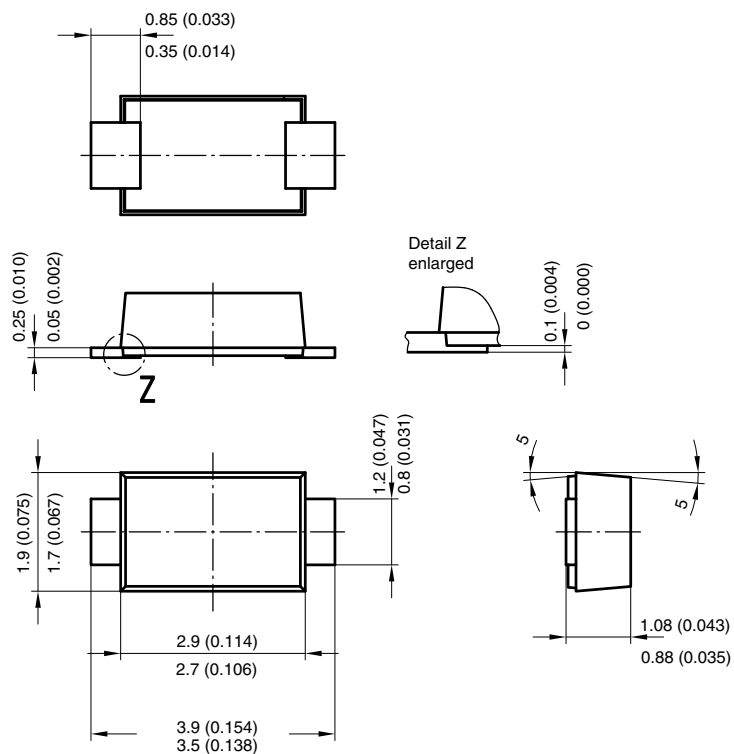


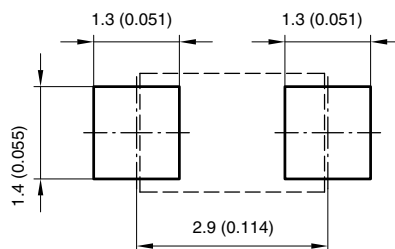
Fig. 5 - Typical Diode Capacitance vs. Reverse Voltage



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



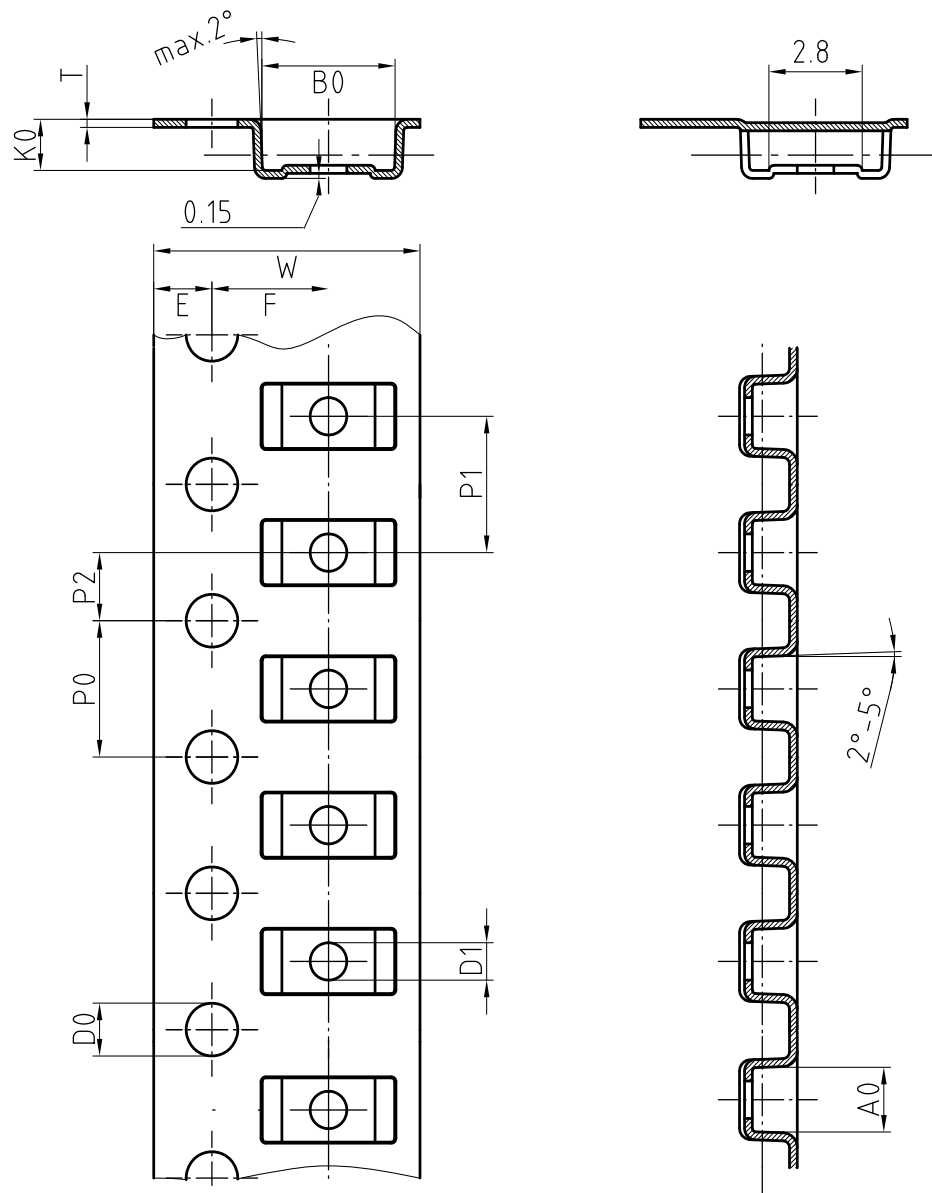
Foot print recommendation:



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Rev. 3 - Date: 13. March 2007  
Document no.:S8-V-3915.01-001 (4)  
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**BLISTERTAPE DIMENSIONS** in millimeters: **DO-219 AB (SMF)**



|      |     |     |     |     |       |     |     |     |     |    |      |     |
|------|-----|-----|-----|-----|-------|-----|-----|-----|-----|----|------|-----|
| 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)

18513



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