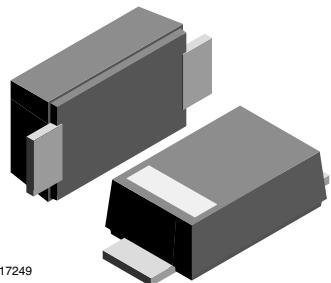


Fast Rectifier Surface Mount



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)

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



RoHS
COMPLIANT
HALOGEN
FREE

PARTS TABLE

| PART | ORDERING CODE | MARKING | REMARKS |
|---------|--------------------------|---------|---------------|
| RS07B-M | RS07B-M-18 or RS07B-M-08 | TB | Tape and reel |
| RS07D-M | RS07D-M-18 or RS07D-M-08 | TD | Tape and reel |
| RS07G-M | RS07G-M-18 or RS07G-M-08 | 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 | TK | Tape and reel |

ABSOLUTE MAXIMUM RATINGS ($T_{amb} = 25^{\circ}C$, unless otherwise specified)

| PARAMETER | TEST CONDITION | PART | SYMBOL | VALUE | UNIT |
|--|------------------------|---------|-------------|-------|------|
| Maximum repetitive peak reverse voltage | | RS07B-M | V_{RRM} | 100 | V |
| | | RS07D-M | V_{RRM} | 200 | V |
| | | RS07G-M | V_{RRM} | 400 | V |
| | | RS07J-M | V_{RRM} | 600 | V |
| | | RS07K-M | V_{RRM} | 800 | V |
| Maximum RMS voltage | | RS07B-M | V_{RMS} | 70 | V |
| | | RS07D-M | V_{RMS} | 140 | V |
| | | RS07G-M | V_{RMS} | 280 | V |
| | | RS07J-M | V_{RMS} | 420 | V |
| | | RS07K-M | V_{RMS} | 560 | V |
| Maximum DC blocking voltage | | RS07B-M | V_{DC} | 100 | V |
| | | RS07D-M | V_{DC} | 200 | V |
| | | RS07G-M | V_{DC} | 400 | V |
| | | RS07J-M | V_{DC} | 600 | V |
| | | RS07K-M | V_{DC} | 800 | V |
| Maximum average forward rectified current | $T_{tp} = 65^{\circ}C$ | | $I_{F(AV)}$ | 1.4 | A |
| | $T_A = 45^{\circ}C$ | | $I_{F(AV)}$ | 0.5 | A |
| Peak forward surge current 8.3 ms half sine-wave | $T_L = 25^{\circ}C$ | | I_{FSM} | 30 | A |

THERMAL CHARACTERISTICS ($T_{amb} = 25^\circ\text{C}$, 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 ⁽¹⁾ | | R_{thJA} | 180 | K/W |
| Operating junction and storage temperature range | | T_j, T_{stg} | -55 to 150 | °C |

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

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

| PARAMETER | TEST CONDITION | PART | SYMBOL | MIN. | TYP. | MAX. | UNIT |
|---|---|---------|----------|------|------|------|---------------|
| Instantaneous forward voltage | $I_F = 0.7 \text{ A}$ ⁽¹⁾ | RS07B-M | V_F | | | 1.15 | V |
| | | RS07D-M | V_F | | | 1.15 | V |
| | | RS07G-M | V_F | | | 1.15 | V |
| | | RS07J-M | V_F | | | 1.15 | V |
| | $I_F = 1 \text{ A}$ ⁽¹⁾ | RS07K-M | V_F | | | 1.3 | V |
| Maximum DC reverse current at rated DC blocking voltage | $T_A = 25^\circ\text{C}$ | RS07B-M | I_R | | | 10 | μA |
| | | RS07D-M | I_R | | | 10 | μA |
| | | RS07G-M | I_R | | | 10 | μA |
| | | RS07J-M | I_R | | | 10 | μA |
| | | RS07K-M | I_R | | | 2 | μA |
| | $T_A = 125^\circ\text{C}$ | RS07B-M | I_R | | | 50 | μA |
| | | RS07D-M | I_R | | | 50 | μA |
| | | RS07G-M | I_R | | | 50 | μA |
| | | RS07J-M | I_R | | | 50 | μA |
| | | RS07K-M | 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-M | t_{rr} | | | 150 | ns |
| | | RS07D-M | t_{rr} | | | 150 | ns |
| | | RS07G-M | t_{rr} | | | 150 | ns |
| | | RS07J-M | t_{rr} | | | 250 | ns |
| | | RS07K-M | t_{rr} | | | 300 | ns |
| Typical capacitance | 4 V, 1 MHz | RS07B-M | C_j | | | 9 | pF |
| | | RS07D-M | C_j | | | 9 | pF |
| | | RS07G-M | C_j | | | 9 | pF |
| | | RS07J-M | C_j | | | 9 | pF |
| | | RS07K-M | C_j | | | 4 | pF |

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

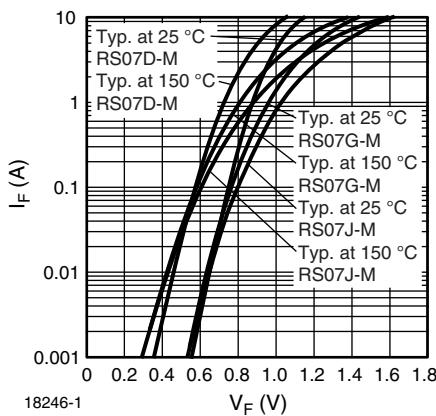
TYPICAL CHARACTERISTICS ($T_{amb} = 25^\circ\text{C}$, unless otherwise specified)


Fig. 1 - Typical Forward Characteristics

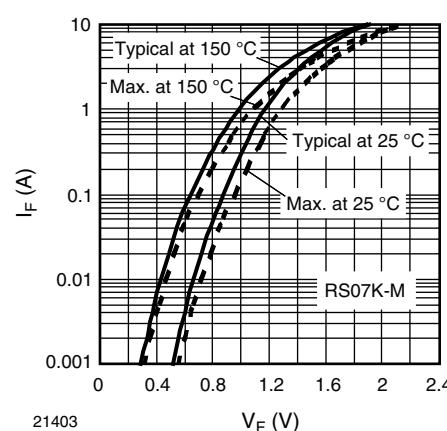


Fig. 2 - Typical Forward Characteristics

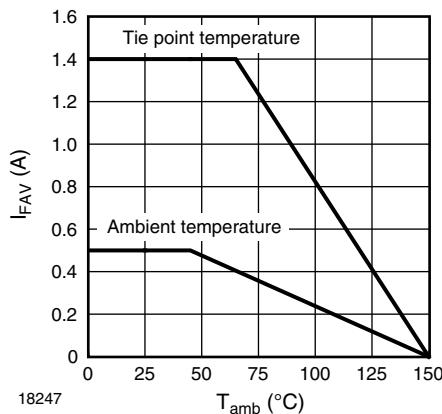


Fig. 3 - Forward Current Derating Curve

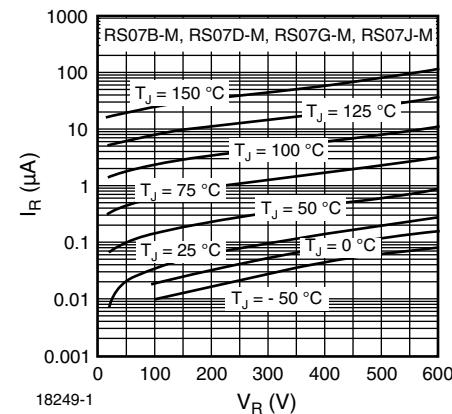


Fig. 6 - Typical Reverse Characteristics

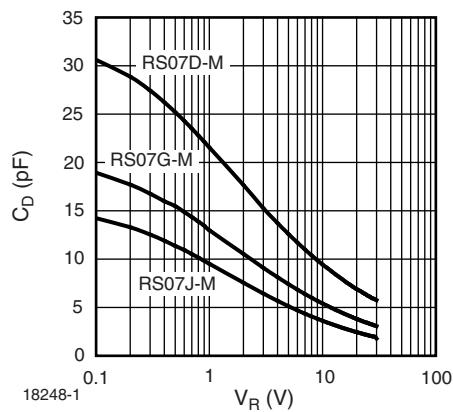


Fig. 4 - Typical Diode Capacitance vs. Reverse Voltage

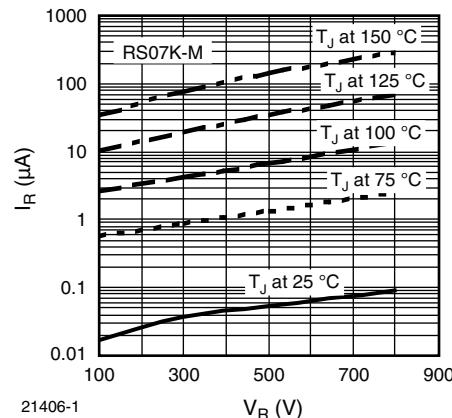


Fig. 7 - Typical Reverse Characteristics

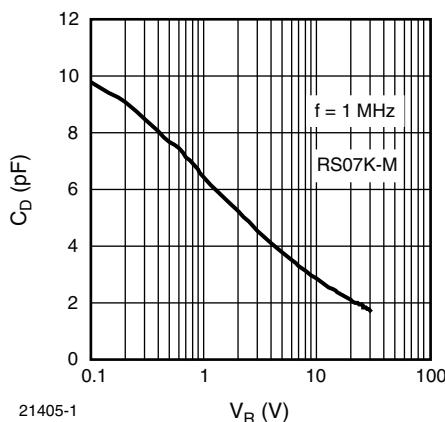
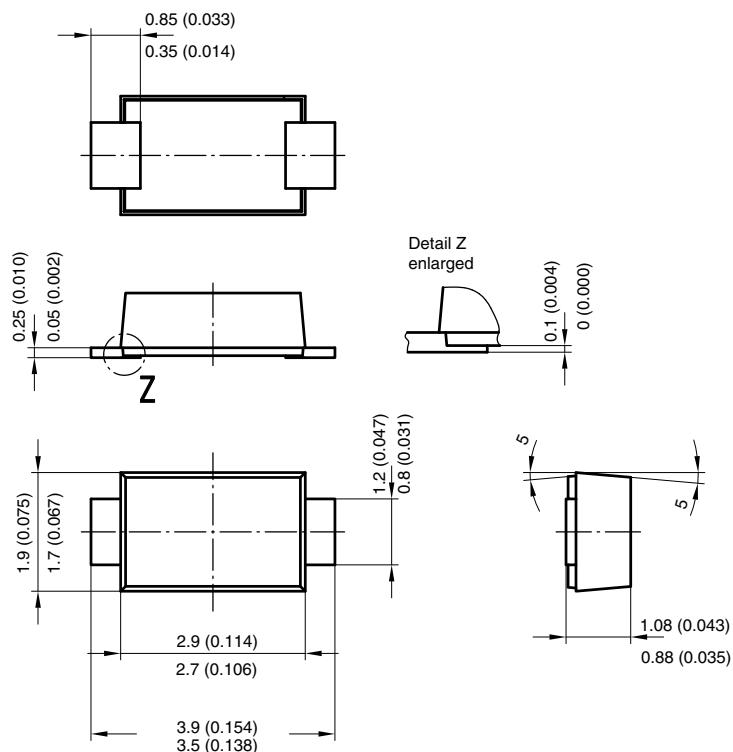
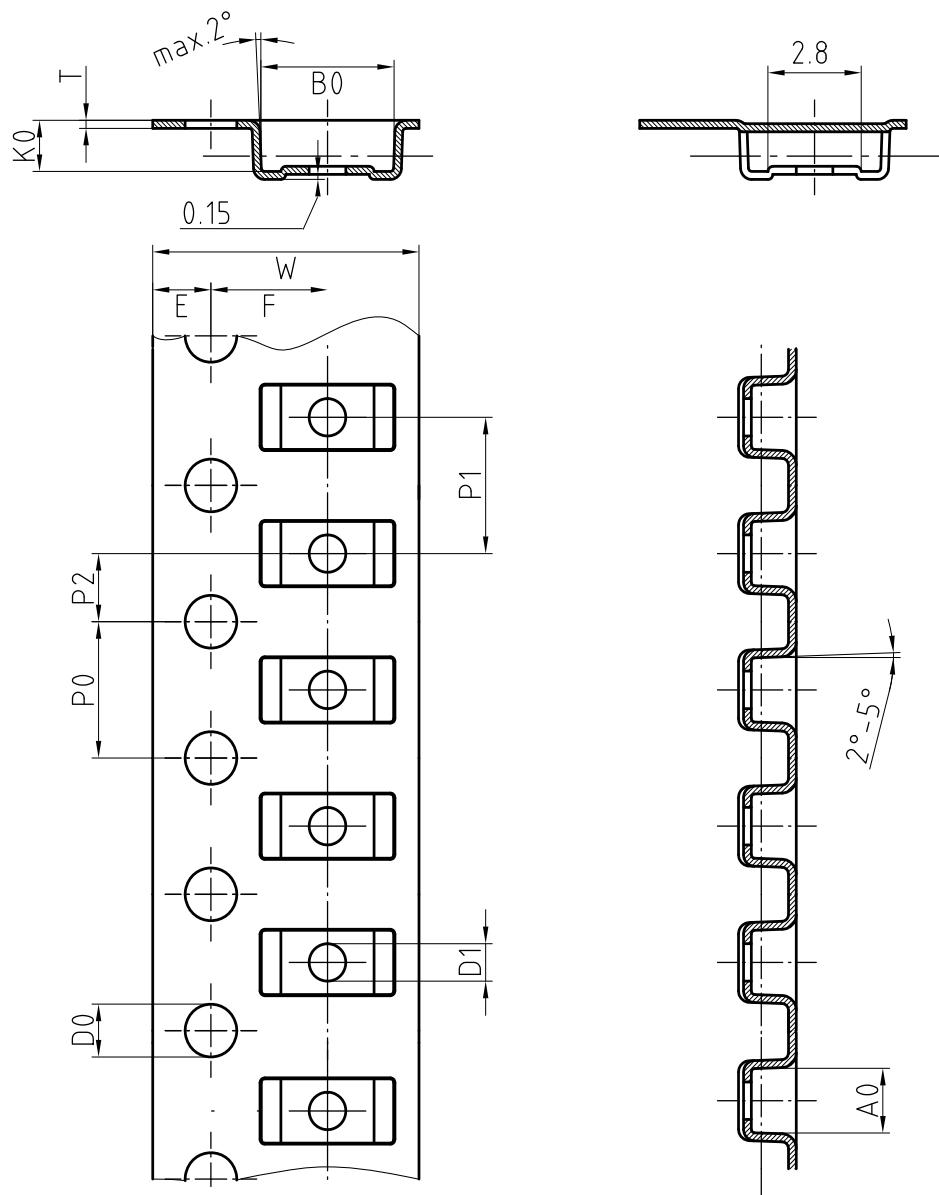


Fig. 5 - Typical Diode Capacitance vs. Reverse Voltage

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


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

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)

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