

S1A-F THRU S1M-F

1.0A Surface Mount General Purpose Rectifiers - 50V-1000V

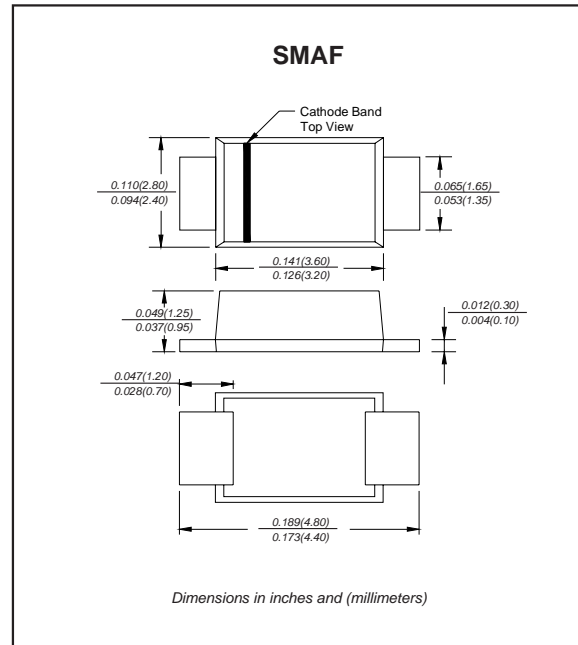
Features

- ▶ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ▶ For surface mounted applications
- ▶ Low reverse leakage
- ▶ Built-in strain relief, ideal for automated placement
- ▶ High forward surge current capability
- ▶ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ▶ Glass passivated chip junction
- ▶ Compliant to RoHS Directive 2011/65/EU
- ▶ Compliant to Halogen-free

Mechanical data

- ▶ **Case:** JEDEC SMAF molded plastic body
- ▶ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ▶ **Polarity:** Color band denotes cathode end
- ▶ **Mounting Position:** Any
- ▶ **Weight:** 0.032 grams

Package outline



Maximum ratings and Electrical Characteristics (AT $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|----------------------------|---|-----------------|------|------|------|--------------------|
| Forward rectified current | See Fig.2 | I_o | | | 1.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | I_{FSM} | | | 30 | A |
| Reverse current | $V_R = V_{RRM} \quad T_A = 25^\circ\text{C}$ | I_R | | | 5.0 | μA |
| | $V_R = V_{RRM} \quad T_A = 100^\circ\text{C}$ | | | | 50 | |
| Thermal resistance | Junction to ambient NOTE 1 | $R_{\theta JA}$ | | 55 | | $^\circ\text{C/W}$ |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | C_j | | 15 | | pF |
| Storage temperature | | T_{STG} | -65 | | +150 | $^\circ\text{C}$ |

Note: 1.P.C.B. mounted with 0.2x0.2" (5.0x5.0mm) copper pad areas

| SYMBOLS | V_{RRM}^{*1} (V) | V_{RMS}^{*2} (V) | V_R^{*3} (V) | V_F^{*4} (V) | Operating temperature $T_J, (^\circ\text{C})$ |
|---------|-----------------------|-----------------------|-------------------|-------------------|--|
| S1A-F | 50 | 35 | 50 | 1.10 | -55 to +150 |
| S1B-F | 100 | 70 | 100 | | |
| S1D-F | 200 | 140 | 200 | | |
| S1G-F | 400 | 280 | 400 | | |
| S1J-F | 600 | 420 | 600 | | |
| S1K-F | 800 | 560 | 800 | | |
| S1M-F | 1000 | 700 | 1000 | | |

*1 Repetitive peak reverse voltage

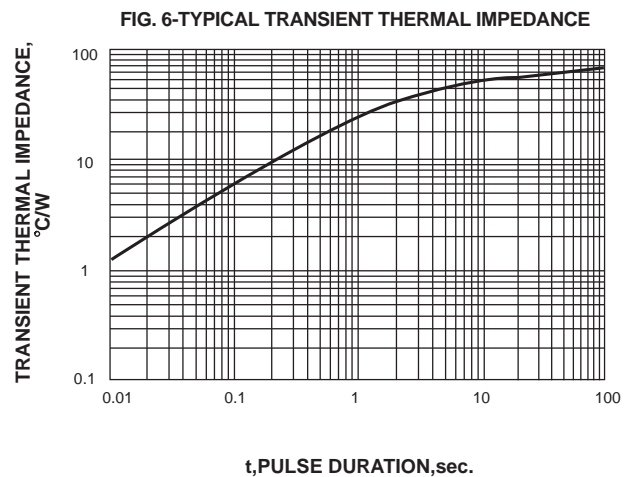
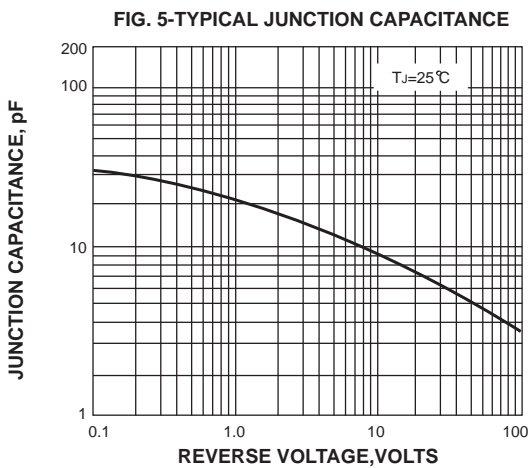
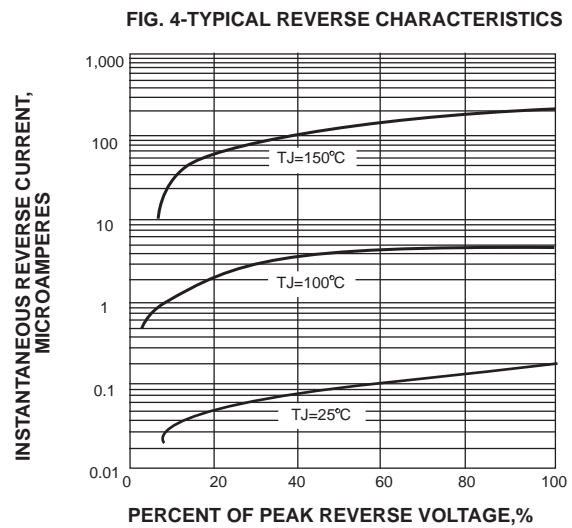
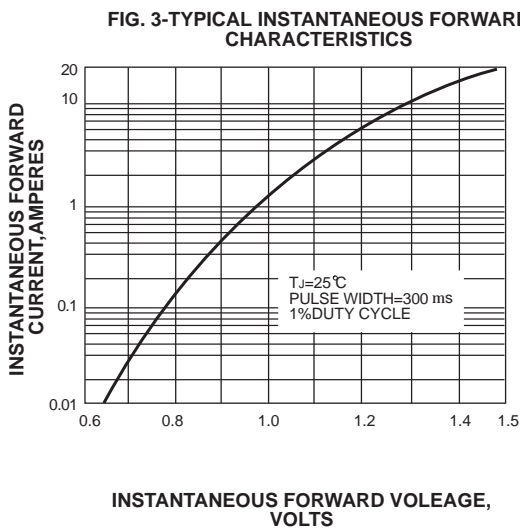
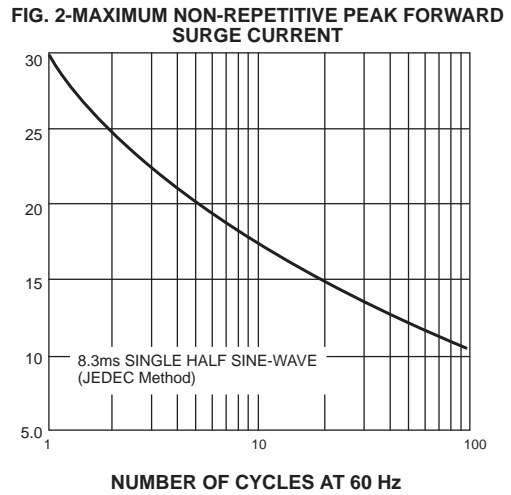
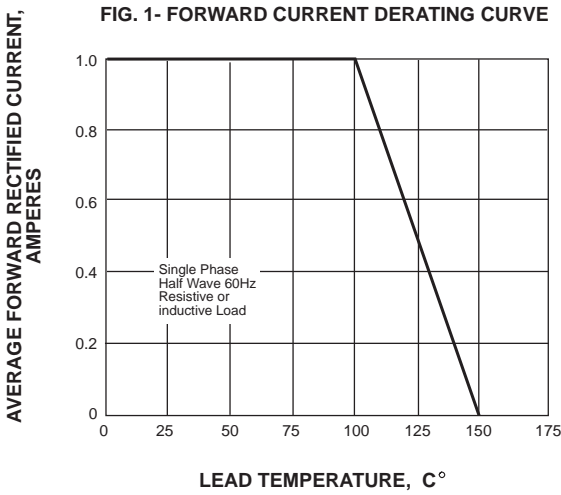
*2 RMS voltage

*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=1.0\text{A}$

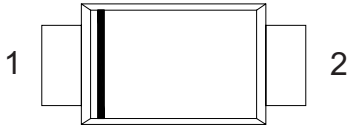

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Rating and characteristic curves



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Pinning information

| Pin | Simplified outline | Symbol |
|----------------------------|---|---|
| Pin1 cathode Pin2 anode |  |  |

Marking

| Type number | Marking code |
|-------------|--------------|
| S1A-F | S1A |
| S1B-F | S1B |
| S1D-F | S1D |
| S1G-F | S1G |
| S1J-F | S1J |
| S1K-F | S1K |
| S1M-F | S1M |

Suggested solder pad layout



Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|---------|--------------|--------------|--------------|
| SMAF | 0.110 (2.80) | 0.063 (1.60) | 0.087 (2.20) |