

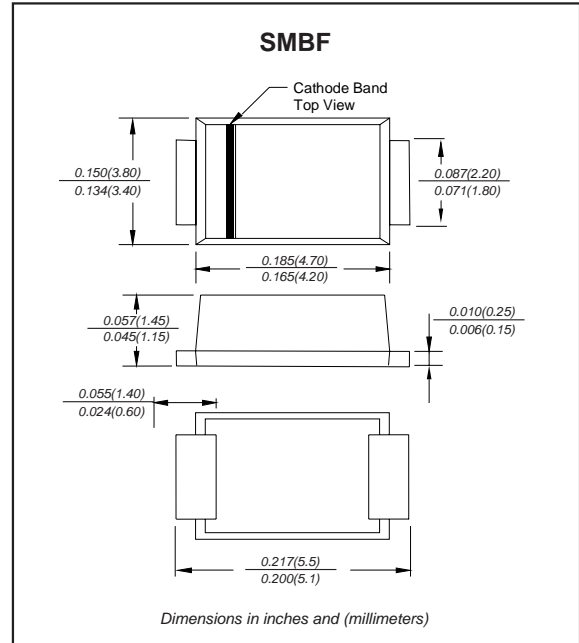
Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Metal silicon junction, majority carrier conduction
- ◆ Low power loss, high efficiency
- ◆ Built-in strain relief, ideal for automated placement
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed: 250°C/10 seconds at terminals
- ◆ Compliant to RoHS Directive 2011/65/EU
- ◆ Compliant to Halogen-free
- ◆ Suffix "-Q1" for AEC-Q101

Mechanical data

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

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.1 | I_O | | | 5.0 | A |
| Forward surge current | 8.3ms single half sine-wave (JEDEC methode) | I_{FSM} | | | 120 | A |
| Reverse current | $V_R = V_{RRM} \quad T_A = 25^\circ\text{C}$ | I_R | | | 0.5 | mA |
| | $V_R = V_{RRM} \quad T_A = 100^\circ\text{C}$ | | | | 10 | |
| Thermal resistance | Junction to ambient NOTE 1 | $R_{\theta JA}$ | | 50 | | $^\circ\text{C/W}$ |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage | C_J | | 220 | | 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 , ($^\circ\text{C}$) |
|-------------|-----------------------|-----------------------|-------------------|-------------------|---|
| SU510-BF-Q1 | 100 | 70 | 100 | 0.60 | -55 to +150 |

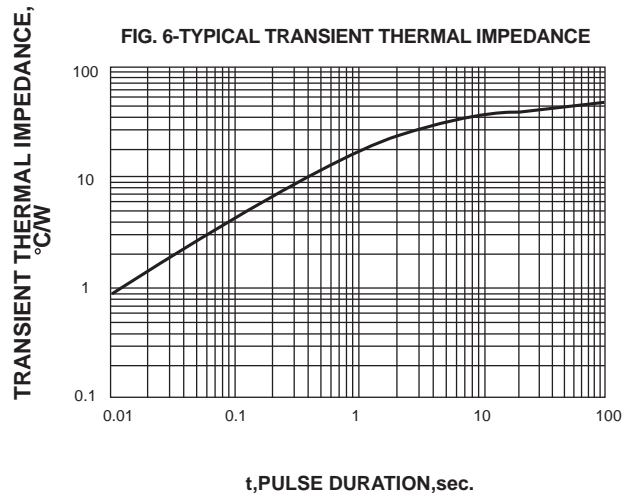
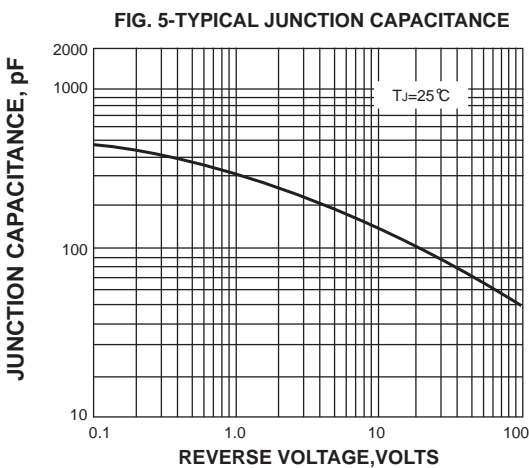
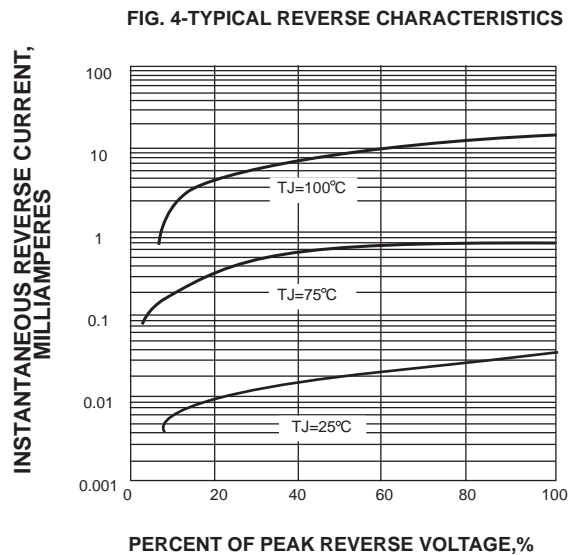
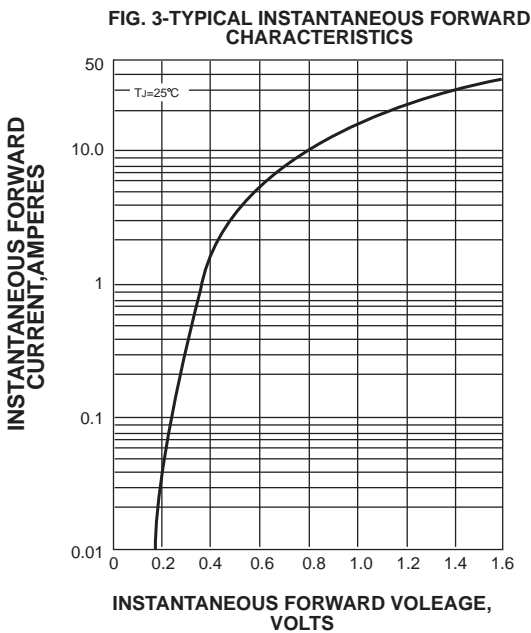
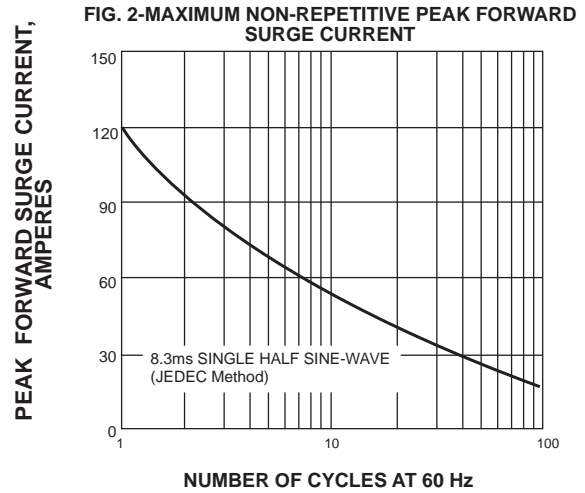
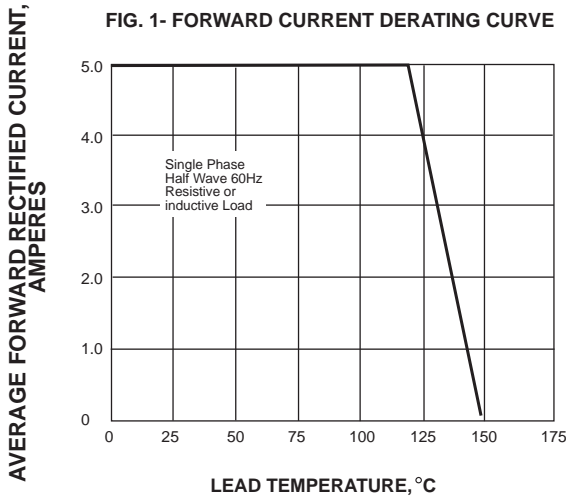
*1 Repetitive peak reverse voltage

*2 RMS voltage



*3 Continuous reverse voltage

*4 Maximum forward voltage@ $I_F=5.0\text{A}$

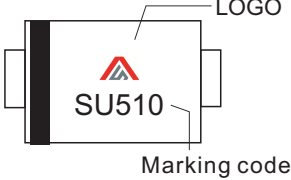
Rating and characteristic curves



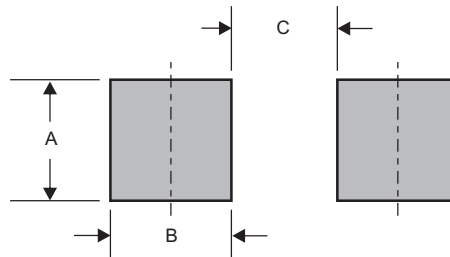
Pinning information

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

Marking

| Type number | Marking code | Example |
|-------------|--------------|---|
| SU510-BF-Q1 | SU510 |  |

Suggested solder pad layout



Dimensions in inches and (millimeters)

| PACKAGE | A | B | C |
|---------|--------------|--------------|--------------|
| SMBF | 0.098 (2.50) | 0.071 (1.80) | 0.118 (3.00) |