

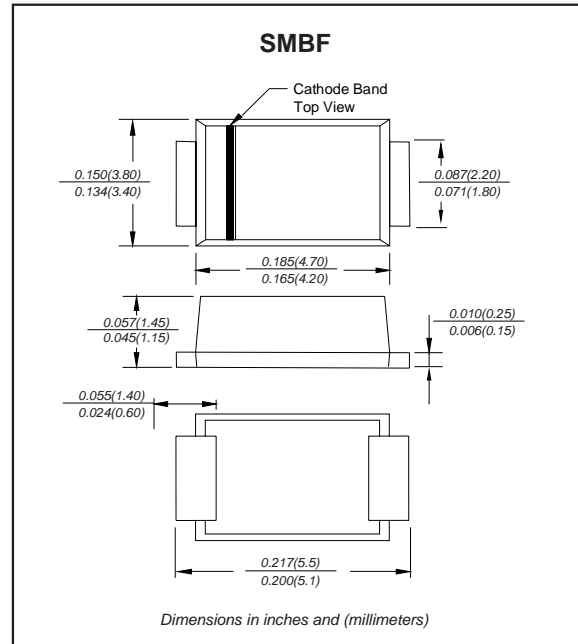
### Features

- ◆ 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
- ◆ 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) | $I_{FSM}$       |      |      | 150  | A                  |
| Reverse current            | $V_R = V_{RRM}$ $T_A = 25^\circ\text{C}$    | $I_R$           |      |      | 5.0  | $\mu\text{A}$      |
|                            | $V_R = V_{RRM}$ $T_A = 100^\circ\text{C}$   |                 |      |      | 50   |                    |
| Thermal resistance         | Junction to ambient<br>NOTE 1               | $R_{\theta JA}$ |      | 40   |      | $^\circ\text{C/W}$ |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage    | $C_J$           |      | 45   |      | 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   | $V_{RRM}^{*1}$<br>(V) | $V_{RMS}^{*2}$<br>(V) | $V_R^{*3}$<br>(V) | $V_F^{*4}$<br>(V) | Operating temperature<br>$T_{J,}$ ( $^\circ\text{C}$ ) |
|-----------|-----------------------|-----------------------|-------------------|-------------------|--|
| S5A-BF-Q1 | 50                    | 35                    | 50                | 1.10              | -55 to +150  |
| S5B-BF-Q1 | 100                   | 70                    | 100               |                   |  |
| S5D-BF-Q1 | 200                   | 140                   | 200               |                   |  |
| S5G-BF-Q1 | 400                   | 280                   | 400               |                   |  |
| S5J-BF-Q1 | 600                   | 420                   | 600               |                   |  |
| S5K-BF-Q1 | 800                   | 560                   | 800               |                   |  |
| S5M-BF-Q1 | 1000                  | 700                   | 1000              |                   |  |

**Note:** 1.P.C.B. mounted with 2.0x2.0" (5.0x5.0cm) copper pad areas

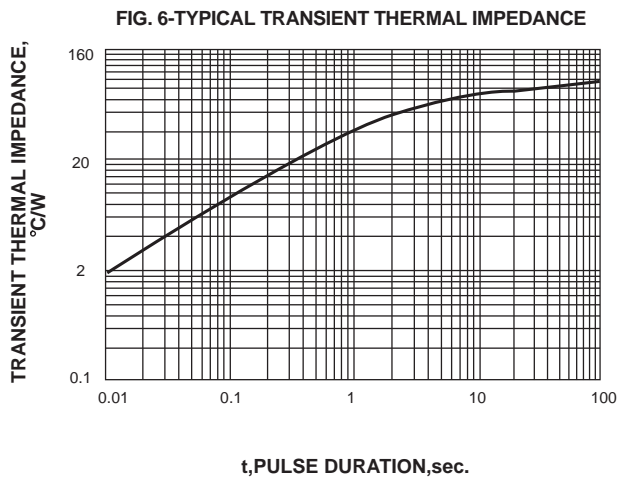
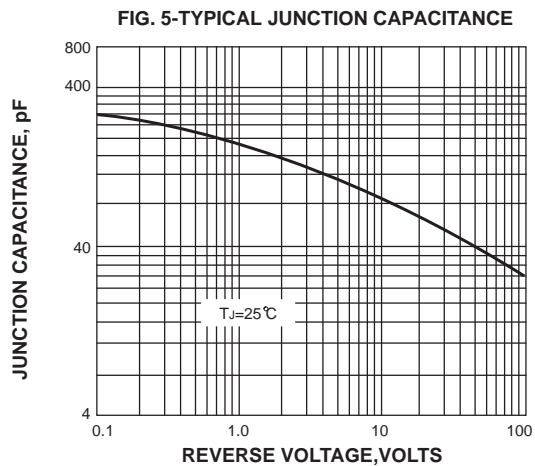
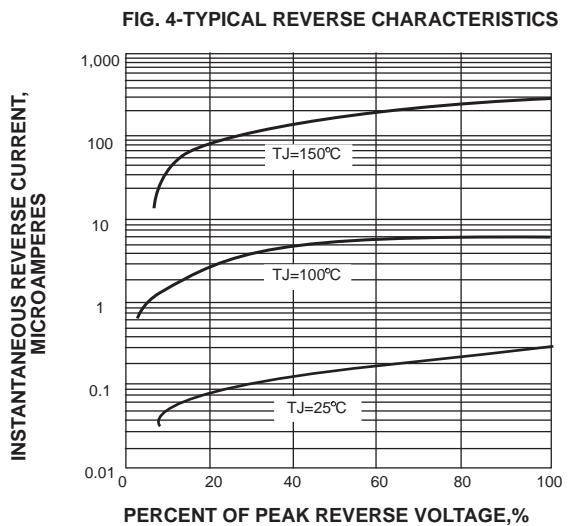
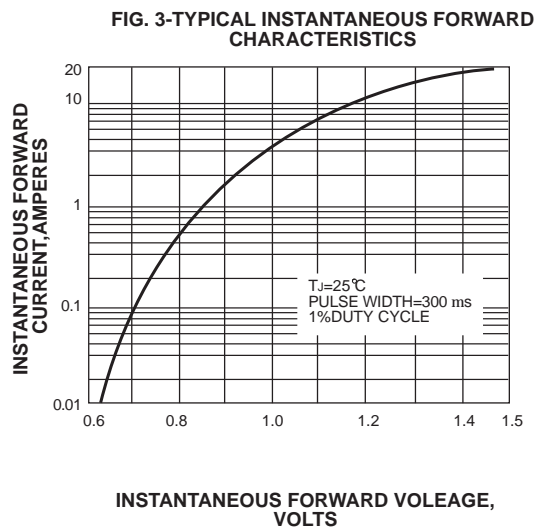
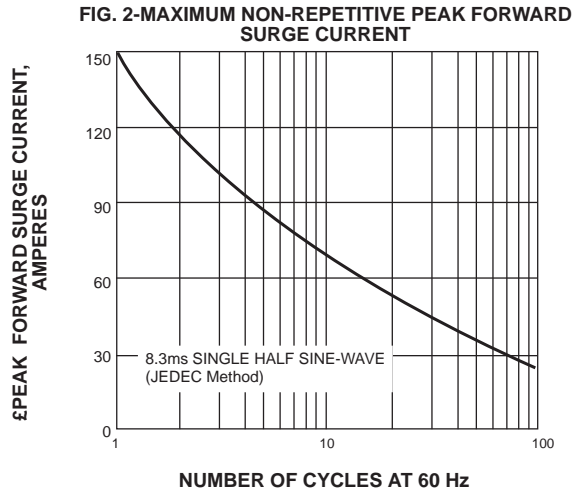
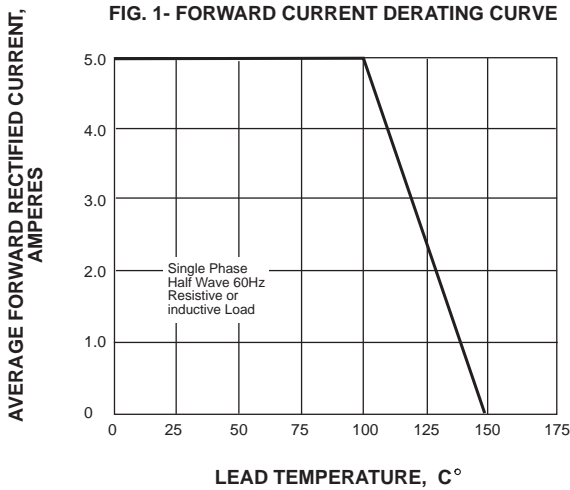
\*1 Repetitive peak reverse voltage

\*2 RMS voltage

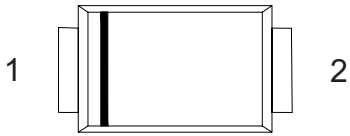

\*3 Continuous reverse voltage

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

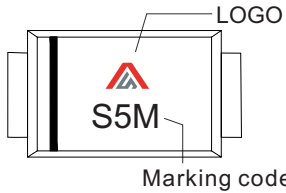
### Rating and characteristic curves



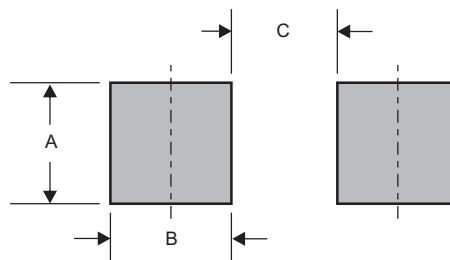
### Pinning information

| Pin                        | Simplified outline  | Symbol  |
|----------------------------|---|---|
| Pin1 cathode<br>Pin2 anode |  |  |

### Marking

| Type number | Marking code | Example   |
|-------------|--------------|---|
| S5A-BF-Q1   | S5A          |  |
| S5B-BF-Q1   | S5B          |   |
| S5D-BF-Q1   | S5D          |   |
| S5G-BF-Q1   | S5G          |   |
| S5J-BF-Q1   | S5J          |   |
| S5K-BF-Q1   | S5K          |   |
| S5M-BF-Q1   | S5M          |   |

### 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) |