

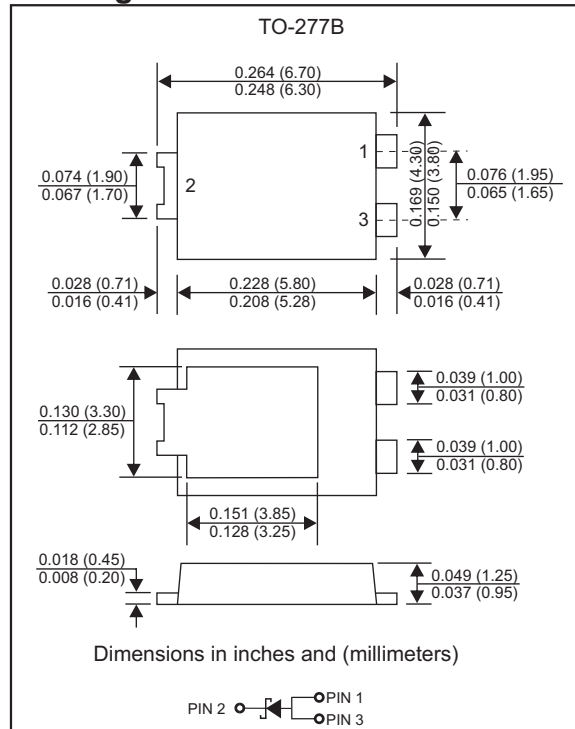
### Features

- ▶ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ▶ Low reverse leakage
- ▶ 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:** TO-277B molded plastic body
- ▶ **Terminals:** Solder plated, solderable per MIL-STD-750, Method 2026
- ▶ **Polarity:** Polarity symbol marking on body
- ▶ **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  | $T_L = 100^\circ\text{C}$                     | $I_O$           |      |      | 10.0 | A                         |
| Forward surge current      | 8.3ms single half sine-wave (JEDEC methode)   | $I_{FSM}$       |      |      | 200  | A                         |
| Reverse current            | $V_R = V_{RRM} \quad T_J = 25^\circ\text{C}$  | $I_R$           |      |      | 5.0  | $\mu\text{A}$             |
|                            | $V_R = V_{RRM} \quad T_J = 125^\circ\text{C}$ |                 |      |      | 500  |                           |
| Thermal resistance         | Junction to ambient                           | $R_{\theta JA}$ |      | 60   |      | $^\circ\text{C}/\text{W}$ |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage      | $C_J$           |      | 80   |      | pF                        |
| Storage temperature        |   | $T_{STG}$       | -55  |      | +150 | $^\circ\text{C}$          |

| SYMBOLS   | $V_{RRM}^{*1}$<br>(V) | $V_{RMS}^{*2}$<br>(V) | $V_R^{*3}$<br>(V) | $V_F^{*4}$<br>(V) | Operating temperature<br>$T_J, (^\circ\text{C})$ |
|-----------|-----------------------|-----------------------|-------------------|-------------------|--|
| S10A-T-Q1 | 50                    | 35                    | 50                | 1.10              | -55 to +150                                      |
| S10B-T-Q1 | 100                   | 70                    | 100               |                   |  |
| S10D-T-Q1 | 200                   | 140                   | 200               |                   |  |
| S10G-T-Q1 | 400                   | 280                   | 400               |                   |  |
| S10J-T-Q1 | 600                   | 420                   | 600               |                   |  |
| S10K-T-Q1 | 800                   | 560                   | 800               |                   |  |
| S10M-T-Q1 | 1000                  | 700                   | 1000              |                   |  |

\*1 Repetitive peak reverse voltage

\*2 RMS voltage

\*3 Continuous reverse voltage

\*4 Maximum forward voltage@ $I_F=10.0\text{A}$

### Rating and characteristic curves

FIG. 1- DERATING CURVE OUTPUT RECTIFIED CURRENT

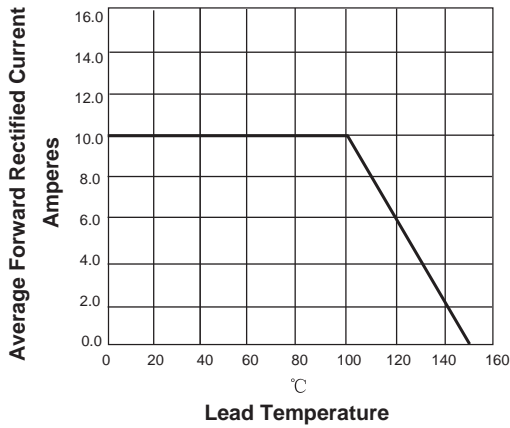


FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT PERLEG

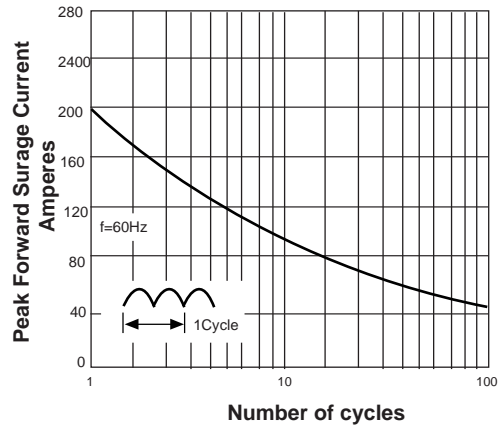


FIG. 3-TYPICAL FORWARD VOLTAGE CHARACTERISTICS

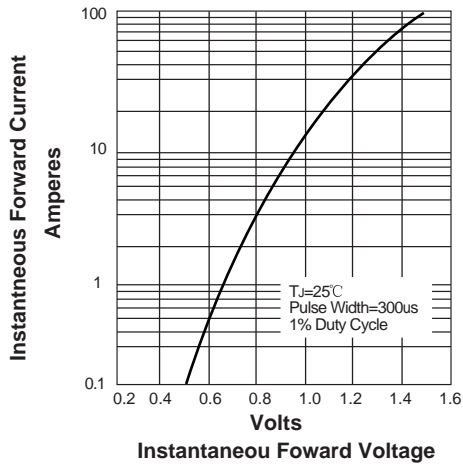
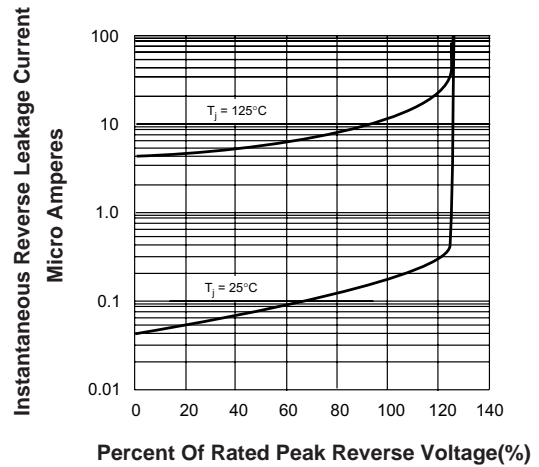

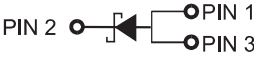


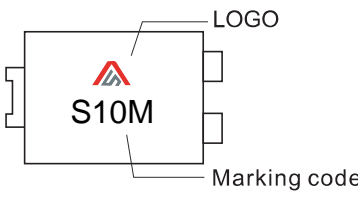
FIG. 4-TYPICAL REVERSE LEAKAGE CHARACTERISTICS



### Pinning information

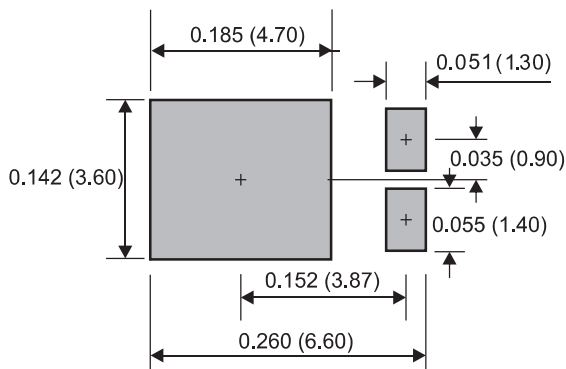
| Pin                                      | Simplified outline  | Symbol  |
|--|---|---|
| Pin2 cathode<br>Pin1 anode<br>Pin3 anode |  |  |

### Marking

| Type number | Marking code | Example   |
|-------------|--------------|---|
| S10A-T-Q1   | S10A         |  |
| S10B-T-Q1   | S10B         |   |
| S10D-T-Q1   | S10D         |   |
| S10G-T-Q1   | S10G         |   |
| S10J-T-Q1   | S10J         |   |
| S10K-T-Q1   | S10K         |   |
| S10M-T-Q1   | S10M         |   |

### Suggested solder pad layout

TO-277B



Dimensions in inches and (millimeters)