

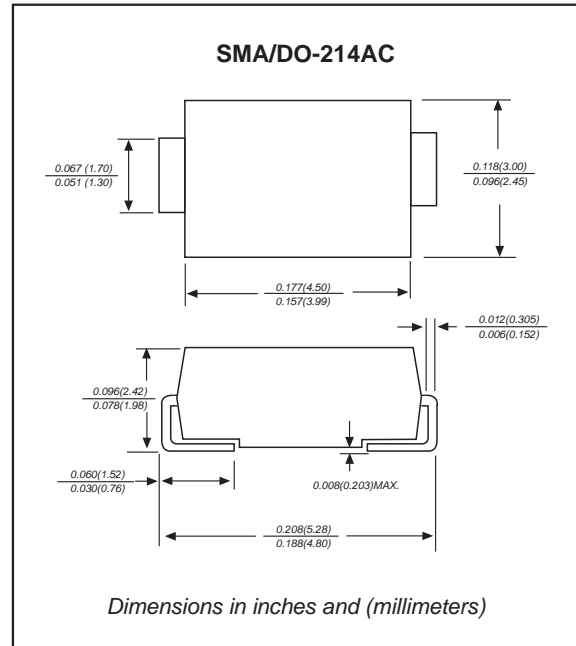
### Features

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ For surface mounted applications
- ◆ Ultra fast switching for high efficiency
- ◆ 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 DO-214AC 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)

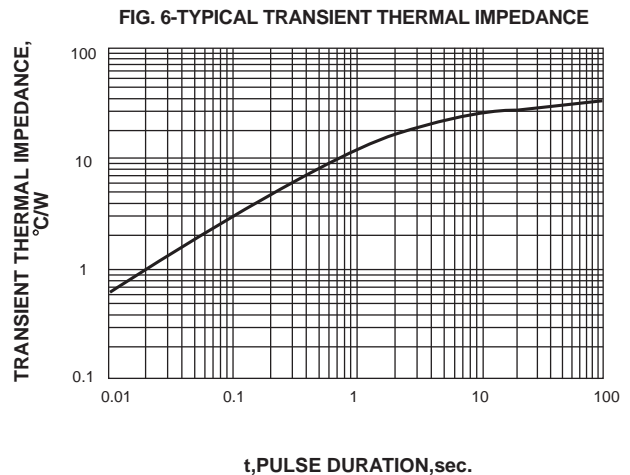
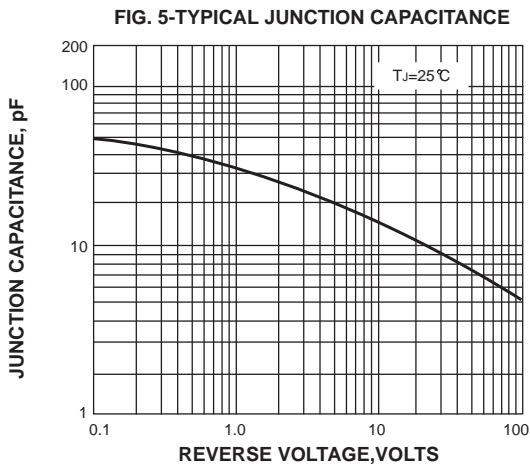
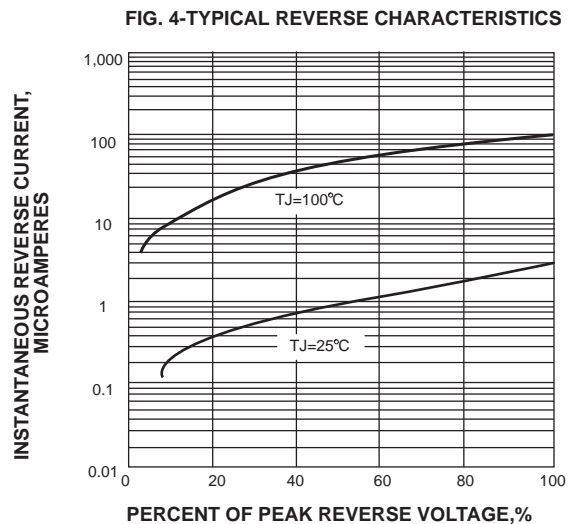
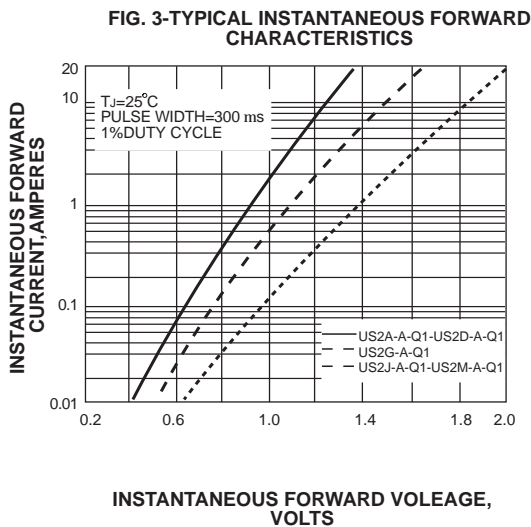
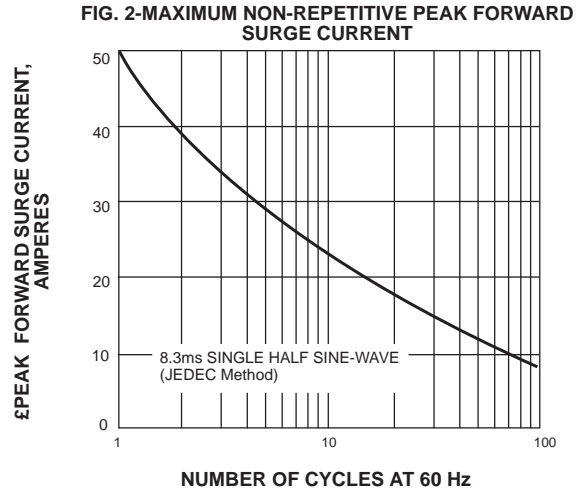
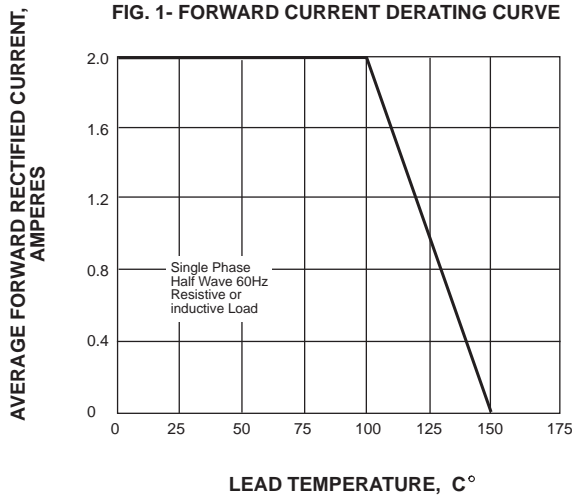
| PARAMETER                  | CONDITIONS                                  | Symbol          | MIN. | TYP. | MAX. | UNIT                      |
|----------------------------|---|-----------------|------|------|------|---------------------------|
| Forward rectified current  | See Fig.1                                   | $I_O$           |      |      | 2.0  | A                         |
| Forward surge current      | 8.3ms single half sine-wave (JEDEC methode) | $I_{FSM}$       |      |      | 50   | 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               | $R_{\theta JA}$ |      | 50   |      | $^\circ\text{C}/\text{W}$ |
| Diode junction capacitance | f=1MHz and applied 4V DC reverse voltage    | $C_J$           |      | 20   |      | pF                        |
| Storage temperature        |   | $T_{STG}$       | -65  |      | +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) | $t_{rr}^{*5}$<br>(ns) | Operating temperature<br>$T_{Jr}$ ( $^\circ\text{C}$ ) |
|-----------|-----------------------|-----------------------|-------------------|-------------------|-----------------------|--|
| US2A-A-Q1 | 50                    | 35                    | 50                | 1.00              | 50                    |  |
| US2B-A-Q1 | 100                   | 70                    | 100               |                   |                       |  |
| US2D-A-Q1 | 200                   | 140                   | 200               |                   |                       |  |
| US2G-A-Q1 | 400                   | 280                   | 400               | 1.40              | 75                    |  |
| US2J-A-Q1 | 600                   | 420                   | 600               |                   |                       |  |
| US2K-A-Q1 | 800                   | 560                   | 800               | 1.70              |                       |  |
| US2M-A-Q1 | 1000                  | 700                   | 1000              |                   |                       |  |



- \*1 Repetitive peak reverse voltage
- \*2 RMS voltage
- \*3 Continuous reverse voltage
- \*4 Maximum forward voltage@ $I_F=2.0\text{A}$
- \*5 Maximum Reverse recovery time, note 2

Note: 1.P.C.B. mounted with 0.2x0.2"(5.0x5.0mm) copper pad areas  
2. Reverse recovery time test condition,  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{RR}=0.25\text{A}$

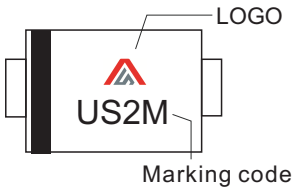
### Rating and characteristic curves



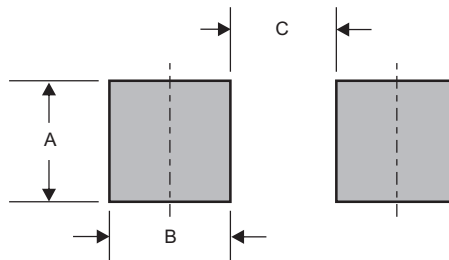
### Pinning information

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

### Marking

| Type number | Marking code | Example   |
|-------------|--------------|---|
| US2A-A-Q1   | US2A         |  |
| US2B-A-Q1   | US2B         |   |
| US2D-A-Q1   | US2D         |   |
| US2G-A-Q1   | US2G         |   |
| US2J-A-Q1   | US2J         |   |
| US2K-A-Q1   | US2K         |   |
| US2M-A-Q1   | US2M         |   |

### Suggested solder pad layout



Dimensions in inches and (millimeters)

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