



**US2A---US2M**

**ULTRA FAST RECOVERY RECTIFIERS**

**REVERSE VOLTAGE: 50--- 1000 V CURRENT: 2.0 A**

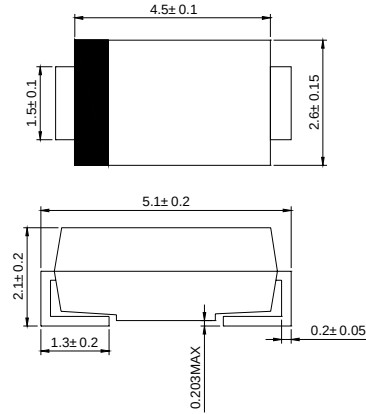
## FEATURES

- ◇ Plastic package has underwriters laboratories flammability classification 94V-0
- ◇ For surface mount applications
- ◇ Glass passivated chip junctions
- ◇ Low profile package
- ◇ Easy pick and place
- ◇ Ultrafast recovery times for high efficiency
- ◇ Low forward voltage, low power loss
- ◇ Built-in strain relief, ideal for automated placement
- ◇ High temperature soldering:  
250°C/10 seconds on terminals

## MECHANICAL DATA

- ◇ Case: JEDEC DO-214AC, molded plastic body over passivated chip
- ◇ Terminals: Solder plated, solderable per MIL-STD-750, method 2026
- ◇ Polarity: Color band denotes cathode end
- ◇ Weight: 0.002 ounces, 0.064 gram

## DO-214AC(SMA)



Dimensions in millimeters

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified

| Device marking code                                                                                      |                                      | US2A         | US2B | US2D | US2G | US2J | US2K | US2M | UNITS |
|----------------------------------------------------------------------------------------------------------|--------------------------------------|--------------|------|------|------|------|------|------|-------|
| Maximum repetitive peak reverse voltage                                                                  | V <sub>RRM</sub>                     | 50           | 100  | 200  | 400  | 600  | 800  | 1000 | V     |
| Maximum RMS voltage                                                                                      | V <sub>RWS</sub>                     | 35           | 70   | 140  | 280  | 420  | 560  | 700  | V     |
| Maximum DC blocking voltage                                                                              | V <sub>DC</sub>                      | 50           | 100  | 200  | 400  | 600  | 800  | 1000 | V     |
| Maximum average forw ard rectified current @T <sub>L</sub> =90°C                                         | I <sub>F(AV)</sub>                   | 2.0          |      |      |      |      |      |      | A     |
| Peak forw ard surge current 8.3ms single half-sine-w ave superimposed on rated load(JEDEC Method)        | I <sub>FSM</sub>                     | 50           |      |      |      |      |      |      | A     |
| Maximum instantaneous forw ard voltage at 2A                                                             | V <sub>F</sub>                       | 1.0          |      |      |      | 1.7  |      |      | V     |
| Maximum DC reverse current @T <sub>A</sub> =25°C<br>at rated DC blockjing voltage @T <sub>A</sub> =100°C | I <sub>R</sub>                       | 5.0<br>350   |      |      |      |      |      |      | μ A   |
| Maximum reverse recovery time at I <sub>F</sub> =0.5A<br>I <sub>R</sub> =1.0A I <sub>rr</sub> =0.25A     | t <sub>rr</sub>                      | 50           |      |      |      | 75   |      |      | ns    |
| Typical junction capacitance at 4.0V,1MH <sub>z</sub>                                                    | C <sub>J</sub>                       | 50           |      |      |      | 30   |      |      | pF    |
| Maximum thermal resistance (NOTE1)                                                                       | R <sub>θJA</sub><br>R <sub>θJL</sub> | 50<br>18     |      |      |      |      |      |      | °C/W  |
| Operating temperature range                                                                              | T <sub>J</sub>                       | -55-----+150 |      |      |      |      |      |      | °C    |
| Storage temperature range                                                                                | T <sub>STG</sub>                     | -55-----+150 |      |      |      |      |      |      | °C    |

NOTE: 1.P.C.B.mounted on 0.2X0.2"(5.0X5.0mm)copper pad area

FIG.1 – FORWARD CURRENT DERATING CURVE

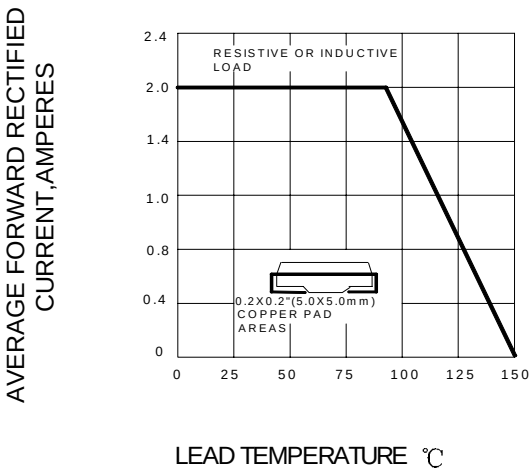


FIG.2 – MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

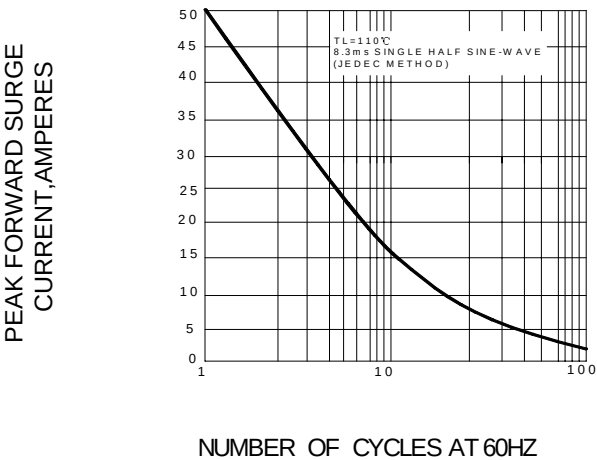


FIG.3 – TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

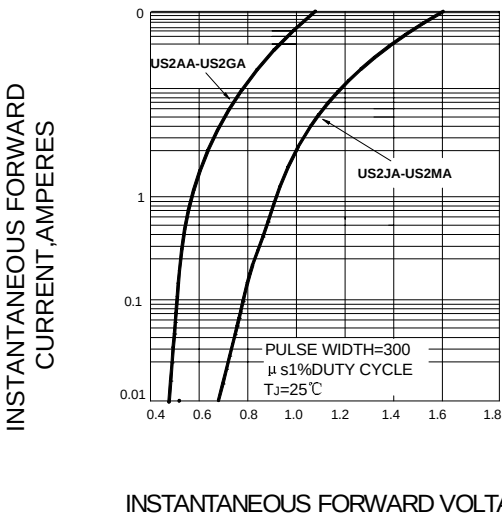


FIG.4 – TYPICAL REVERSE CHARACTERISTICS

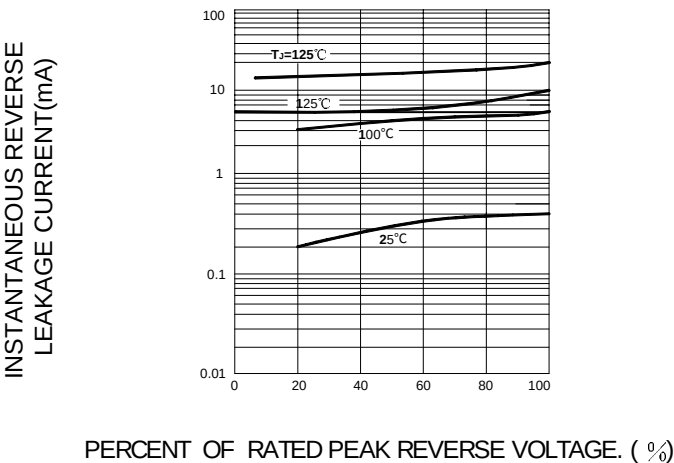


FIG.5 – TYPICAL JUNCTION CAPACITANCE

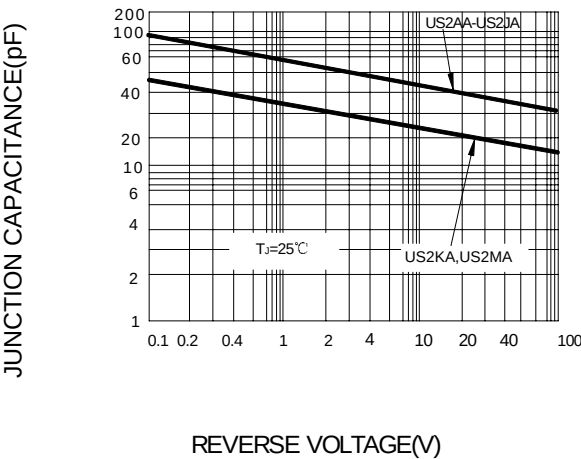


FIG.6 – TYPICAL TRANSIENT THERMAL IMPEDANCE

