

## SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

Reverse Voltage - 50 to 1000 V

Forward Current - 2 A

### FEATURES

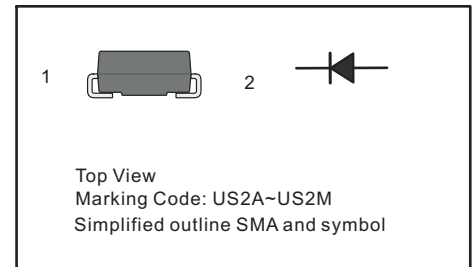
- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Lead free in comply with EU RoHS 2011/65/EU directives

### MECHANICAL DATA

- Case: SMA
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 0.055g / 0.002oz

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | Cathode     |
| 2   | Anode       |



### Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

| Parameter   | Symbols                            | US2AG      | US2BG | US2DG | US2GG | US2JG | US2KG | US2MG | Units                |
|---|------------------------------------|------------|-------|-------|-------|-------|-------|-------|----------------------|
| Maximum Repetitive Peak Reverse Voltage   | $V_{RRM}$                          | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V                    |
| Maximum RMS voltage   | $V_{RMS}$                          | 35         | 70    | 140   | 280   | 420   | 560   | 700   | V                    |
| Maximum DC Blocking Voltage   | $V_{DC}$                           | 50         | 100   | 200   | 400   | 600   | 800   | 1000  | V                    |
| Maximum Average Forward Rectified Current at $T_c = 125\text{ °C}$                                    | $I_{F(AV)}$                        | 2          |       |       |       |       |       |       | A                    |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load                    | $I_{FSM}$                          | 70         |       |       |       |       |       |       | A                    |
| Maximum Instantaneous Forward Voltage at 2 A  | $V_F$                              | 1.0        |       | 1.3   |       | 1.65  |       |       | V                    |
| Maximum DC Reverse Current $T_a = 25\text{ °C}$<br>at Rated DC Blocking Voltage $T_a = 125\text{ °C}$ | $I_R$                              | 5<br>100   |       |       |       |       |       |       | $\mu\text{A}$        |
| Maximum Reverse Recovery Time <sup>(1)</sup>  | $t_{rr}$                           | 50         |       |       |       | 75    |       |       | ns                   |
| Typical Thermal Resistance <sup>(2)</sup>   | $R_{\theta JA}$<br>$R_{\theta JC}$ | 65<br>20   |       |       |       |       |       |       | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range   | $T_j, T_{stg}$                     | -55 ~ +150 |       |       |       |       |       |       | $^{\circ}\text{C}$   |

(1) Measured with  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

(2) P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper pad areas.

Fig.1 Forward Current Derating Curve

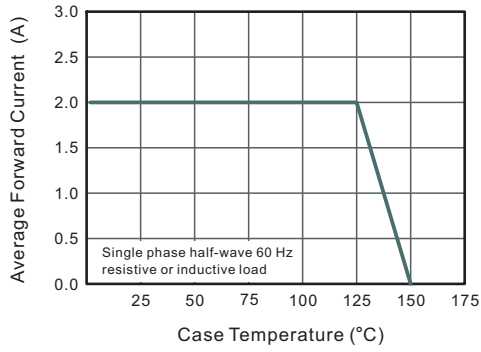


Fig.2 Typical Reverse Characteristics

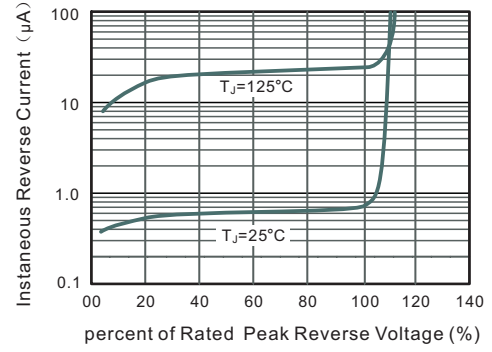


Fig.3 Typical Forward Characteristics

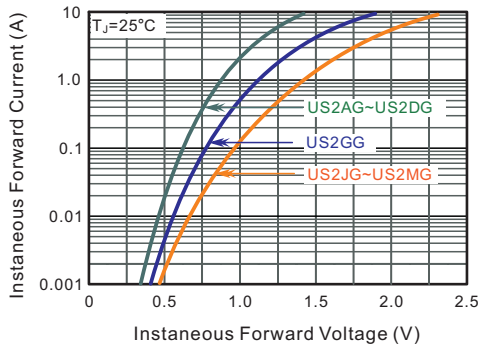
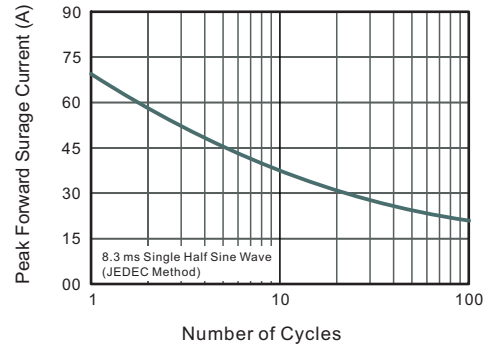


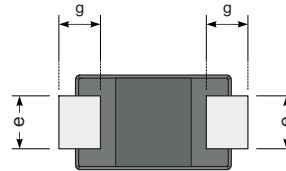
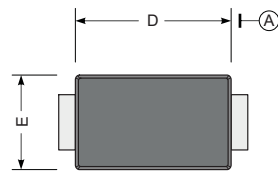
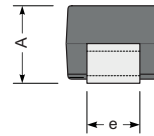
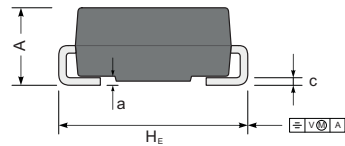
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



## PACKAGE OUTLINE

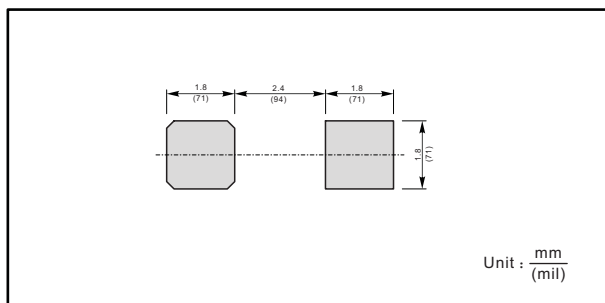
Plastic surface mounted package; 2 leads

SMA



| UNIT |     | A   | D   | E   | H <sub>E</sub> | c    | e   | g   | a   |
|------|-----|-----|-----|-----|----------------|------|-----|-----|-----|
| mm   | max | 2.2 | 4.5 | 2.7 | 5.2            | 0.31 | 1.6 | 1.5 | 0.3 |
|      | min | 1.9 | 4.0 | 2.3 | 4.7            | 0.15 | 1.3 | 0.9 |     |
| mil  | max | 87  | 181 | 106 | 205            | 12   | 63  | 59  | 12  |
|      | min | 75  | 157 | 91  | 185            | 6    | 51  | 35  |     |

### The recommended mounting pad size



### Marking

| Type number | Marking code |
|-------------|--------------|
| US2AG       | US2A         |
| US2BG       | US2B         |
| US2DG       | US2D         |
| US2GG       | US2G         |
| US2JG       | US2J         |
| US2KG       | US2K         |
| US2MG       | US2M         |

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