

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

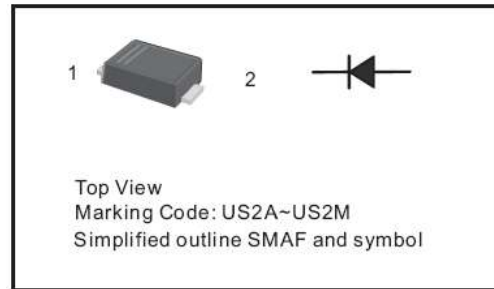
- Case: SMAF
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 27mg 0.00086oz

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 %.

PINNING

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



| Parameter | Symbols | US2AF | US2BF | US2DF | US2GF | US2JF | US2KF | US2MF | 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 $T_a = 65^\circ\text{C}$ | $I_{F(AV)}$ | 2.0 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 50 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 2 A | V_F | 1.0 | | 1.4 | | 1.7 | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$ | I_R | 5 100 | | | | | | | μA |
| Maximum Reverse Recovery Time ¹⁾ | t_{rr} | 50 | | | | 75 | | | ns |
| Typical Thermal Resistance | $R_{\theta JA}$ | 50 | | | | | | | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range | T_j, T_{stg} | -55 ~ +150 | | | | | | | $^\circ\text{C}$ |

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

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Fig.1 Forward Current Derating Curve

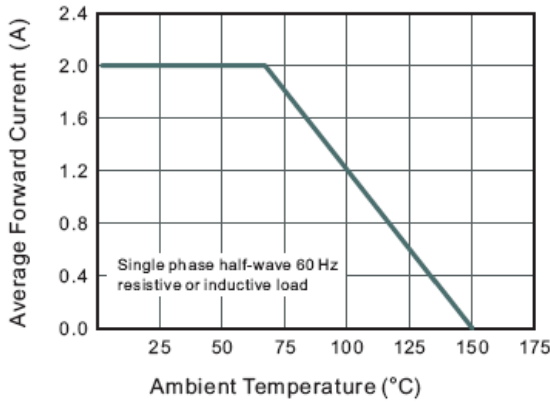


Fig.2 Typical Reverse Characteristics

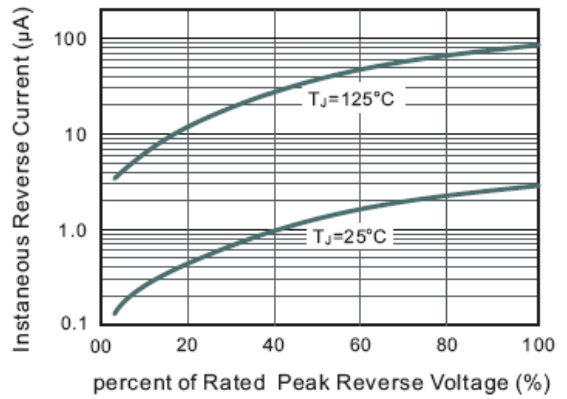


Fig.3 Typical Instaneous Forward Characteristics

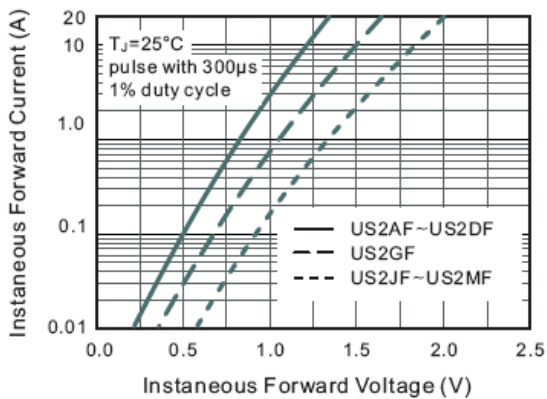
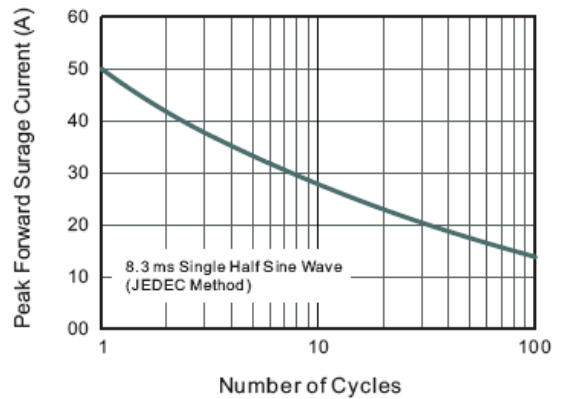


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

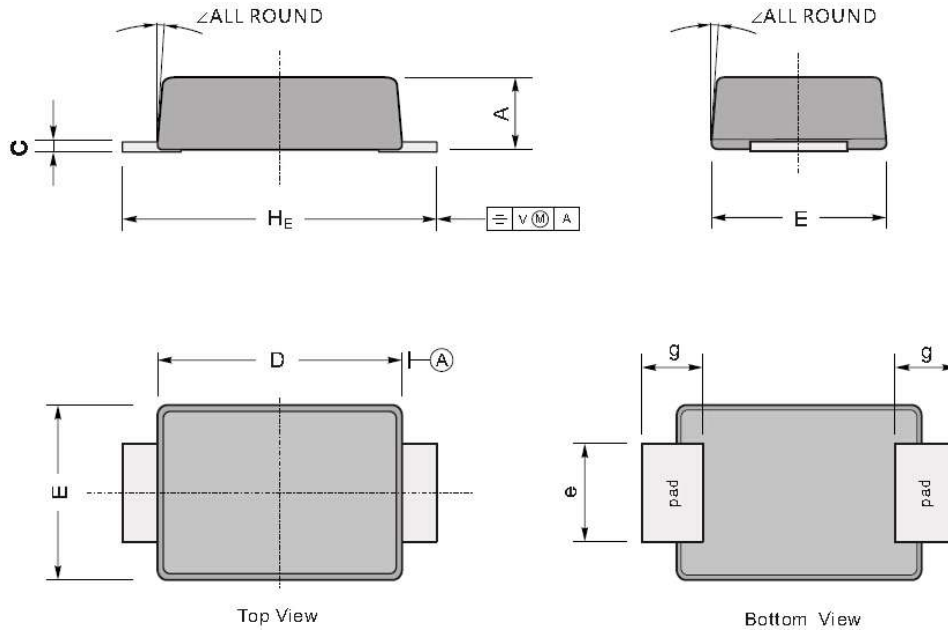


US2AF THRU US2MF

PACKAGE OUTLINE

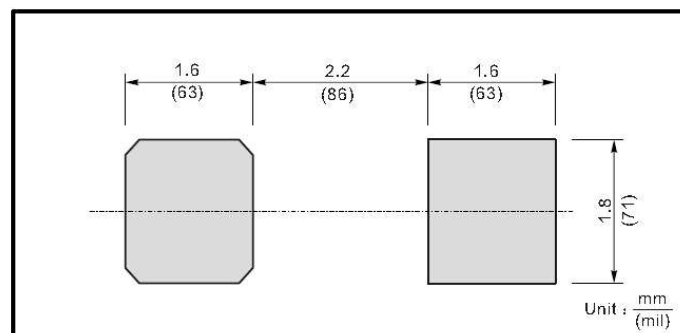
Plastic surface mounted package; 2 leads

SMAF



| UNIT | | A | C | D | E | e | g | H _E | ∠ |
|------|-----|-----|------|-----|-----|-----|-----|----------------|----|
| mm | max | 1.1 | 0.20 | 3.7 | 2.7 | 1.6 | 1.2 | 4.9 | 7° |
| | min | 0.9 | 0.12 | 3.3 | 2.4 | 1.3 | 0.8 | 4.4 | |
| mil | max | 43 | 7.9 | 146 | 106 | 63 | 47 | 193 | |
| | min | 35 | 4.7 | 130 | 94 | 51 | 31 | 173 | |

The recommended mounting pad size



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