# US2AF~US2MF

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER
REVERSE VOLTAGE 50V TO 1000V FORWARD CURRENT 2A

## DESCRIPTION

The US2AF~US2MF are available in SMAF package

## FEATURES

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- High efficiency
- Available in SMAF package

## ORDERING INFORMATION

| Package Type | Part Number |
|---|---|
| SMAF | US2AF |
| | US2BF |
| | US2DF |
| | US2GF |
| | US2JF |
| | US2KF |
| | US2MF |
| Note | SPQ: 3,000pcs/Reel |
| AiT provides all RoHS Compliant Products | |

## MECHANICAL DATA

Case: SMAF

Terminals: Solderable per MIL-STD-750,
Method 2026

Approx. Weight: 27mg 0.00086oz

## PIN DESCRIPTION

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25 ambient temperature unless otherwise specified. Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

| Parameter | | Symbol | US2AF | US2BF | US2DF | US2GF | US2JF | US2KF | US2MF | Unit |
|---|---|---|---|---|---|---|---|---|---|---|
| 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°C | | $I_{F(AV)}$ | 2.0 | | | | | | | A |
| Peak Forward Surge Current 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) | | $I_{FSM}$ | 50 | | | | | | | A |
| Maximum Instantaneous Forward Voltage at 2A | | $V_F$ | 1.0 | | | 1.4 | 1.7 | | | V |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | $T_A$=25°C<br>$T_A$=125°C | $I_R$ | 5.0<br>100 | | | | | | | μA |
| Maximum Reverse Recovery Time[NOTE1] | | $t_{rr}$ | 50 | | | | 75 | | | ns |
| Typical Thermal Resistance | | $R_{\theta JA}$ | 50 | | | | | | | °C/W |
| Operating and Storage Temperature Range | | $T_J$, $T_{STG}$ | -55 ~150 | | | | | | | °C |

NOTE1: Measured with $I_F$ = 0.5 A, $I_R$ = 1 A, $I_{rr}$ = 0.25 A

## TYPICAL CHARACTERISTICS

Figure. 1 Forward Current Derating Curve

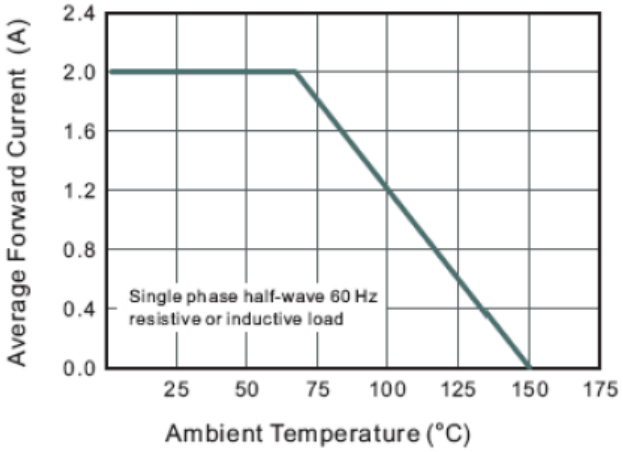



Figure. 2 Typical Reverse Characteristics

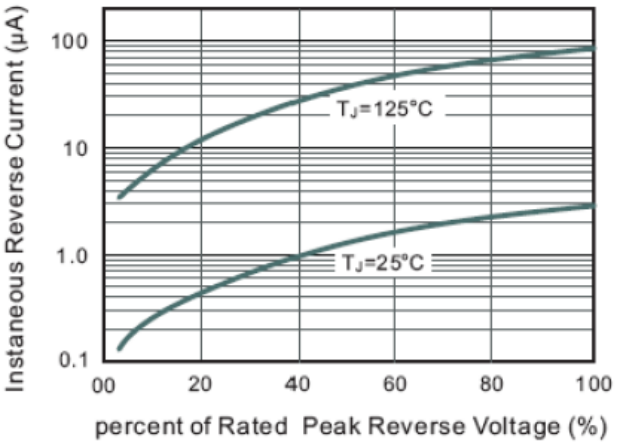



Figure. 3 Typical Instantaneous Forward Characteristics

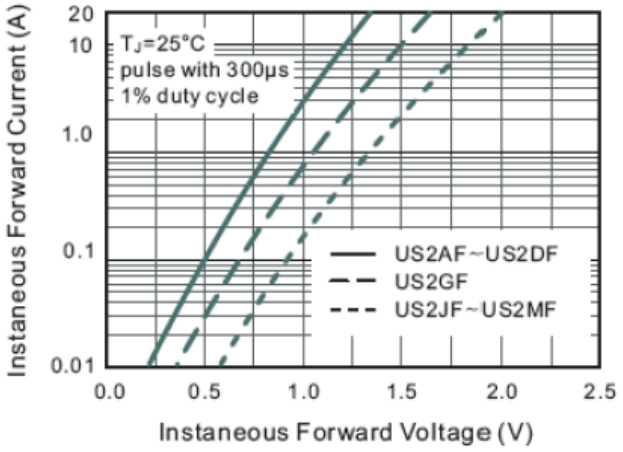
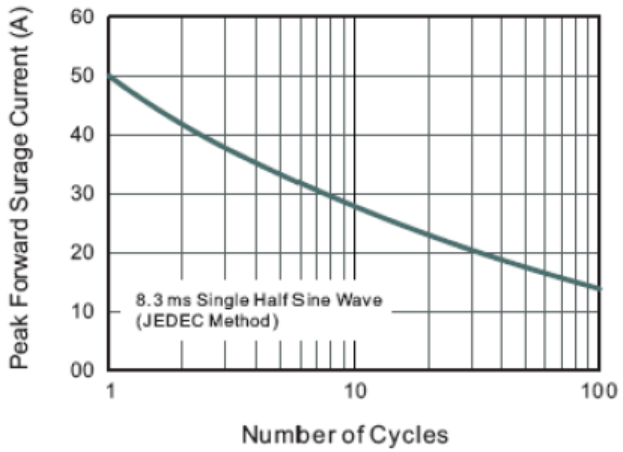


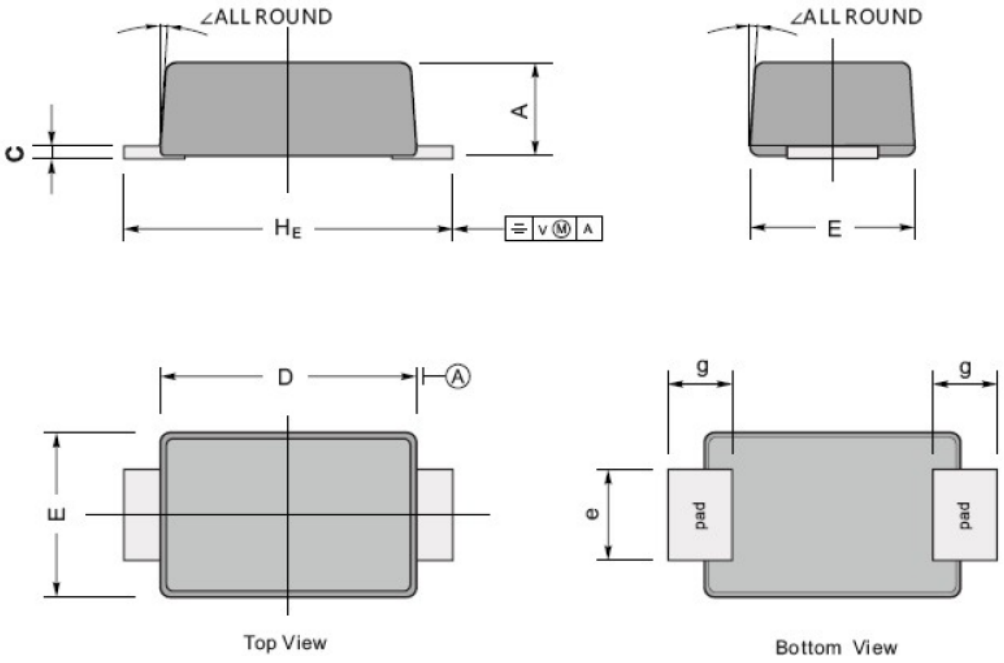

Figure. 4 Maximum Non-Repetitive Peak Forward Surge Current



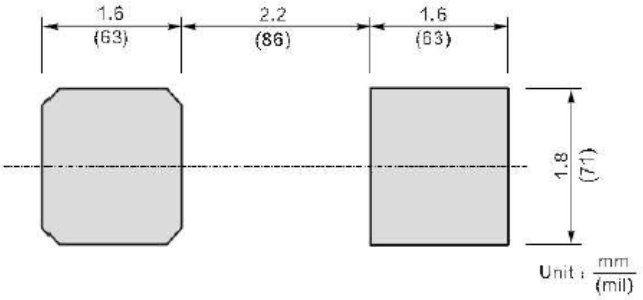
## PACKAGE INFORMATION

Dimension in SMAF (Unit: mm)

Plastic surface mounted package; 2 leads




The recommended mounting pad size




| 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 | |

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