

US1XF SERIES

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

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US1AF THRU US1MF



康比電子
HORNBY ELECTRONIC

SURFACE MOUNT ULTRAFAST RECOVERY RECTIFIER

REVERSE VOLTAGE: 50 to 1000 VOLTS

FORWARD CURRENT: 1.0 AMPERE

FEATURES

- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- For surface mounted applications
- Low profile package
- Easy pick and place
- Built-in strain relief
- Ultrafast recovery times for high efficiency
- High temperature soldering : 250°C /10 seconds at terminals

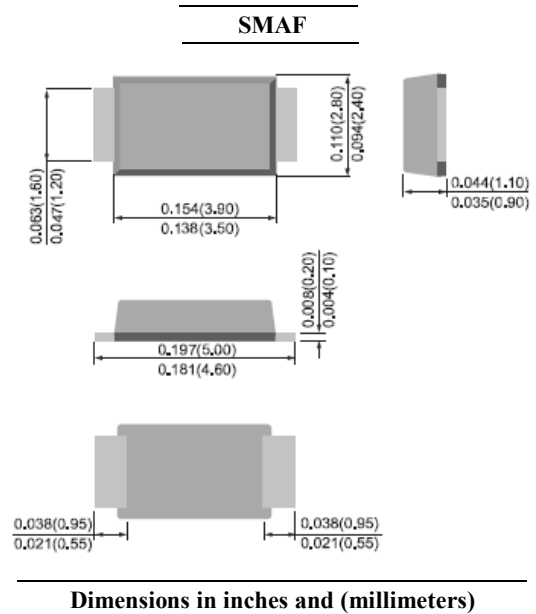
MECHANICAL DATA

Case: Molded plastic, SMAF

Terminals: Solder plated, solderable per MIL-STD-750, method 2026 guaranteed

Polarity: Color band denotes cathode end

Packaging: 12mm tape per EIA STD RS-481



Maximum Ratings and Electrical Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase, half wave, 60Hz, resistive or inductive load.

For capacitive load, derate current by 20%.

| | Symbols | US1AF | US1BF | US1DF | US1GF | US1JF | US1KF | US1MF | Units |
|-----------------------------------------------------------------------------------------------------------|-----------------|-------------|-------|-------|-------|-------|-------|-------|--------------------|
| Maximum Recurrent Peak Reverse Voltage | V_{RRM} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum RMS Voltage | V_{RMS} | 35 | 70 | 140 | 280 | 420 | 560 | 700 | Volts |
| Maximum DC Blocking Voltage | V_{DC} | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | Volts |
| Maximum Average Forward Rectified Current See Fig.1 | $I_{(AV)}$ | 1.0 | | | | | | | Amp |
| Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method) | I_{FSM} | 30 | | | | | | | Amp |
| Maximum Forward Voltage at 1.0A | V_F | 1.0 | | 1.3 | | 1.7 | | | Volts |
| Maximum Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=125^\circ\text{C}$ | I_R | 5.0 | | | 100 | | | | μAmp |
| Typical Junction Capacitance (Note 1) | C_J | 17 | | | | | | | pF |
| Typical Thermal Resistance (Note 2) | $R_{\theta JA}$ | 80 | | | | | | | $^\circ\text{C/W}$ |
| Maximum Reverse Recovery Time (Note 3) | T_{RR} | 50 | | | | 75 | | | nS |
| Operating Junction Temperature Range | T_J | -55 to +150 | | | | | | | $^\circ\text{C}$ |
| Storage Temperature Range | T_{stg} | -55 to +150 | | | | | | | $^\circ\text{C}$ |

NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal resistance from junction to ambient mounted on P.C.B. with 5.0 x 5.0mm copper pad areas

3- Reverse Recovery Test Conditions: $I_F=0.5A$, $I_R=1A$, $I_{RR}=0.25A$.

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RATINGS AND CHARACTERISTIC CURVES

Fig.1 Forward Current Derating Curve

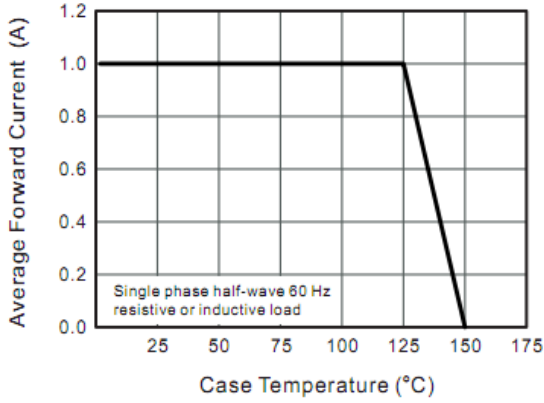


Fig.2 Typical Reverse Characteristics

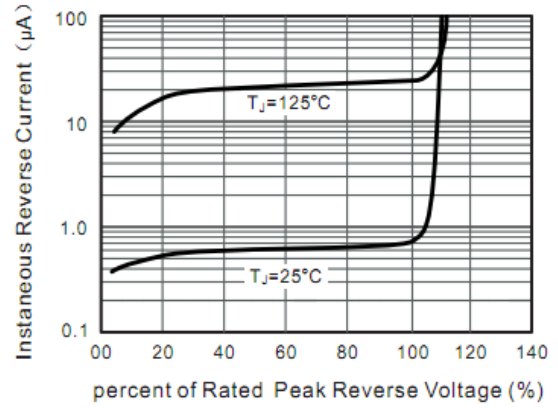


Fig.3 Typical Forward Characteristics

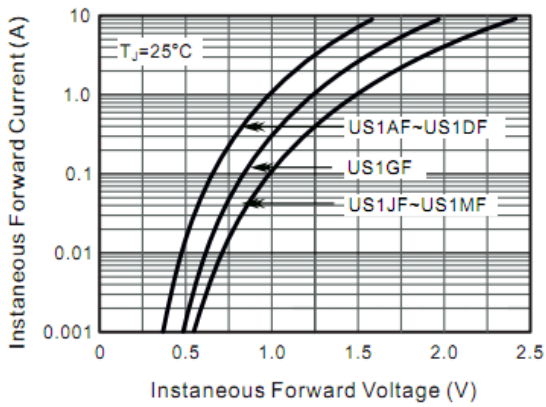


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

