

US1AF THRU US1MF

Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage – 50 to 1000 V

Forward Current – 1 A

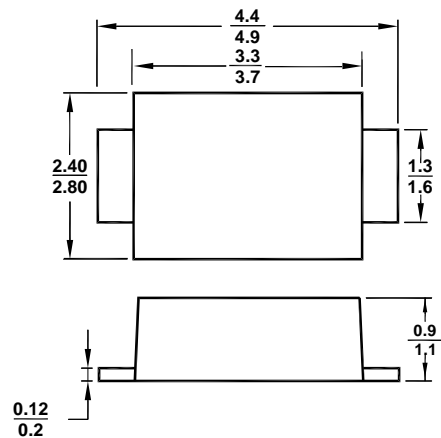
Features

- Glass Passivated Chip Junction
- For surface mount applications
- Low profile package
- Easy to pick and place
- High efficiency

Mechanical Data

- **Case:** SMAF
- **Terminals:** Solderable per MIL-STD-750, method 2026

SMAF



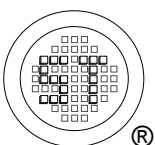
All Dimensions in mm

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 | US1AF | US1BF | US1DF | US1GF | US1JF | US1KF | US1MF | Units |
|---|-----------------|---------------|-------|-------|-------|-------|-------|-------|---------|
| | Marking | US1A | US1B | US1D | US1G | US1J | US1K | US1M | - |
| 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 | $I_{F(AV)}$ | 1 | | | | | | | A |
| Peak Forward Surge Current 8.3 ms Single Half Sine-wave Superimposed on Rated Load (JEDEC Method) | I_{FSM} | 30 | | | | | | | A |
| Maximum Forward Voltage at 1 A | V_F | 1 | | 1.3 | | 1.65 | | V | |
| Maximum DC Reverse Current at Rated DC Blocking Voltage | I_R | 5 100 | | | | | | | μA |
| Maximum Reverse Recovery Time at $I_F = 0.5 A$, $I_R = 1 A$, $I_{rr} = 0.25 A$ | t_{rr} | 50 | | | | 75 | | | ns |
| Typical Thermal Resistance ¹⁾ | $R_{\theta JA}$ | 75 | | | | | | | °C/W |
| Operating and Storage Temperature Range | T_j, T_{stg} | - 55 to + 150 | | | | | | | °C |

¹⁾ P.C.B. mounted with 1.0 X 1.0" (2.54 X 2.54 cm) copper pad areas.



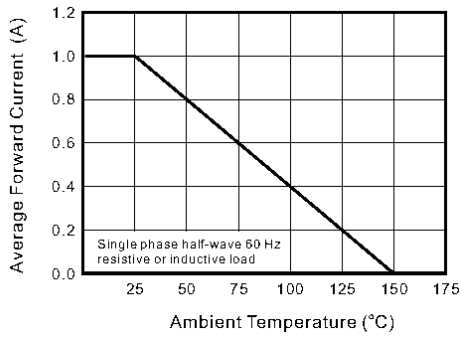
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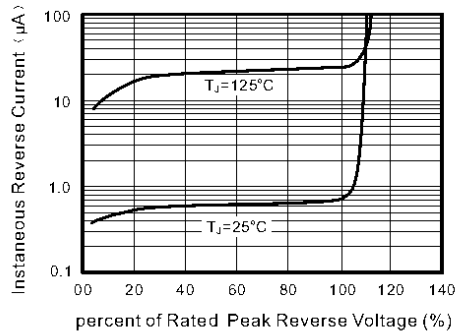
Dated: 04/07/2016 JD Rev: 04

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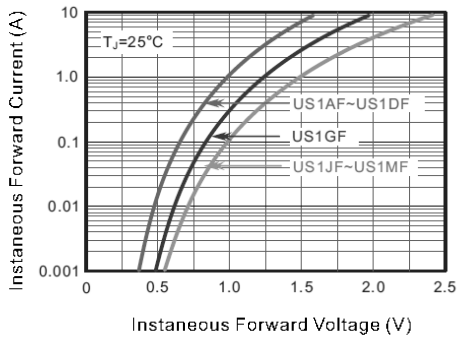
Forward Current Derating Curve



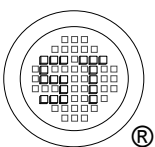
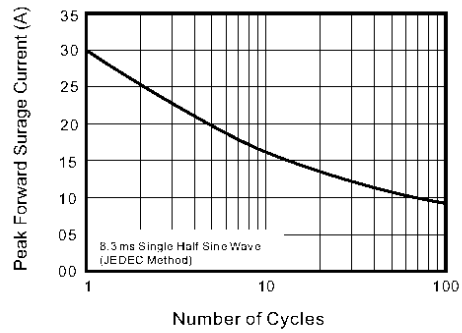
Typical Reverse Characteristics



Typical Forward Characteristics



Maximum Non-Repetitive Peak Forward Surge Current



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