

US1AF THRU US1MF

Surface Mount Ultrafast Recovery Rectifier

Reverse Voltage – 50 to 1000 V

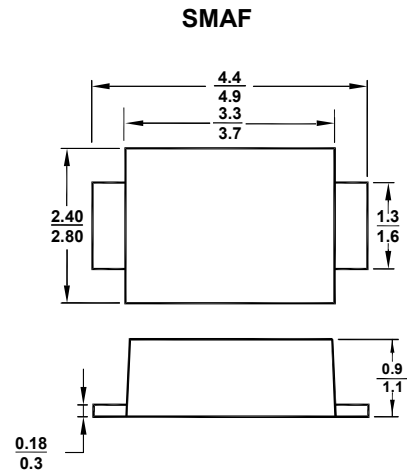
Forward Current – 1 A

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



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%.

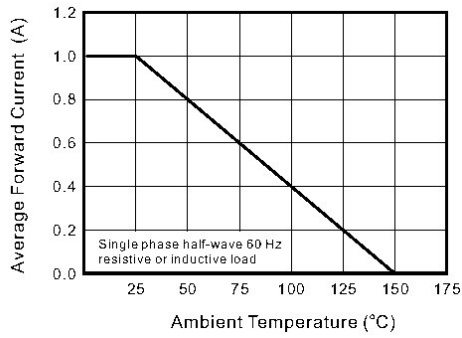
Parameter	Symbols	US1AF	US1BF	US1DF	US1GF	US1JF	US1KF	US1MF	Units
	Marking	US1A	US1B	US1D	US1G	US1J	US1K	US1M	-
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	50	100	200	400	600	800	1000	V
Maximum RMS Voltage	V_{RMS}	35	70	140	280	420	560	700	V
Maximum DC Blocking Voltage	V_{DC}	50	100	200	400	600	800	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 $T_a = 25^\circ\text{C}$ $T_a = 125^\circ\text{C}$	I_R	5 100							μA
Maximum Reverse Recovery Time at $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$	t_{rr}	50				75			ns
Typical Thermal Resistance ¹⁾	$R_{\theta JA}$	75							$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							$^\circ\text{C}$

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

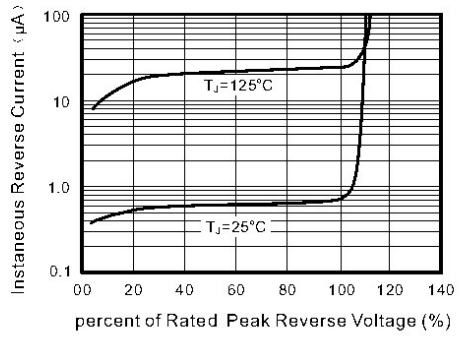
TOP DYNAMIC

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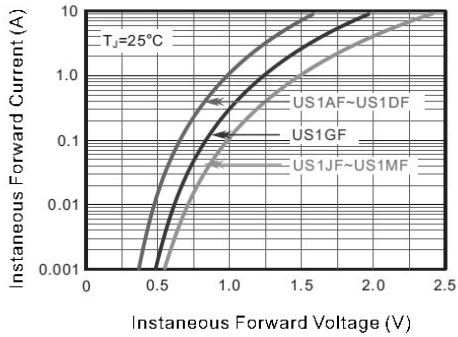
Forward Current Derating Curve



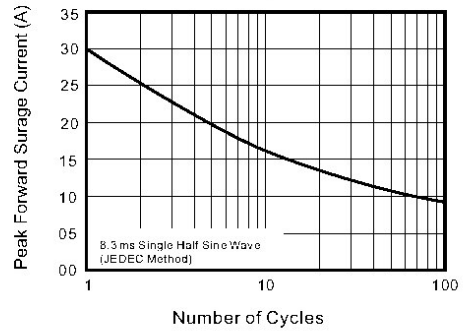
Typical Reverse Characteristics



Typical Forward Characteristics



Maximum Non-Repetitive Peak Forward Surge Current



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