

US1AFW THRU US1MFW-AH

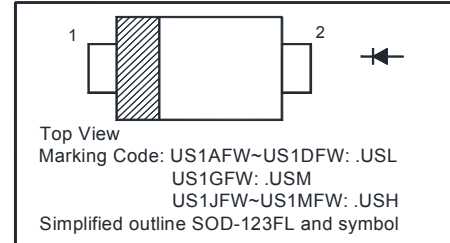
Surface Mount Super fast Recovery Rectifiers
Reverse Voltage - 50 to 1000 V
Forward Current - 1 A

Features

- AEC-Q101 is Qualified
- Halogen and Antimony Free(HAF), RoHS compliant

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



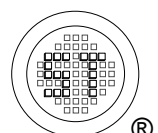
Maximum Ratings and Electrical characteristics

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	US1 AFW	US1 BFW	US1 DFW	US1 GFW	US1 JFW	US1 KFW	US1 MFW	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	$I_{F(AV)}$	1							A
Peak Forward Surge Current 8.3 ms Single half sine-wave Superimposed on Rated Load (JEDEC Method)	I_{FSM}	30							A
Maximum Instantaneous Forward Voltage at 1 A	V_F	1.0			1.3	1.7			V
Maximum DC Reverse Current at Rated DC Blocking Voltage $T_a = 25\text{ °C}$ $T_a = 100\text{ °C}$	I_R	5 100							μA
Maximum Reverse Recovery Time ¹⁾	t_{rr}	50				75			ns
Typical Thermal Resistance	$R_{\theta JA}$	180							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	- 55 to + 150							°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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Electrical characteristic curves

Fig 1. Reverse Characteristics

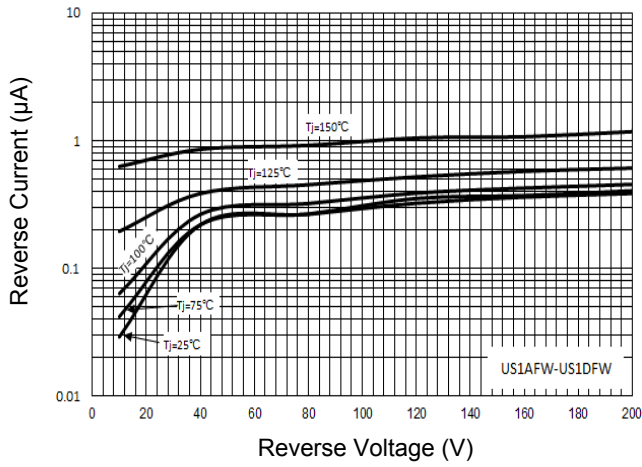


Fig 2. Reverse Characteristics

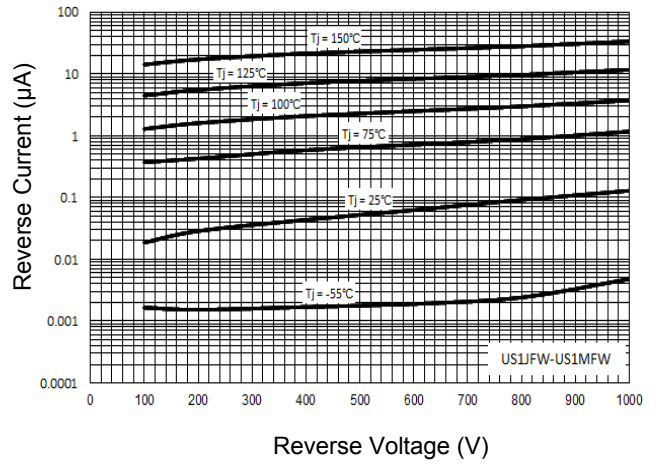


Fig 3. Forward Characteristics

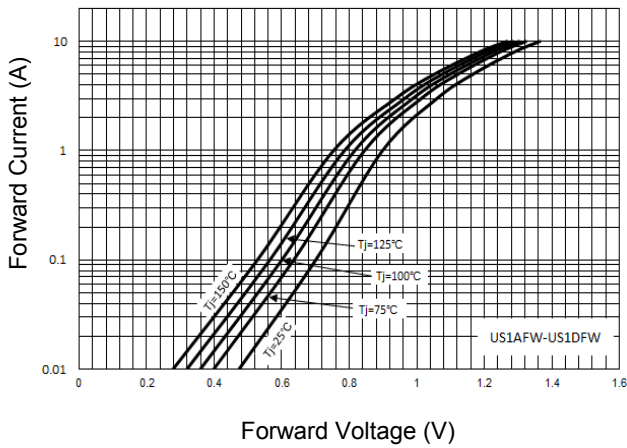


Fig 4. Forward Characteristics

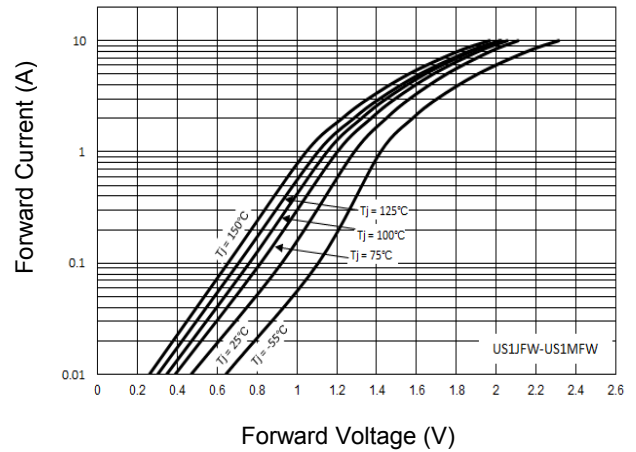


Fig 5. Junction Capacitance

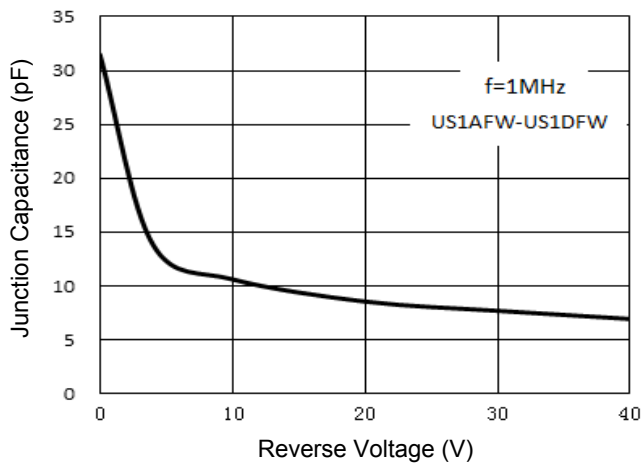
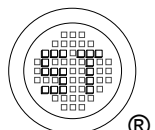
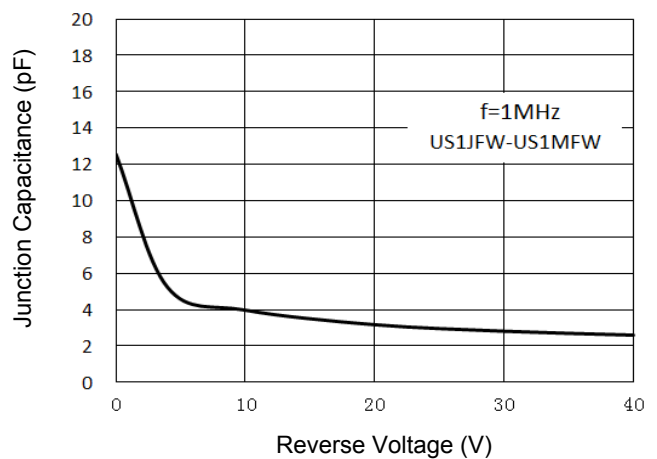


Fig 6. Junction Capacitance

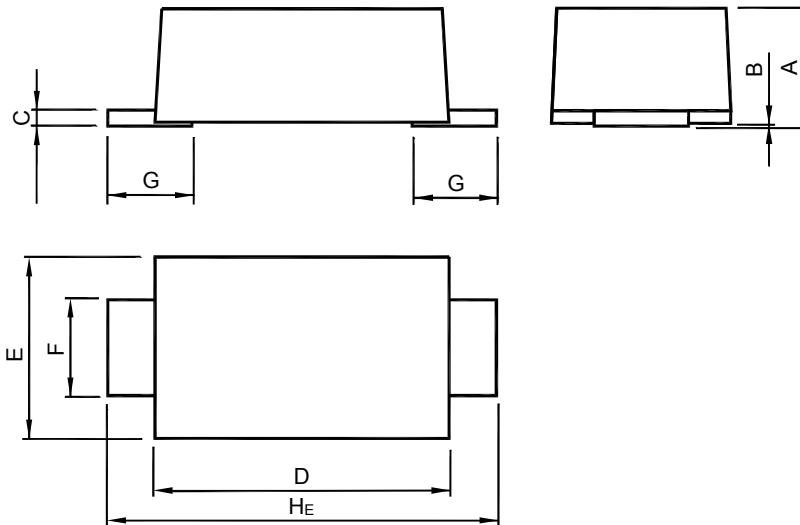


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PACKAGE OUTLINE

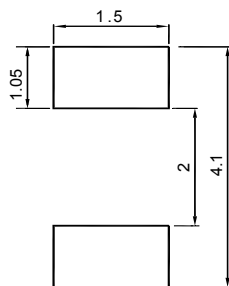
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT	A	B	C	D	E	F	G	H _E
mm	1.08 0.88	0.1 0	0.2 0.1	2.9 2.7	1.9 1.7	1.1 0.8	0.85 0.45	3.9 3.5

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-123FL	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

- " III " = Cathode line
 - " • " = HAF (Halogen and Antimony Free)
 - " *** " = Part No.
- Font type: Arial

