

# US1AFW~US1MFW

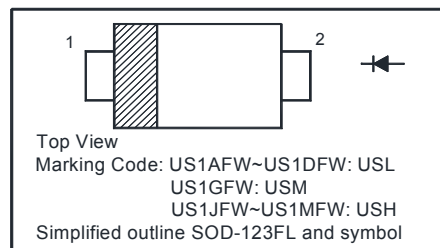
## Surface Mount Ultrafast Recovery Rectifiers

Reverse Voltage - 50 to 1000 V

Forward Current - 1 A

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



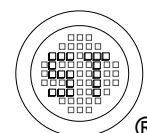
### Maximum Ratings and Electrical characteristics

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	$I_R$	5 100							$\mu A$
Maximum Reverse Recovery Time <sup>1)</sup>	$t_{rr}$	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

<sup>1)</sup> Measured with  $I_F = 0.5 A$ ,  $I_R = 1 A$ ,  $I_{rr} = 0.25 A$ .



# US1AFW~US1MFW

## Electrical Characteristic Curves

Fig 1. Reverse Characteristics

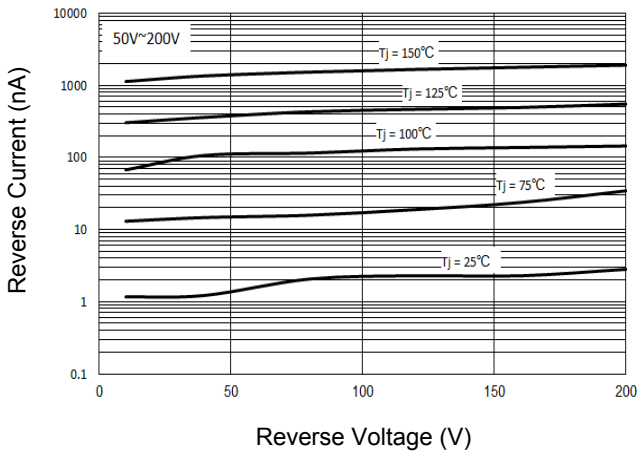


Fig 2. Reverse Characteristics

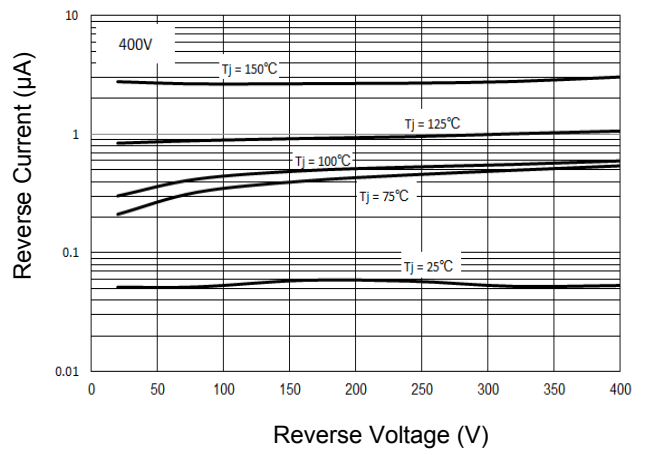


Fig 3. Reverse Characteristics

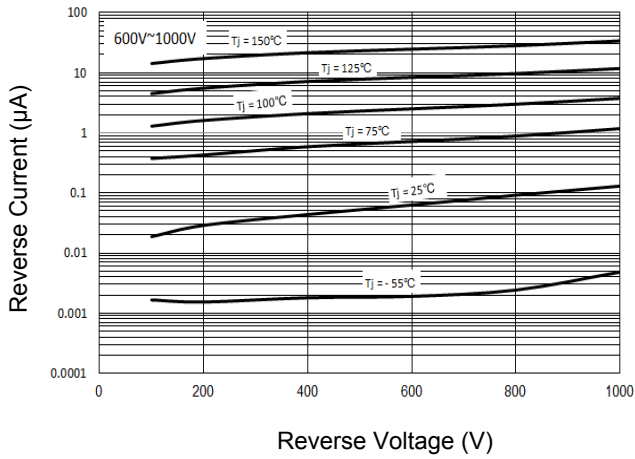


Fig 4. Forward Characteristics

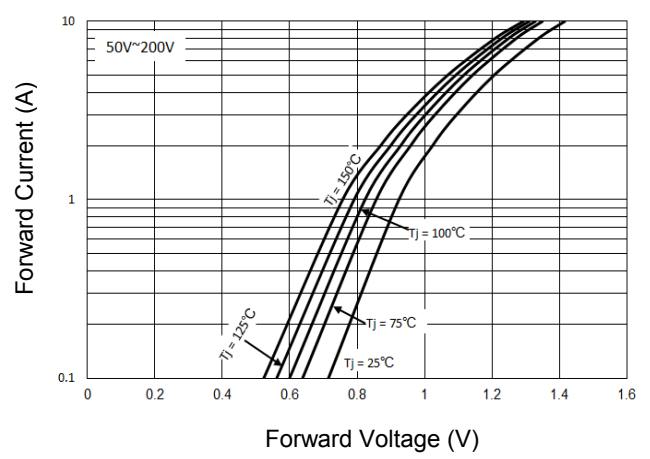


Fig 5. Forward Characteristics

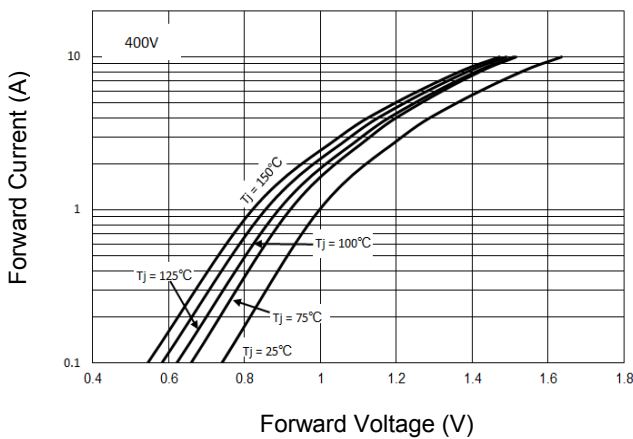
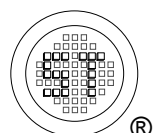
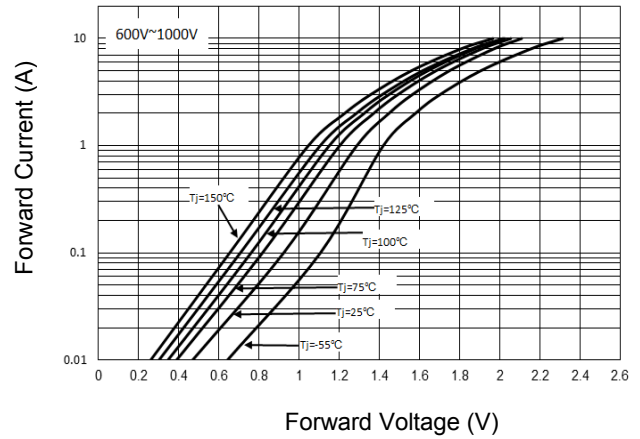


Fig 6. Forward Characteristics



# US1AFW~US1MFW

## Electrical Characteristic Curves

Fig 7. Junction Capacitance

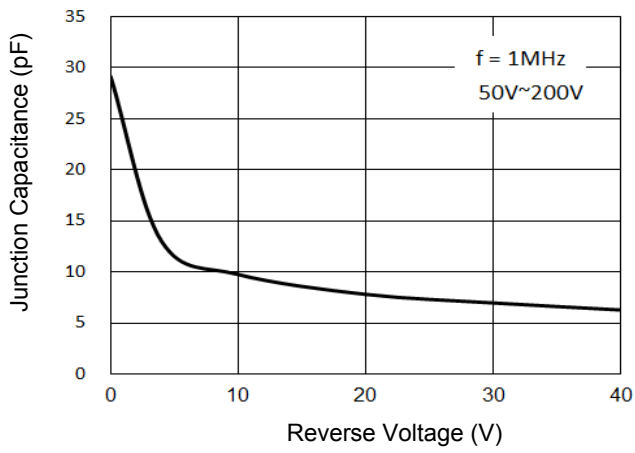


Fig 8. Junction Capacitance

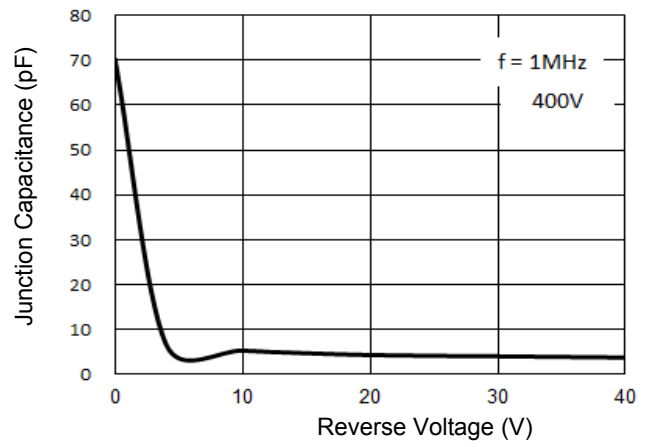
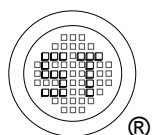
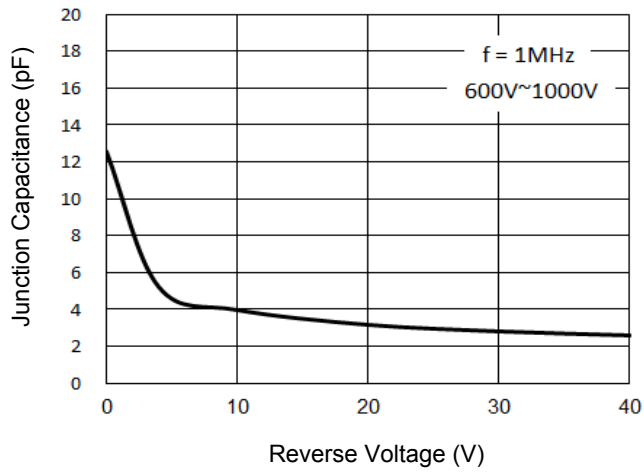


Fig 9. Junction Capacitance

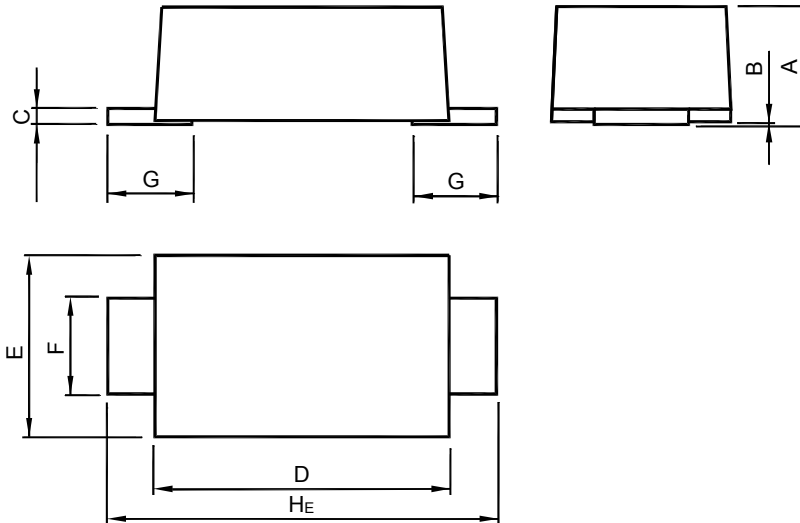


# US1AFW~US1MFW

## PACKAGE OUTLINE

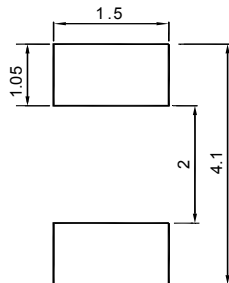
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT	A	B	C	D	E	F	G	H <sub>E</sub>
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

" \*\*\* " = Part No.

Font type: Arial

