



# SF11WS THRU SF18WS

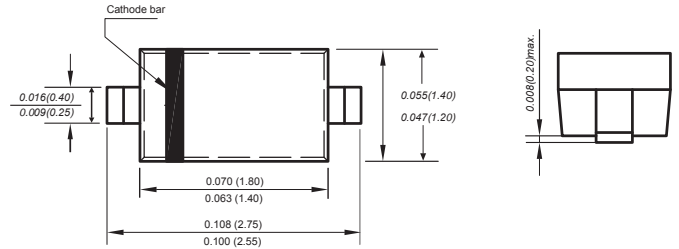
Reverse Voltage - 50 to 600Volts Forward Current - 0.5 Ampere

## SURFACE MOUNT SUPER FAST RECOVERY RECTIFIER

### Features

- ◆ Easy to pick and place
- ◆ For surface mounted applications
- ◆ Low profile package
- ◆ Built-in strain relief
- ◆ Superfast recovery times for high efficiency

SOD-323



### Mechanical Data

Case: SOD-323

Terminals: Solderable per MIL-STD-750, Method 2026A

Polarity: Polarity symbol marking on body

Mounting Position: Any

Approx. Weight: 0.0019 ounce, 0.0548 grams



Dimensions in inches and (millimeters)

### 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 current derate by 20%.

Parameter	SYMBOLS	SF11WS	SF12WS	SF13WS	SF14WS	SF15WS	SF16WS	SF18WS	UNITS
Marking Code		F11	F12	F13	F14	F15	F16	F18	
Maximum repetitive peak reverse voltage	$V_{RMM}$	50	100	150	200	300	400	600	V
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	V
Maximum average forward rectified current at $T_c = 125^\circ C$	$I_{F(AV)}$	0.5							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	15							A
Maximum instantaneous forward voltage at 0.5A	$V_F$	1.0			1.25		1.68		V
Maximum DC reverse current $T_A = 25^\circ C$ at rated DC blocking voltage $T_A = 125^\circ C$	$I_R$	5 100							$\mu A$
Typical junction capacitance (NOTE 3)	$C_J$	15							pF
Typical reverse recovery time (NOTE 2)	$T_{rr}$	35							ns
Operating junction temperature range	$T_J$	-55 to +150							$^\circ C$
Storage temperature range	$T_{STG}$	-55 to +150							$^\circ C$

- Note:**
1. P.C.B. mounted with 0.2" X 0.2" (5 X 5 mm) copper pad areas.
  2. Measured with  $I_F = 0.5A$ ,  $I_R = 1A$ ,  $I_{rr} = 0.25A$
  3. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.
  4. The typical data above is for reference only.

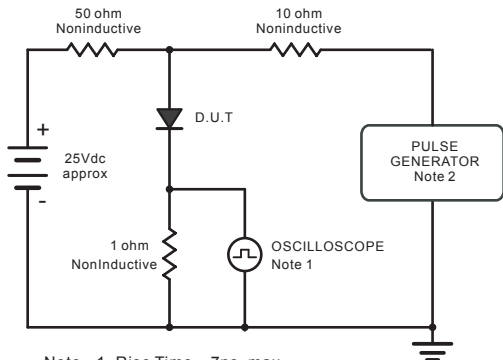


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## Typical Characteristics

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note: 1. Rise Time = 7ns, max.  
Input Impedance = 1megohm, 22pF.  
2. Rises Time = 10ns, max.  
Source Impedance = 50 ohms.

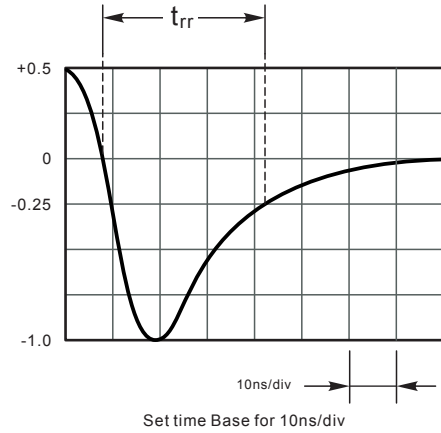


Fig.2 Maximum Average Forward Current Rating

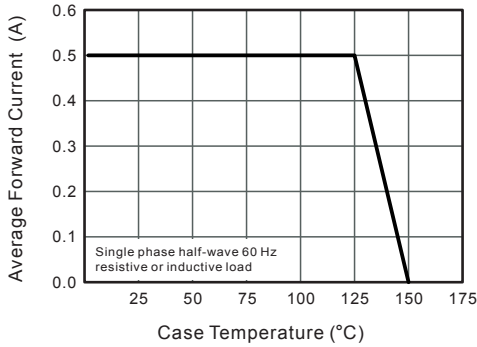


Fig.4 Typical Forward Characteristics

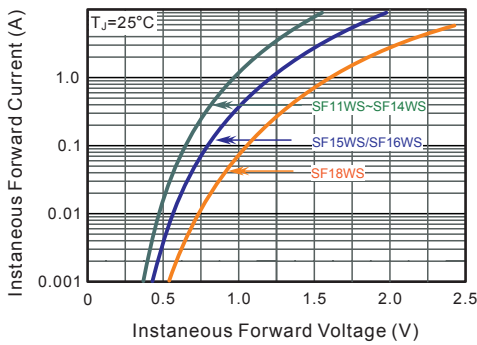


Fig.3 Typical Reverse Characteristics

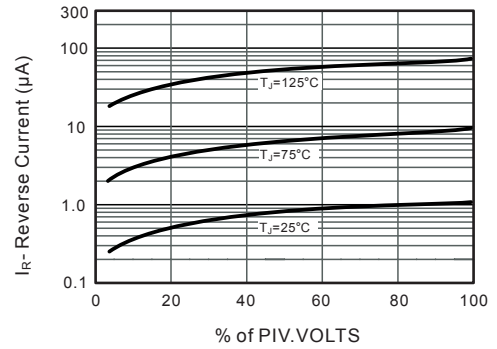


Fig.5 Typical Junction Capacitance

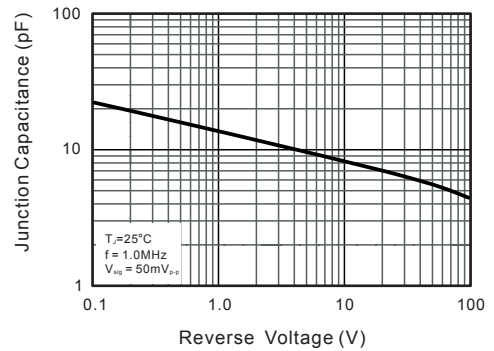
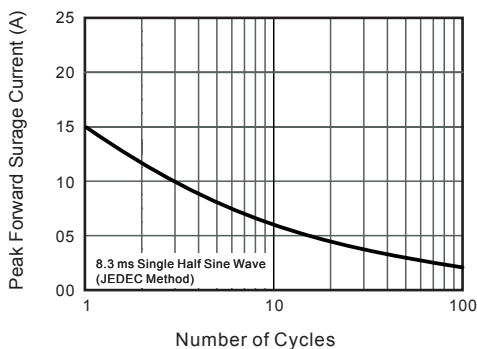


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



The curve above is for reference only.



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## Packing information



unit:mm

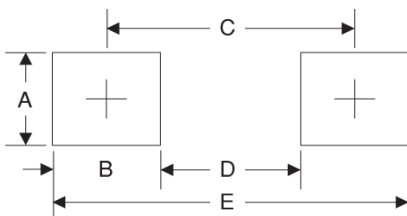
Item	Symbol	Tolerance	SOD-323
Carrier width	A	0.1	1.46
Carrier length	B	0.1	2.90
Carrier depth	C	0.1	1.25
Sprocket hole	d	0.05	1.50
13" Reel outside diameter	D	2.0	330.00
13" Reel inner diameter	D <sub>1</sub>	min	50.00
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D <sub>1</sub>	min	54.40
Feed hole diameter	D <sub>2</sub>	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P <sub>0</sub>	0.1	4.00
Embossment center	P <sub>1</sub>	0.1	2.00
Overall tape thickness	T	0.1	0.06
Tape width	W	0.3	8.00
Reel width	W <sub>1</sub>	1.0	12.30

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

## Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA. (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-323	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

## Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.6	0.141
D	1.4	0.055
E	3.8	0.149

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