

# SF11 THRU SF18

## SUPERFAST RECOVERY RECTIFIER



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HORNBY ELECTRONIC

**REVERSE VOLTAGE:** 50 to 600 VOLTS

**FORWARD CURRENT:** 1.0 AMPERE

### FEATURES

- High surge capability
- Low forward voltage, high current capability
- Hermetically sealed
- Superfast recovery times
- Exceeds environmental standards of MIL-S-19500/228
- Low leakage.

### MECHANICAL DATA

Case: Molded plastic, DO-41

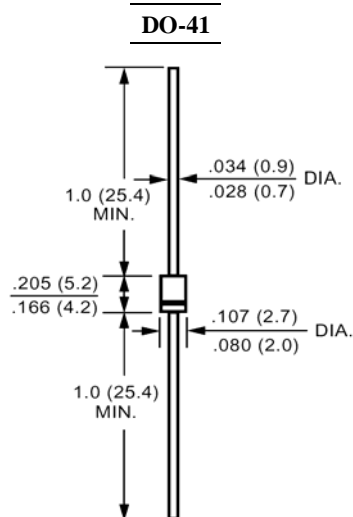
Epoxy: UL 94V-O rate flame retardant

Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed

Polarity: Color band denotes cathode end

Mounting position: Any

Weight: 0.012ounce, 0.33gram



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, derate current by 20%.

	Symbols	SF11	SF12	SF13	SF14	SF15	SF16	SF17	SF18	Units	
Maximum Recurrent Peak Reverse Voltage	$V_{RRM}$	50	100	150	200	300	400	500	600	Volts	
Maximum RMS Voltage	$V_{RMS}$	35	70	105	140	210	280	350	420	Volts	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	150	200	300	400	500	600	Volts	
Maximum Average Forward Rectified Current .375"(9.5mm) Lead Length at $T_A=55^\circ\text{C}$	$I_{(AV)}$	1.0								Amp	
Peak Forward Surge Current, 8.3ms single half-sine-wave superimposed on rated load (JEDEC method)	$I_{FSM}$	30								Amp	
Maximum Forward Voltage at 1.0A DC and 25°C	$V_F$	0.95			1.25		1.7			Volts	
Maximum Reverse Current at $T_A=25^\circ\text{C}$ at Rated DC Blocking Voltage $T_A=100^\circ\text{C}$	$I_R$	5.0				50				uAmp	
Typical Junction Capacitance (Note 1)	$C_J$	50				25				pF	
Typical Thermal Resistance (Note 2)	$R_{\theta JA}$	50									°C/W
Maximum Reverse Recovery Time (Note 3)	$T_{RR}$	35							50		nS
Operating Junction Temperature Range	$T_J$	-55 to +125									°C
Storage Temperature Range	$T_{stg}$	-55 to +150									°C

### NOTES:

1- Measured at 1 MHz and applied reverse voltage of 4.0 VDC.

2- Thermal Resistance from Junction to Ambient 0.375"(9.5mm) lead length P.C.B. Mounted.

3- Reverse Recovery Test Conditions:  $I_F=.5A$ ,  $I_R=1A$ ,  $I_{RR}=.25A$ .

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### RATINGS AND CHARACTERISTIC CURVES

FIG.1- REVERSE RECOVERY TIME CHARACTERISTIC AND TEST CIRCUIT DIAGRAM

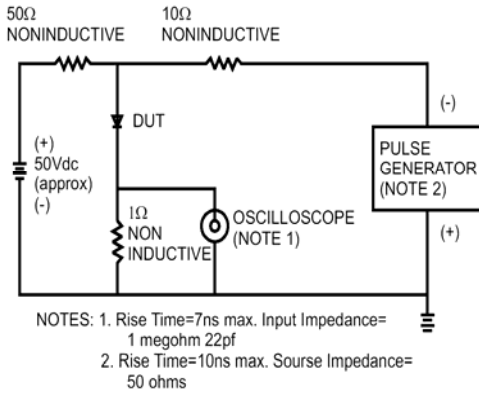


FIG.2- MAXIMUM AVERAGE FORWARD CURRENT DERATING

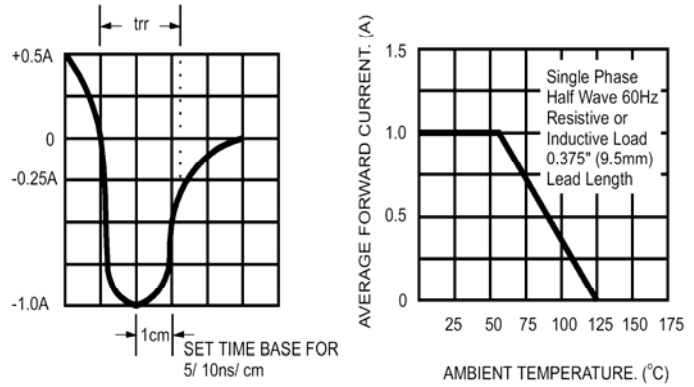


FIG.3- TYPICAL REVERSE CHARACTERISTICS

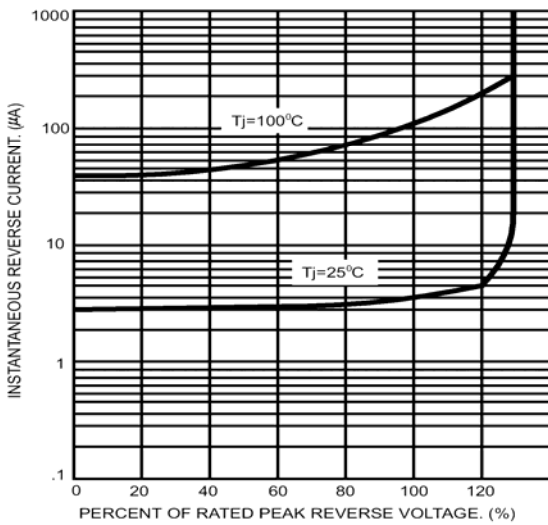


FIG.4- TYPICAL FORWARD CHARACTERISTICS

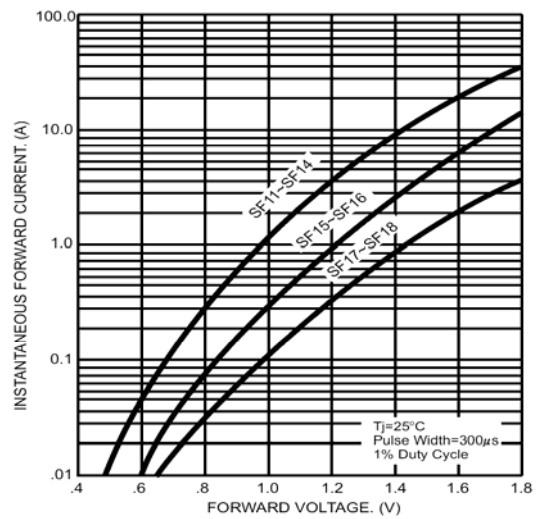


FIG.5- MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT

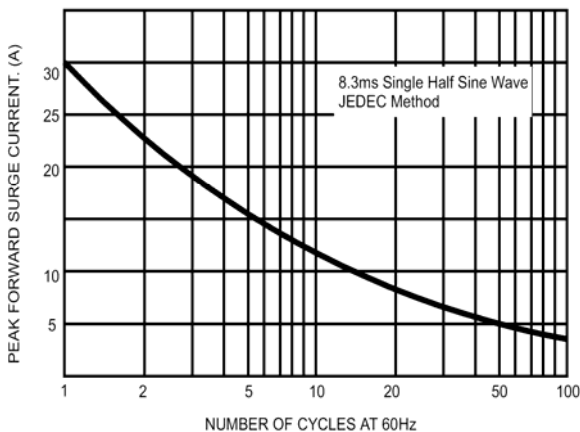


FIG.6- TYPICAL JUNCTION CAPACITANCE

