

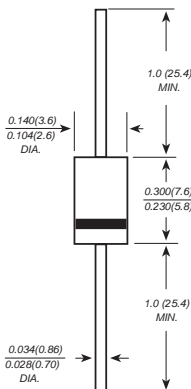


# SF21 THRU SF28

## SUPER FAST RECTIFIER

Reverse Voltage - 50 to 600 Volts    Forward Current - 2.0 Amperes

### DO-15



Dimensions in inches and (millimeters)

### FEATURES

- ◆ The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- ◆ Super fast switching for high efficiency
- ◆ Low reverse leakage
- ◆ High forward surge current capability
- ◆ High temperature soldering guaranteed:  
250°C/10 seconds, 0.375" (9.5mm) lead length,  
5 lbs. (2.3kg) tension

### MECHANICAL DATA

**Case:** JEDEC DO-15 molded plastic body

**Terminals:** Plated axial leads, solderable per MIL-STD-750, Method 2026

**Polarity:** Color band denotes cathode end

**Mounting Position:** Any

**Weight:** 0.014 ounce, 0.40 grams

### MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Single phase half-wave 60Hz, resistive or inductive load, for current capacitive load current derate by 20%.

	SYMBOLS	SF21	SF22	SF23	SF24	SF25	SF26	SF28	UNITS
Maximum repetitive peak reverse voltage	V <sub>RRM</sub>	50	100	150	200	300	400	600	VOLTS
Maximum RMS voltage	V <sub>RMS</sub>	35	70	105	140	210	280	420	VOLTS
Maximum DC blocking voltage	V <sub>DC</sub>	50	100	150	200	300	400	600	VOLTS
Maximum average forward rectified current 0.375" (9.5mm) lead length at TA=55 C	I <sub>(AV)</sub>	2.0							Amps
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	I <sub>FSM</sub>	50.0							Amps
Maximum instantaneous forward voltage at 2.0A	V <sub>F</sub>	0.95				1.25			Volts
Maximum DC reverse current    TA=25 C at rated DC blocking voltage    TA=100 C	I <sub>R</sub>	5.0 50.0							μA
Maximum reverse recovery time    (NOTE 1)	t <sub>rr</sub>	35							ns
Typical junction capacitance (NOTE 2)	C <sub>J</sub>	60.0				30.0			pF
Typical thermal resistance (NOTE 3)	R <sub>JA</sub>	50.0							C/W
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150							C

**Note:** 1. Reverse recovery condition  $I_F=0.5\text{A}$ ,  $I_R=1.0\text{A}$ ,  $I_{rr}=0.25\text{A}$

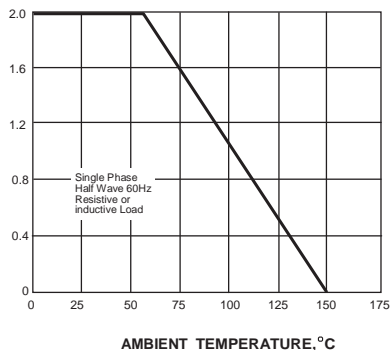
2. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

3. Thermal resistance from junction to ambient at 0.375" (9.5mm) lead length, P.C.B. mounted

# RATINGS AND CHARACTERISTIC CURVES SF21 THRU SF28

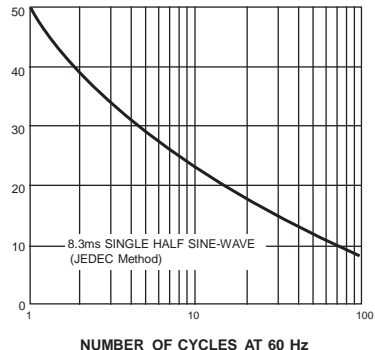
AVERAGE FORWARD RECTIFIED CURRENT,  
AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



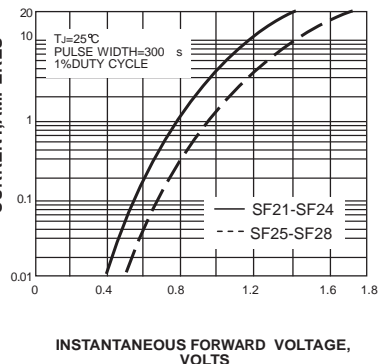
PEAK FORWARD SURGE CURRENT,  
AMPERES

FIG. 2-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT



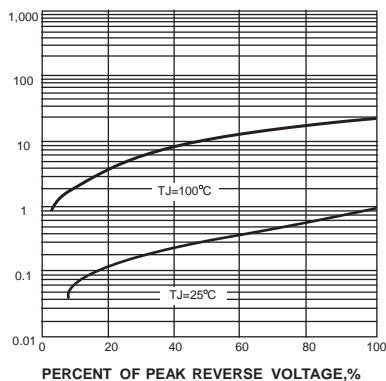
INSTANTANEOUS FORWARD  
CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



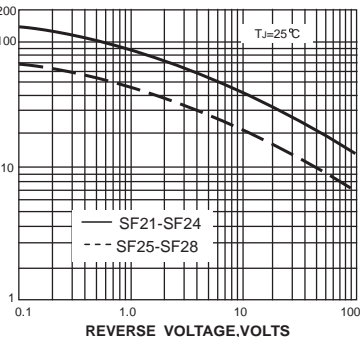
INSTANTANEOUS REVERSE CURRENT,  
MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE



TRANSIENT THERMAL IMPEDANCE,  
°C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE

