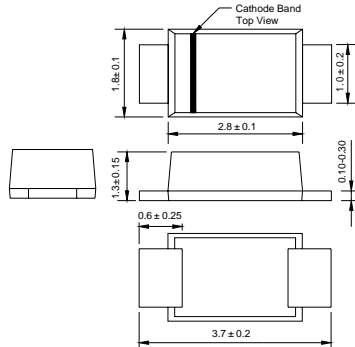




# FR101 THRU FR107

**SUFACE MOUNT FAST RECOVERY RECTIFIER**  
 Reverse Voltage - 50 to 1000 Volts Forward Current - 1.0 Ampere

## SOD-123FL



## FEATURES

- ◆ Glass passivated device
- ◆ Ideal for surface mouted applications
- ◆ Low reverse leakage
- ◆ Metallurgically bonded construction
- ◆ High temperature soldering guaranteed:  
 250°C/10 seconds, 0.375" (9.5mm) lead length,  
 5 lbs. (2.3kg) tension

## MECHANICAL DATA

**Case** : JEDEC SOD-123FL molded plastic body over passivated chip  
**Terminals** : Plated axial leads, solderable per MIL-STD-750, Method 2026  
**Polarity** : Color band denotes cathode end  
**Mounting Position** : Any  
**Weight** : 0.0007 ounce, 0.02 grams

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

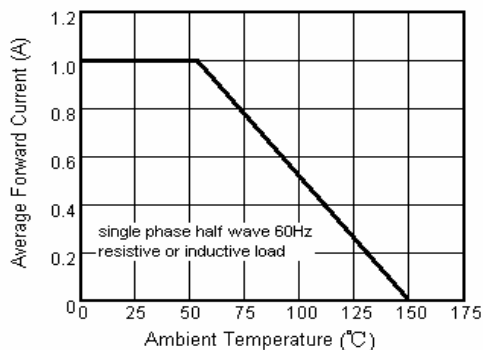
Ratings at 25°C ambient temperature unless otherwise specified.  
 Single phase half-wave 60Hz, resistive or inductive load, for capacitive load current derate by 20%.

TYPE NUMBER	SYMBOLS	FR101 F1	FR102 F2	FR103 F3	FR104 F4	FR105 F5	FR106 F6	FR107 F7	UNITS
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	200	400	600	800	1000	VOLTS
Maximum RMS voltage	$V_{RMS}$	35	70	140	280	420	560	700	VOLTS
Maximum DC blocking voltage	$V_{DC}$	50	100	200	400	600	800	1000	VOLTS
Maximum average forward rectified current at $T_A=65^\circ\text{C}$ (NOTE 1)	$I_{(AV)}$	1.0							Amp
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) $T_L=25^\circ\text{C}$	$I_{FSM}$	25.0							Amps
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3							Volts
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=125^\circ\text{C}$	$I_R$	5.0 50.0							$\mu\text{A}$
Maximum reverse recovery time (NOTE 2)	$t_{rr}$	150				250	500		ns
Typical junction capacitance (NOTE 3)	$C_J$	15							pF
Operating junction and storage temperature range	$T_J, T_{STG}$	-50 to +150							$^\circ\text{C}$

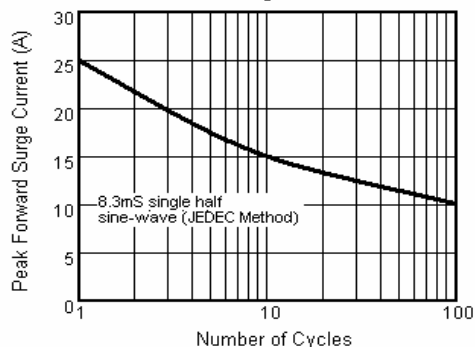
**Note:** 1. Averaged over any 20ms period.  
 2. Measured with  $I_F=0.5\text{A}$ ,  $I_R=1\text{A}$ ,  $I_{rr}=0.25\text{A}$ .  
 3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

# FR101 THRU FR107

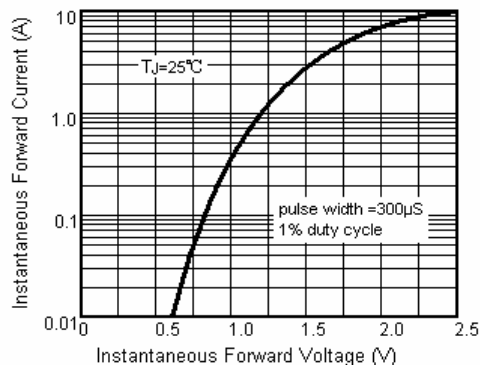
**Fig.1 Forward Current Derating Curve**



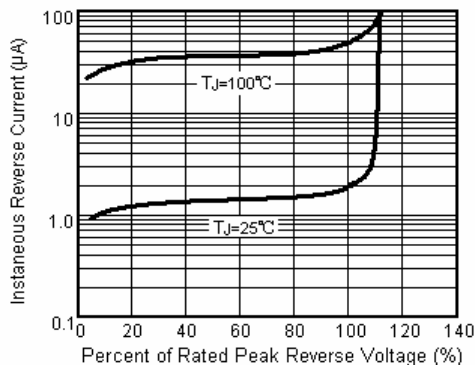
**Fig.2 Maximum Non-Repetitive Peak Forward Surge Current**



**Fig.3 Typical Instantaneous Forward Characteristics**



**Fig.4 Typical Reverse Characteristics**



**Fig.5 Typical Junction Capacitance**

