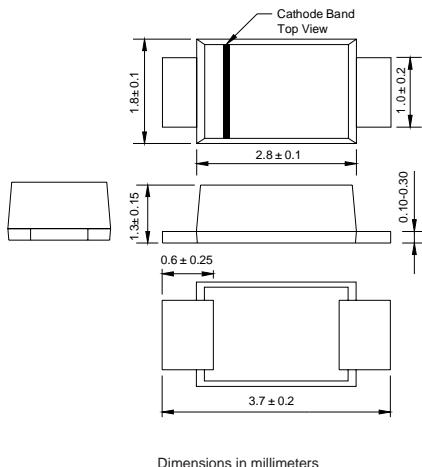


# FR101 THRU FR107

## SOD-123FL



## FEATURES

- ◆ Glass passivated device
- ◆ Ideal for surface mounted 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:** 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%.

Catalog 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 $T_A=125^\circ\text{C}$	$I_R$				10.0				$\mu\text{A}$
Maximum reverse recovery time (NOTE 2)	$t_{rr}$		150		250		500		ns
Typical junction capacitance (NOTE 3)	$C_J$			4					pF
Typical thermal resistance (NOTE 4)	$R_{\theta JA}$			180					K/W
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  $IF=0.5\text{A}$ ,  $IR=1\text{A}$ ,  $Irr=0.25\text{A}$ .

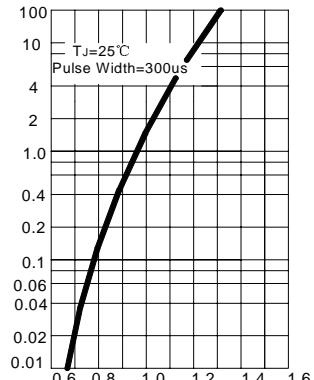
3. Measured at 1MHz and applied reverse voltage of 4.0V D.C.

4. Thermal resistance junction to ambient, 6.0 mm<sup>2</sup> copper pads to each terminal.

# FR101 THRU FR107

INSTANTANEOUS FORWARD CURRENT  
AMPERES

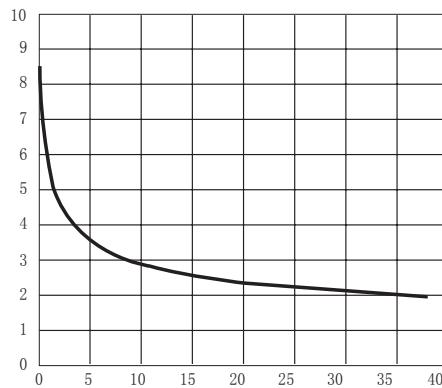
**FIG.1 –TYPICAL FORWARD CHARACTERISTIC**



INSTANTANEOUS FORWARD VOLTAGE,V

**FIG.2 – TYPICAL JUNCTION CAPACITANCE**

CAPACITANCE, pF

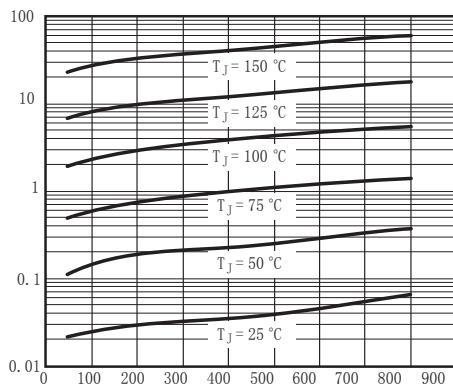


REVERSE VOLTAGE, VOLTS

**FIG.3 – TYPICAL INSTANTANEOUS REVERSE CHARACTERISTICS**

INSTANTANEOUS REVERSE CURRENT  
 $\mu$ AMPERES

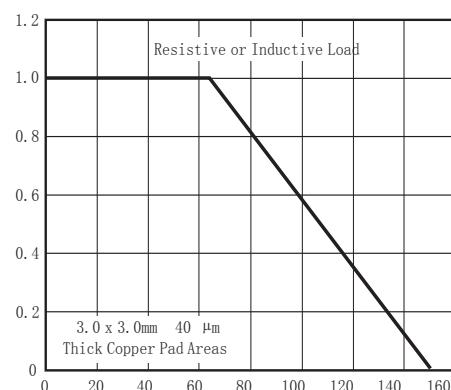
**FIG.3 – TYPICAL INSTANTANEOUS REVERSE CHARACTERISTICS**



INSTANTANEOUS REVERSE VOLTAGE,V

AVERAGE FORWARD CURRENT,  
AMPERES

**FIG.4 – FORWARD DERATING CURVE**



AMBIENT TEMPERATURE, °C

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