

**FEATURES**

- High current capability
- High surge current capability
- Low reverse current
- Low forward voltage drop
- Fast switching for high efficiency
- Plastic material used carries Underwriters Laboratory Classification 94V-0



SOD-123FL

**MECHANICAL DATA**

- Case: SOD-123FL Molded plastic
- Terminals: Pure tin plated, lead free
- Polarity: Indicated by cathode band
- Weight: 11.5 mg (approx.)



Cathode

**MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS**

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

Parameter	Symbol	RS2AL	RS2BL	RS2DL	RS2GL	RS2JL	RS2KL	RS2ML	Unit	
Maximum Repetitive Peak Reverse Voltage	$V_{RRM}$	50	100	200	400	600	800	1000	V	
Maximum RMS Voltage	$V_{RMS}$	35	70	140	280	420	560	700	V	
Maximum DC Blocking Voltage	$V_{DC}$	50	100	200	400	600	800	1000	V	
Maximum Average Forward Rectified Current at $T_L = 90\text{ }^\circ\text{C}$	$I_{F(A)}$	2.0							A	
Peak Forward Surge Current 8.3ms Single HalfSine-wave Superimposed on Rated Load (JEDEC)	$I_{FSM}$	50.0							A	
Maximum Instantaneous Forward Voltage at 2 A	$V_F$	1.30							V	
Maximum DC Reverse Current at Rated DC Blocking Voltage	$I_R$	$T_A = 25\text{ }^\circ\text{C}$							5.0	$\mu\text{A}$
		$T_A = 125\text{ }^\circ\text{C}$							50.0	
Maximum Reverse Recovery Time <sup>1)</sup>	trr	150				250	500		nS	
Typical Junction Capacitance <sup>2)</sup>	$C_J$	30.0							pF	
Typical Thermal Resistance	$R\theta_{JA}$	75.0							$^\circ\text{C/W}$	
	$R\theta_{JC}$	22.0								
Operating and Storage Temperature Range	$T_{J,TS}$	- 50 to + 150							$^\circ\text{C}$	

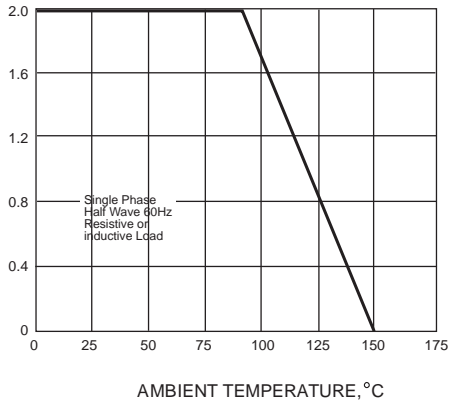
Note: 1. Reverse recovery test conditions  $I_F = 0.5\text{ A}$ ,  $I_R = 1\text{ A}$ ,  $I_{rr} = 0.25\text{ A}$ .

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

**Typical Characteristics**

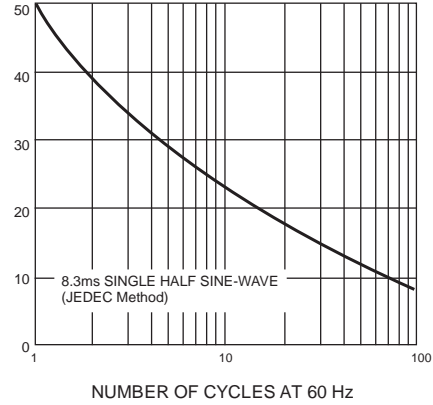
AVERAGE FORWARD RECTIFIED CURRENT, AMPERES

FIG. 1- FORWARD CURRENT DERATING CURVE



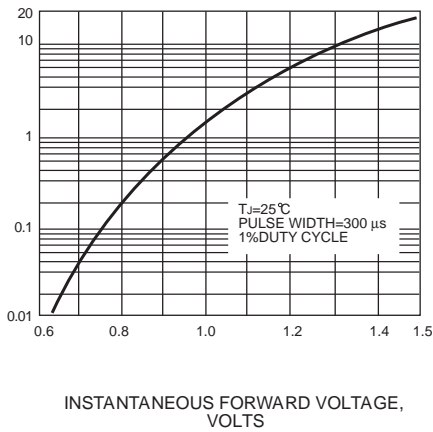
PEAK FORWARD SURGE CURRENT, AMPERES

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



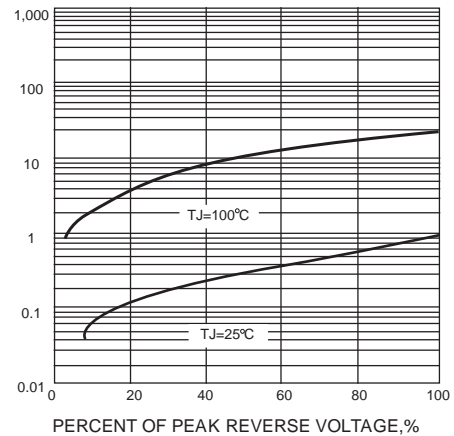
INSTANTANEOUS FORWARD CURRENT, AMPERES

FIG. 3-TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS



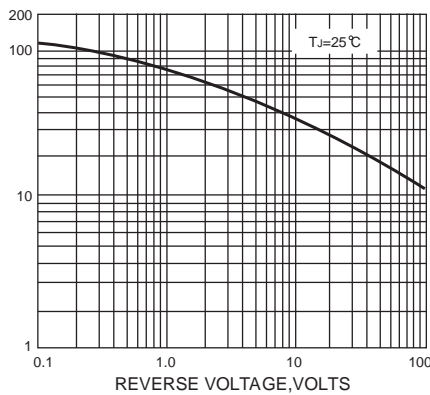
INSTANTANEOUS REVERSE CURRENT, MICROAMPERES

FIG. 4-TYPICAL REVERSE CHARACTERISTICS



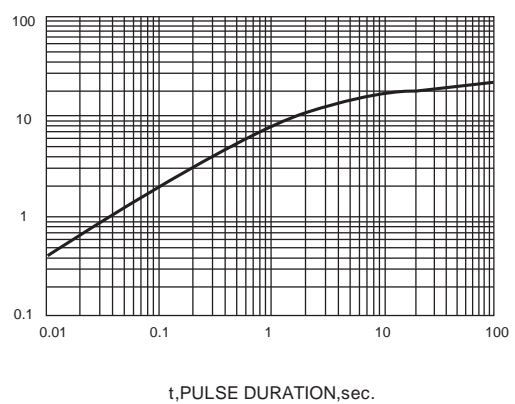
JUNCTION CAPACITANCE, pF

FIG. 5-TYPICAL JUNCTION CAPACITANCE

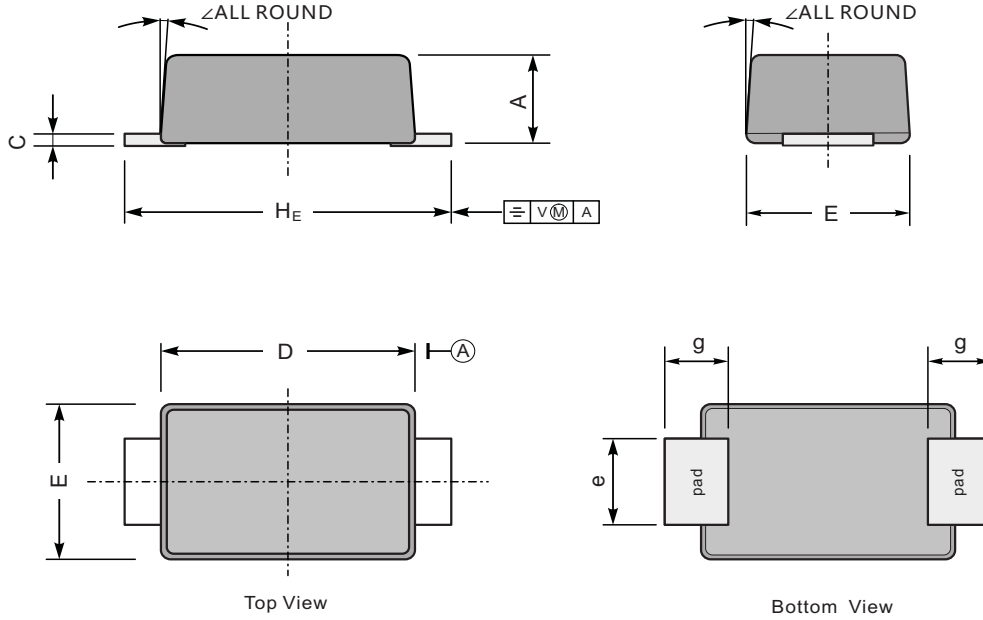


TRANSIENT THERMAL IMPEDANCE, °C/W

FIG. 6-TYPICAL TRANSIENT THERMAL IMPEDANCE



**SOD-123FL Package Outline Dimensions**



UNIT		A	C	D	E	e	g	$H_E$	$\angle$
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	