Pb Free Plating Product

SM4001PL thru SM4007PL

1.0 Ampere Surface Mount General Purpose Rectifier

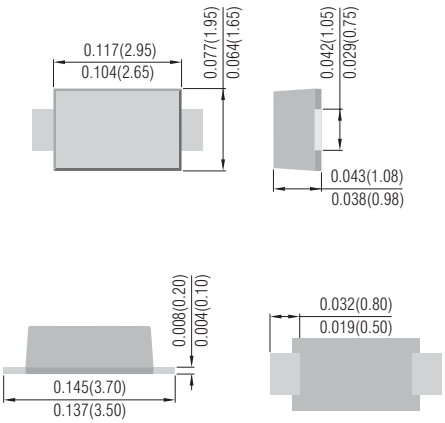
Features

- Flammability Classification 94V-0
- Plastic package has Underwriters Laboratories
- Glass passivated chip junction
- For surface mount application
- Low profile package
- Built-in strain relief, ideal for automated placement

Mechanical Data

- **Case:** JEDEC SOD-123FL, molded plastic over passivated chip
- **Terminals:** Solder plated, solderable per
- **High temperature solder:** 250℃/10 seconds at terminals
- **Polarity:** Color band denotes cathode end

SOD-123FL/Sub-SMA Unit: inch (mm)



Absolute Maximum Ratings and Characteristics

Ratings at 25°C ambient temperature unless otherwise specified.

	Symbols	SM4001PL	SM4002PL	SM4003PL	SM4004PL	SM4005PL	SM4006PL	SM4007PL	Units
Maximum recurrent 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	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method) T_L = 110 °C	I_{FSM}	40					30		A
Maximum Instantaneous forward voltage at 1.0A	V_F	1.1							V
Maximum DC reverse current at T_A = 25℃	I_R	1.0					5.0		μA
at rated DC blocking voltage at T_A = 125℃	I_R	50							
Typical Junction Capacitance at V_R = 4.0 V, f = 1 MH_Z	C_{tot}	12							pF
Typical Reverse Recovery Time at I_F = 0.5A, I_R = 1.0A, Irr = 0.25A	t_{rr}	1.8							μs
Typical thermal resistance (Note 1)	$R_{\theta JA}$	75					85		°C/W
	$R_{\theta JL}$	27					30		
Operating junction and storage temperature range	T_J ,T_S	-55 to +150							°C

Notes: 1. Thermal resistance from junction to ambient from junction to lead mounted on P.C.B. with 0.2 ×0.2" (5.0 ×5.0mm^2) copper pad areas

FIG.1-FORWARD DERATING CURVE

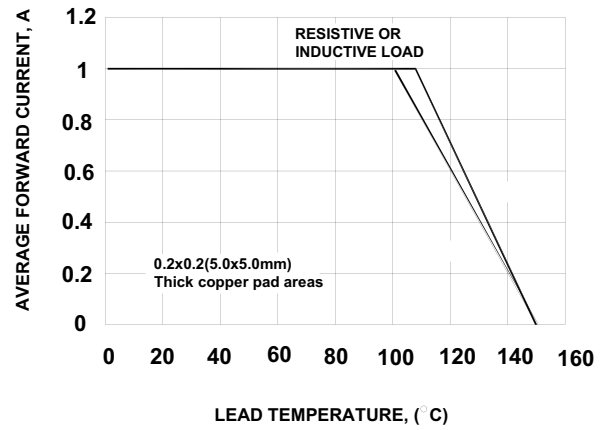


FIG.2- PEAK FORWARD SURGE CURRENT

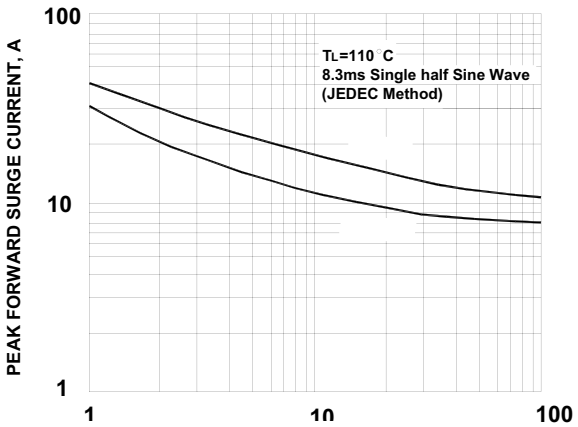


FIG.3-TYPICAL FORWARD CHARACTERISTICS

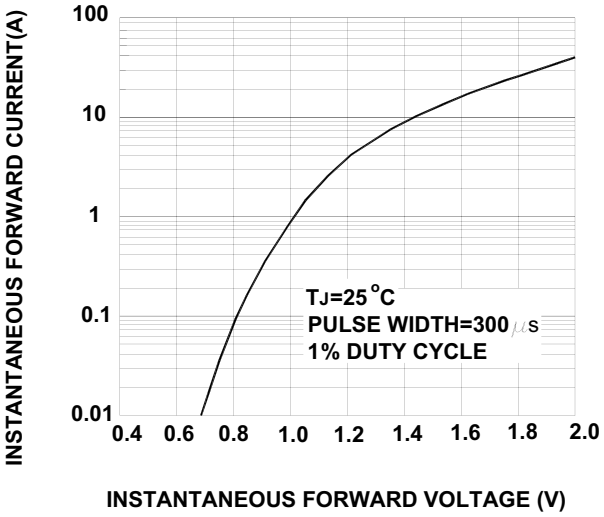


FIG.4-TYPICAL REVERSE CHARACTERISTICS

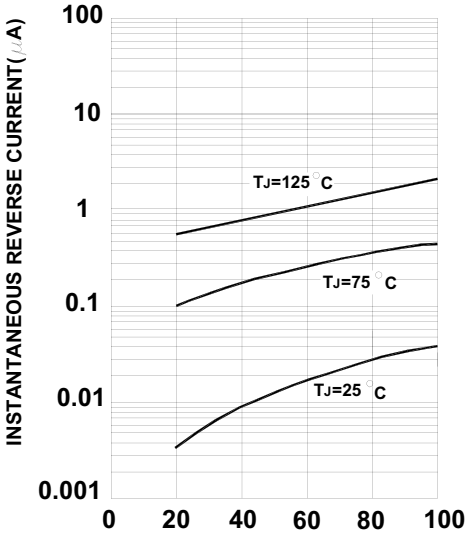


FIG.5- TYPICAL JUNCTION CAPACITANCE

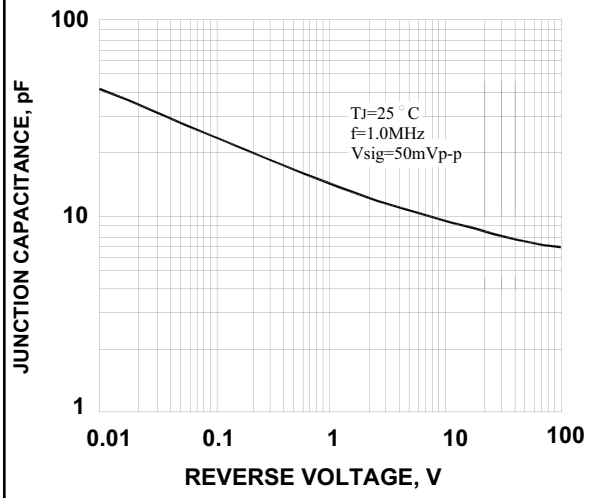


FIG.6- TRANSIENT THERMAL IMPEDANCE