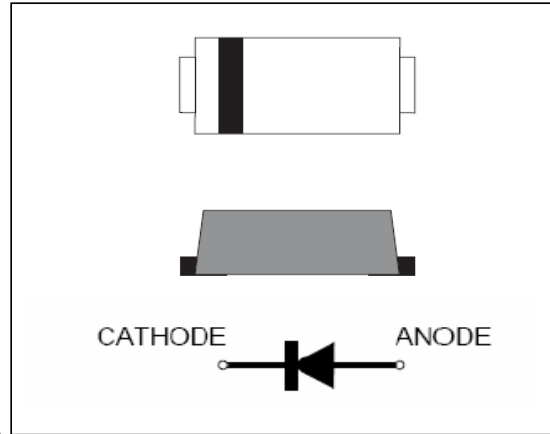


# L1N4001FT1G thru L1N4007FT1G

## Surface Mount Glass Passivated Junction Rectifiers Reverse Voltage 50 to 1000V Forward Current 1.0A

### FEATURES

- \* Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- \* High temperature metallurgically bonded construction
- \* Cavity-free glass passivated junction
- \* Capable of meeting environmental standards of MIL-S-19500
- \* 1.0 A operation at TA=75°C with no thermal runaway
- \* Typical IR less than 1.0μA
- \* Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

**Case:** JEDEC SOD123-FL/MINI SMA, molded plastic over glass DIE

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

**Polarity:** Color band denotes cathode end

**Mounting Position** Any

**Weight:** 0.0155 g

**Handling precaution:** None

### Electrical Characteristic

#### 1. Maximum & Thermal Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	L1N40 01FT1G	L1N40 02FT1G	L1N40 03FT1G	L1N40 04FT1G	L1N40 05FT1G	L1N40 06FT1G	L1N40 07FT1G	Unit
Device marking code	M1M2M3M4M5M6 M7	M1	M2	M3	M4	M5	M6	M7	
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 lead length at $T_C = 75^\circ\text{C}$ (Note 1)	$I_{F(AV)}$	1.0							A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30							A
reverse surger current(20mS)	$I_{RSM}$	18							mA
Typical thermal resistance (Note 1)	$R_{\theta JA}$	110							°C/W
Operating junction temperature range	$T_J$	-55 to +150							°C
storage temperature range	$T_{STG}$	-55 to +150							°C

#### Electrical Characteristics Ratings at 25°C ambient temperature unless otherwise specified.

Parameter Symbol	symbol	L1N40 01FT1G	L1N40 02FT1G	L1N40 03FT1G	L1N40 04FT1G	L1N40 05FT1G	L1N40 06FT1G	L1N40 07FT1G	Unit
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.1							V
Maximum DC reverse current $T_J = 25^\circ\text{C}$ at rated DC blocking voltage $T_J = 125^\circ\text{C}$	$I_R$	5.0 50							μA
Typical junction capacitance at 4.0V, 1MHz	$C_J$	13							PF

NOTES:

1. 8.0mm<sup>2</sup> (.013mm thick) land areas

# L1N4001FT1G thru L1N4007FT1G

## 2. Ratings and Characteristic Curves (TA = 25°C unless otherwise noted)

Fig. 1 - Forward Current Derating Curve

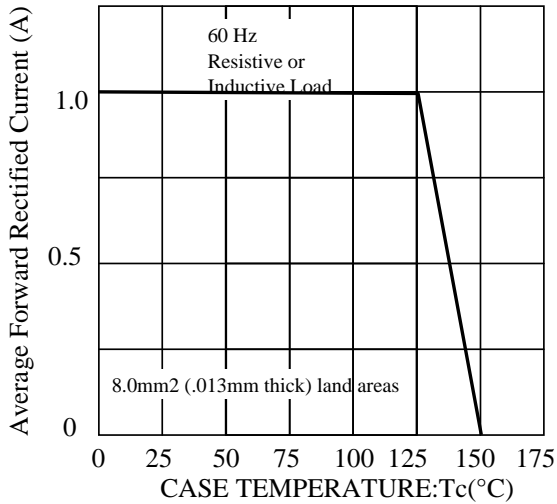


Fig. 2 - Maximum Non-repetitive Peak Forward Surge Current

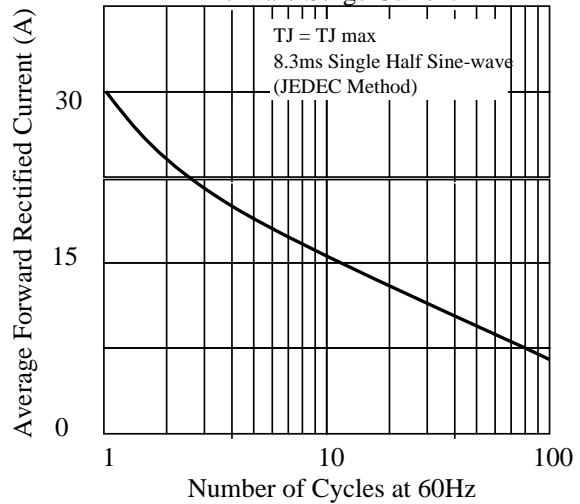


Fig 3. - Typical Instantaneous Forward Characteristics

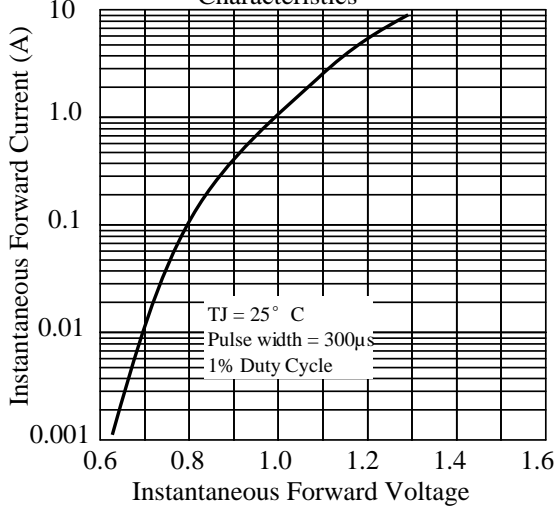


Fig 4. - Typical Reverse Characteristics

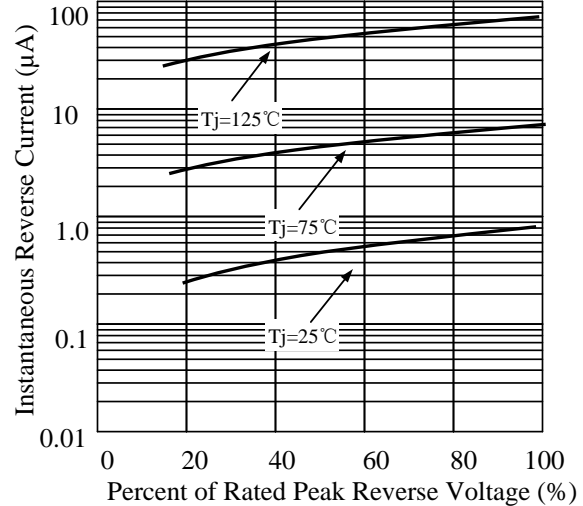


Fig 5. - typical transient thermal impedance

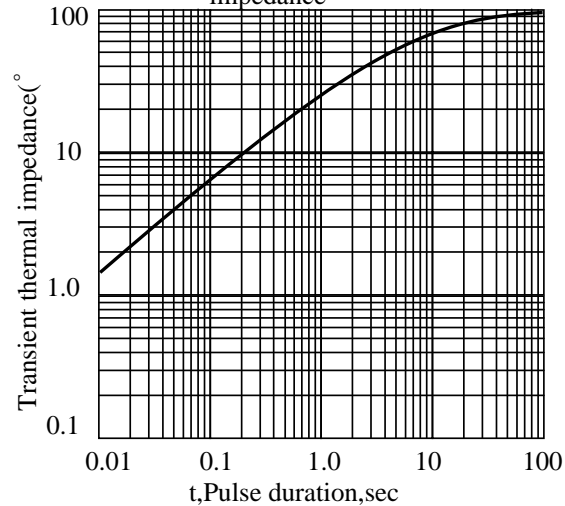
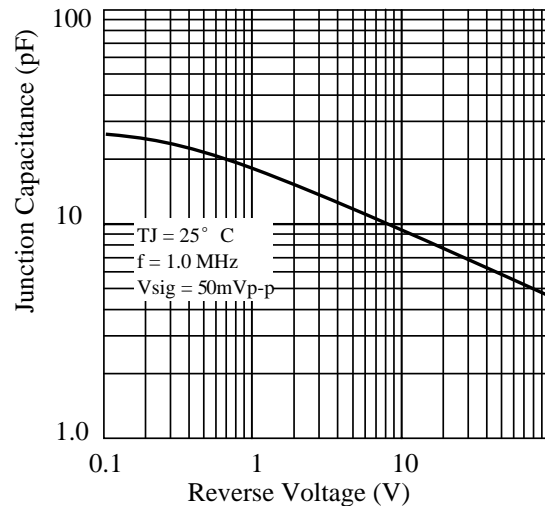


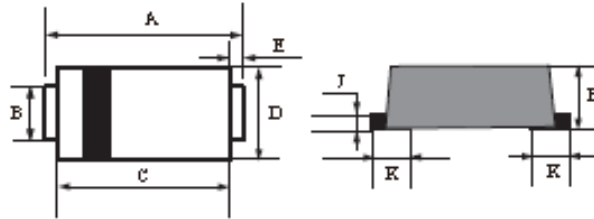
Fig 6. - Typical Junction Capacitance



## L1N4001FT1G thru L1N4007FT1G

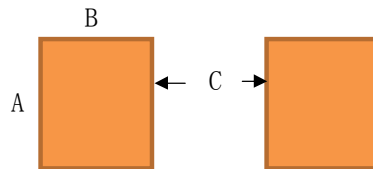
### 3. dimension:

SOD123-FL



DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	3.5	3.9	0.138	0.159
B	0.75	0.95	0.029	0.037
C	2.6	3.0	0.103	0.119
D	1.6	2.0	0.063	0.079
E	0.45Typ		0.018Typ	
H	0.9	1.2	0.036	0.047
J	0.12	0.22	0.005	0.009
K	0.8Typ		0.032Typ	

Suggested solder pad layout



Dimensions in inches and (millimeters)

PACKAGE	A	B	C
SOD123-FL	0.044(1.10)	0.040(1.00)	0.079(2.00)

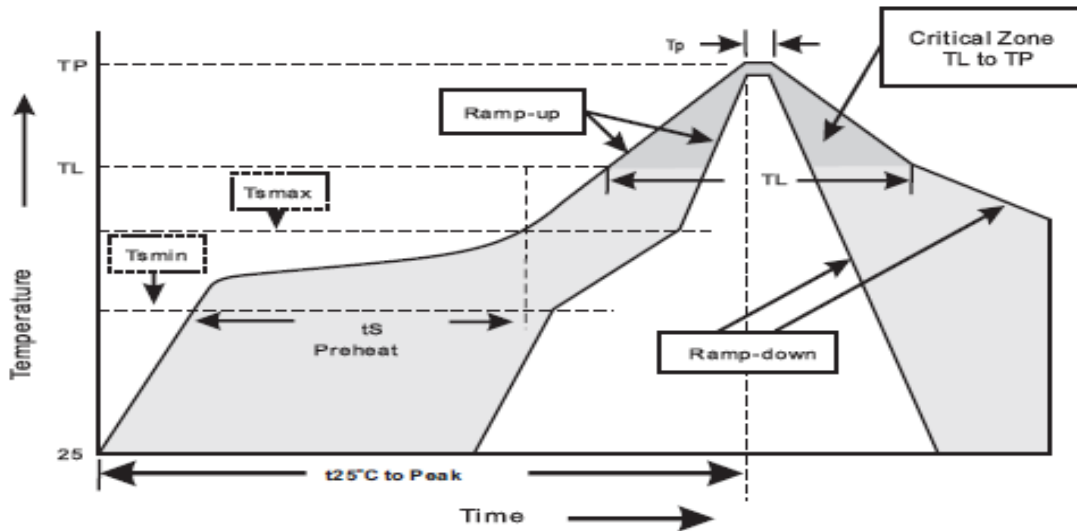
# L1N4001FT1G thru L1N4007FT1G

Reel packing

PACKAGE	REEL SIZE	REEL (PCS)	COMPONENT SPACING (mm)	BOX (pcs)	INNER BOX (mm)	REEL DIA. (mm)	CARTON SIZE (mm)	CARTON (PCS)	APPOX GROSS WEIGHT (kg)
SOD123-FL	7"	3,000	4.0	30,000	183*183*123	178	382*262*387	240,000	8.7

## 5.Suggested thermal profile for soldering process

1. Storage environment : Temperature=5~40°C Humidity=55±25%
2. Reflow soldering of surface-mount device



3. Reflow soldering

Profile Feature	Soldering Condition
Average ramp-up rate(T <sub>L</sub> to T <sub>P</sub> )	<3°C/sec
Preheat	
- Temperature Min(T <sub>smin</sub> )	150°C
- Temperature Max(T <sub>smax</sub> )	200°C
- Time(min to max)(t <sub>s</sub> )	60~120sec
T <sub>smax</sub> to T <sub>L</sub>	
- Ramp-up Rate	<3sec
Time maintained above:	
- Temperature (T <sub>L</sub> )	217°C
- Time(t <sub>L</sub> )	60-260sec
Peak Temperature(T <sub>P</sub> )	255 -0/+5°C
Time within 5°C of actual Peak Temperature(T <sub>P</sub> )	10~30sec
Ramp-down Rate	<6°C/sec
Time 25°C to Peak Temperature	<6minutes

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