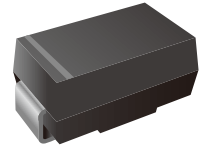


## Surface Mount Fast Recovery Rectifiers

### Features

- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Easy to pick and place
- Fast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case:SMA
- Terminals: leads solderable per MIL-STD-750,Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 60mg
- Moisture Sensitivity Level 1

### Ordering Information

Part Number	Marking	Shipping	Reel
LTR12H	R12H	7500PCS Tape&Reel	13 inchs

### Absolute 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%.

Parameter	Symbol	LTR12H	Unit
Maximum repetitive peak reverse voltage	$V_{RRM}$	1200	V
Maximum RMS voltage	$V_{RMS}$	700	V
Maximum DC blocking voltage	$V_{DC}$	1200	V
Maximum average forward rectified current @ Fig.1	$I_{F(AV)}$	1	A
Peak forward surge current 8.3ms single half sine-wave superimposed on rated load (JEDEC Method)	$I_{FSM}$	30	A
Maximum instantaneous forward voltage at 1.0A	$V_F$	1.3	V
Maximum DC reverse current $T_A=25^{\circ}C$ at rated DC reverse voltage $T_A=100^{\circ}C$	$I_R$	5 50	$\mu A$
Typical junction capacitance (Note1)	$C_j$	9	pF
Maximum reverse recovery time (Note2)	$t_{rr}$	500	ns
Typical thermal resistance (Note3)	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	100 20 25	$^{\circ}C/W$
Operating and Storage Temperature Range	$T_j, T_{stg}$	-55 to +150	$^{\circ}C$

Note: (1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) Measured with  $I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A$ .

(3) PCB mounted with 0.2" X 0.2" (5 mm X 5 mm) copper pad areas.



Characteristics Curves

Fig.1 Forward Current Derating Curve

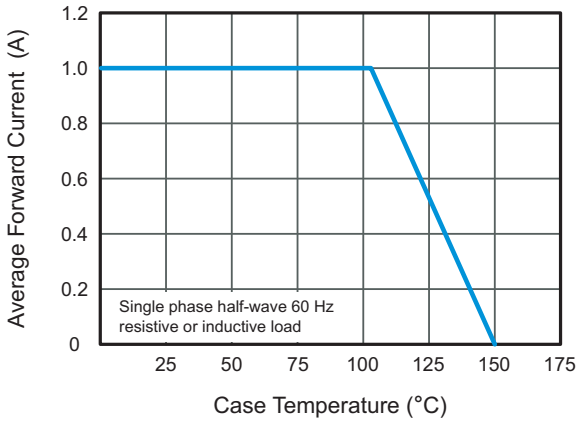


Fig.2 Typical Reverse Characteristics

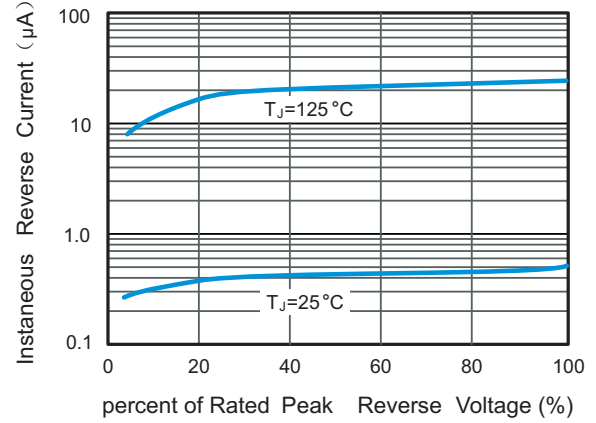


Fig.3 Typical Instantaneous Forward Characteristics

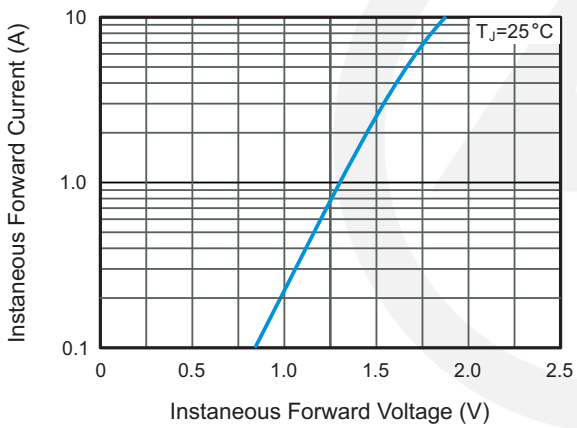


Fig.4 Typical Junction Capacitance

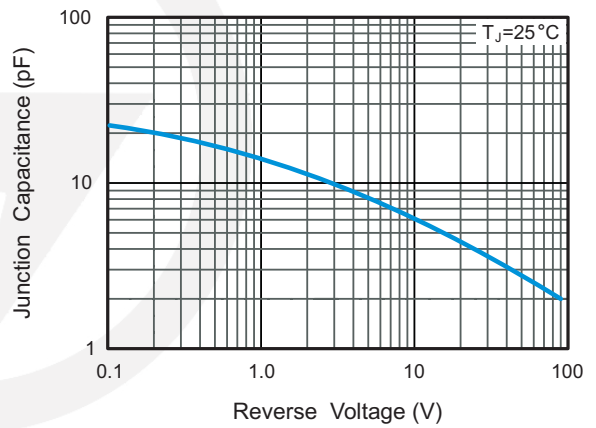
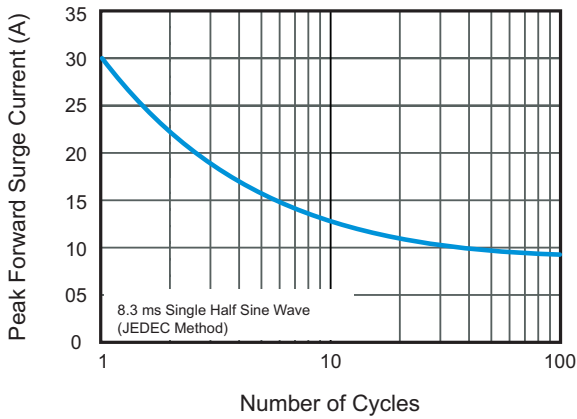
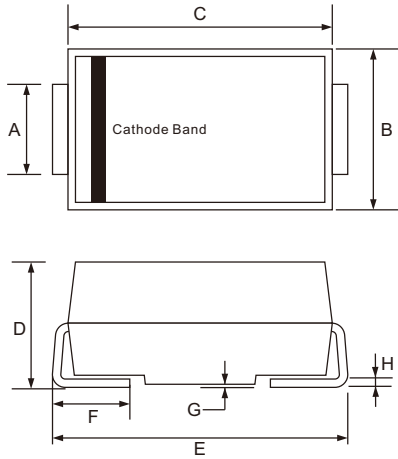


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



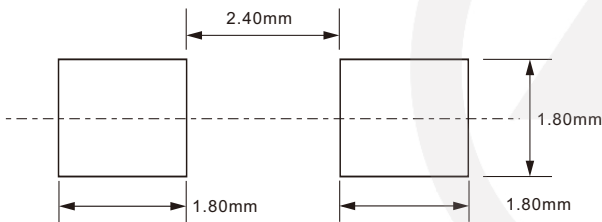
**SMA Package Outline**



Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.25	1.65
B	2.30	2.79
C	4.00	4.75
D	1.90	2.50
E	4.70	5.28
F	0.76	1.52
G	0.203 TYP.	
H	0.15	0.31

**SMA Suggested Pad Layout**

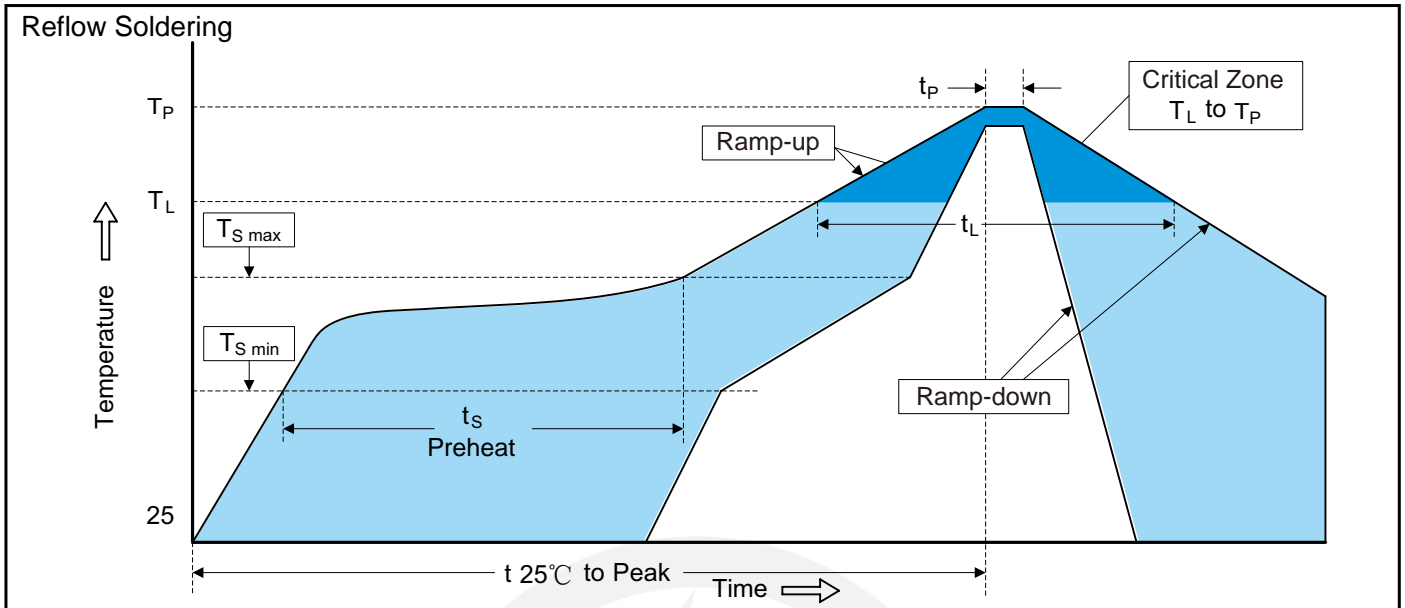


**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05\text{mm}$
3. The pad layout is for reference purpose only.



## Recommended Soldering Conditions



### Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

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## Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision Content	Revision Reason	Revision Person	Note
01	2025.05.19	2025.05.19	3.0	New file	/	Ding	