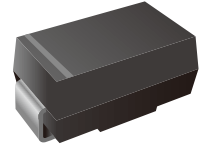


## Surface Mount Superfast Recovery Rectifier

### Features

- Super fast switching for high efficiency
- Glass passivated chip junction
- For surface mounted applications
- Low reverse leakage
- Built-in strain relief, ideal for automated placement
- High forward surge current capability
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case: SMA
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Mounting Position: Any
- Approx. Weight: 60mg

### Ordering Information

Part Number	Shipping	Reel
LTE1A THRU LTE1J-TR5	5000PCS Tape&Reel	13inchs
LTE1A THRU LTE1J-TR7K5	7500PCS Tape&Reel	13inchs

### 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	SYMBOLS	LTE1A	LTE1B	LTE1C	LTE1D	LTE1E	LTE1G	LTE1J	Unit	
Maximum repetitive peak reverse voltage	$V_{RRM}$	50	100	150	200	300	400	600	V	
Maximum RMS voltage	$V_{RMS}$	35	70	105	140	210	280	420	V	
Maximum DC blocking voltage	$V_{DC}$	50	100	150	200	300	400	600	V	
Maximum average forward rectified current at $T_L=55^\circ\text{C}$	$I_{(AV)}$	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	$V_F$	0.95				1.25		1.7	V	
Maximum DC reverse current $T_A=25^\circ\text{C}$ at rated DC blocking voltage $T_A=100^\circ\text{C}$	$I_R$	5				150			$\mu\text{A}$	
Maximum reverse recovery time (Note1)	$t_{rr}$	35								ns
Typical junction capacitance (Note2)	$C_J$	15								pF
Typical thermal resistance (Note3)	$R_{\theta JA}$	75								$^\circ\text{C}/\text{W}$
Operating junction and storage temperature range	$T_J, T_{STG}$	-55 to +150							$^\circ\text{C}$	

Note: 1.Reverse recovery condition  $I_F=0.5\text{A}, I_R=1.0\text{A}, I_{rr}=0.25\text{A}$ .  
 2.Measured at 1MHz and applied reverse voltage of 4.0V D.C.  
 3.P.C.B. mounted with 0.2"x0.2"(5.0mmx5.0mm) copper pad areas.



Characteristics Curves

Fig1. FORWARD CURRENT DERATING CURVE

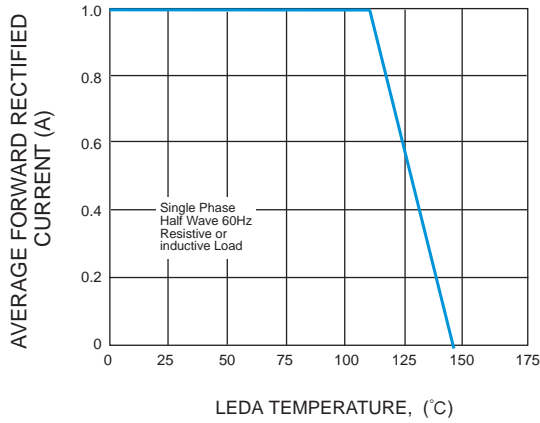


Fig2. MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

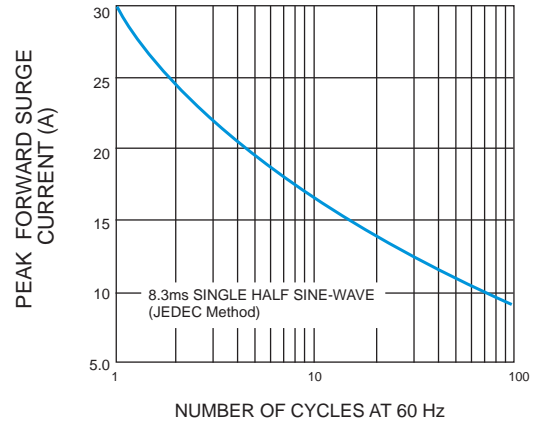


Fig3. TYPICAL INSTANTANEOUS FORWARD CHARACTERISTICS

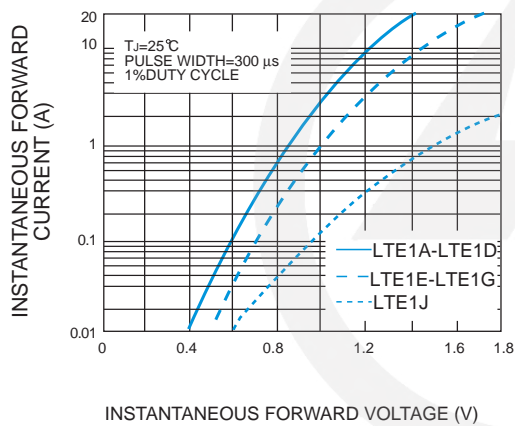


Fig4. TYPICAL REVERSE CHARACTERISTICS

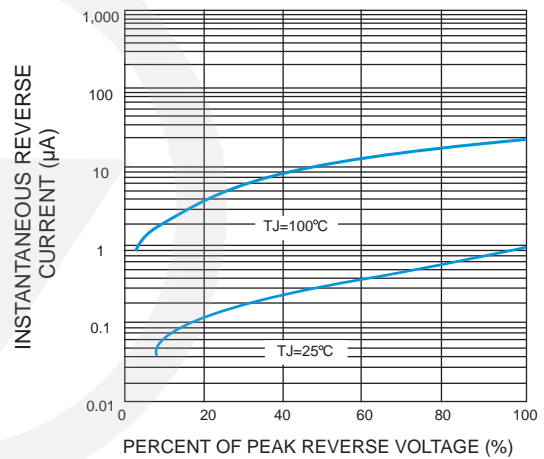


Fig5. TYPICAL JUNCTION CAPACITANCE

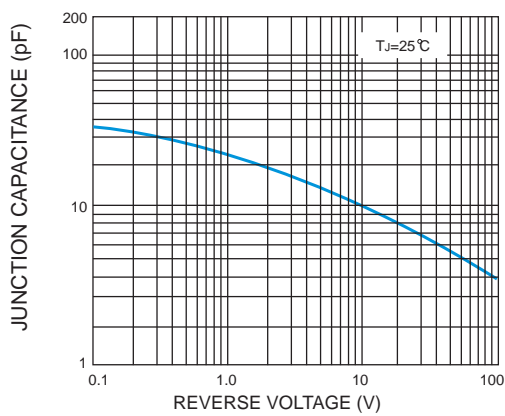
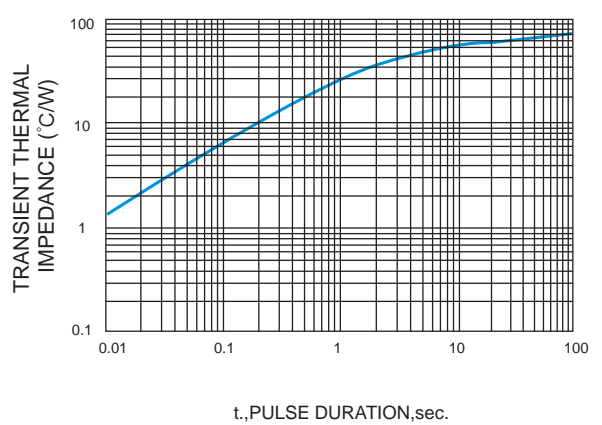
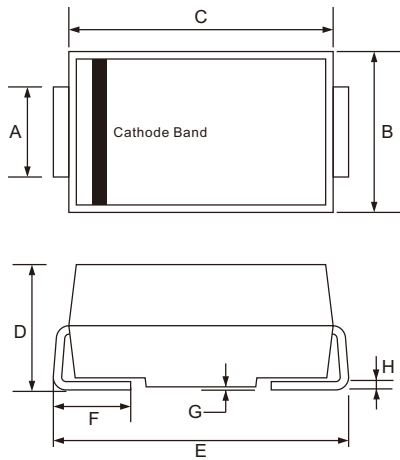


Fig6. TYPICAL TRANSIENT THERMAL IMPEDANCE



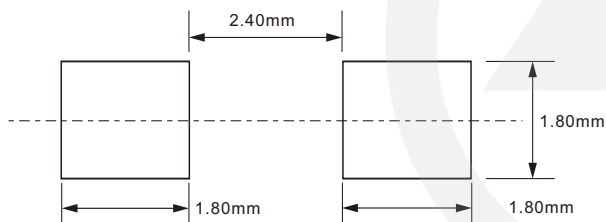
## SMA Package Outline



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	0.20 TYP.	
H	0.15	0.31

## SMA Suggested Pad Layout



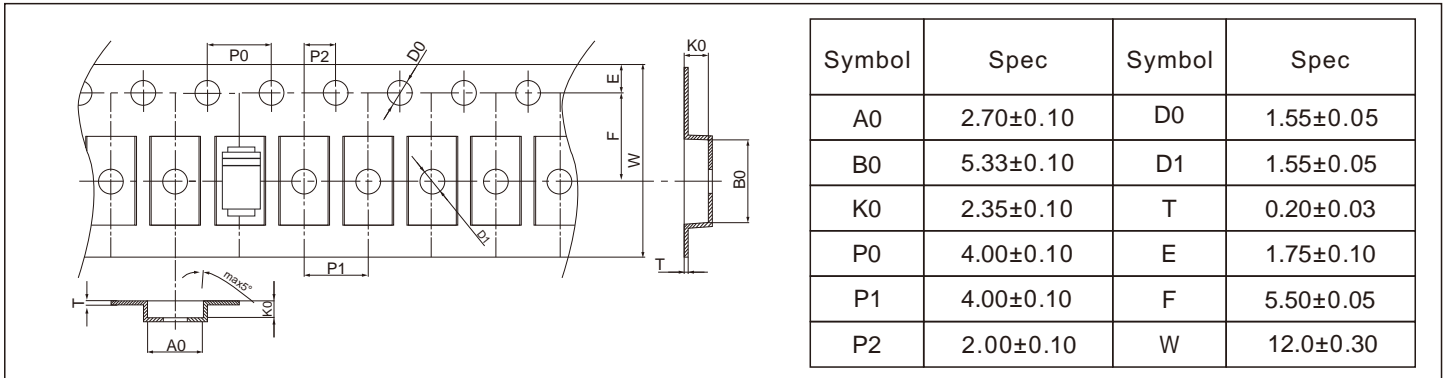
- Note:
1. Controlling dimension: in millimeters.
  2. General tolerance:  $\pm 0.05\text{mm}$
  3. The pad layout is for reference purpose only.

## Marking

Type number	Marking code
LTE1A	ES1A
LTE1B	ES1B or E1B
LTE1C	ES1C
LTE1D	ES1D or E1D
LTE1E	ES1E
LTE1G	ES1G or E1G
LTE1J	ES1J or E1J

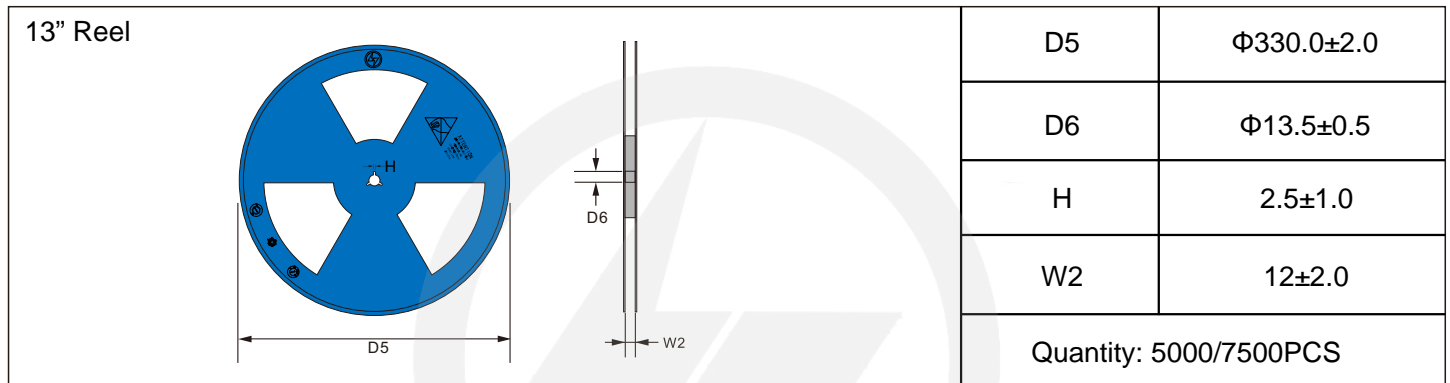
## Carrier Tape Dimensions

Unit : mm

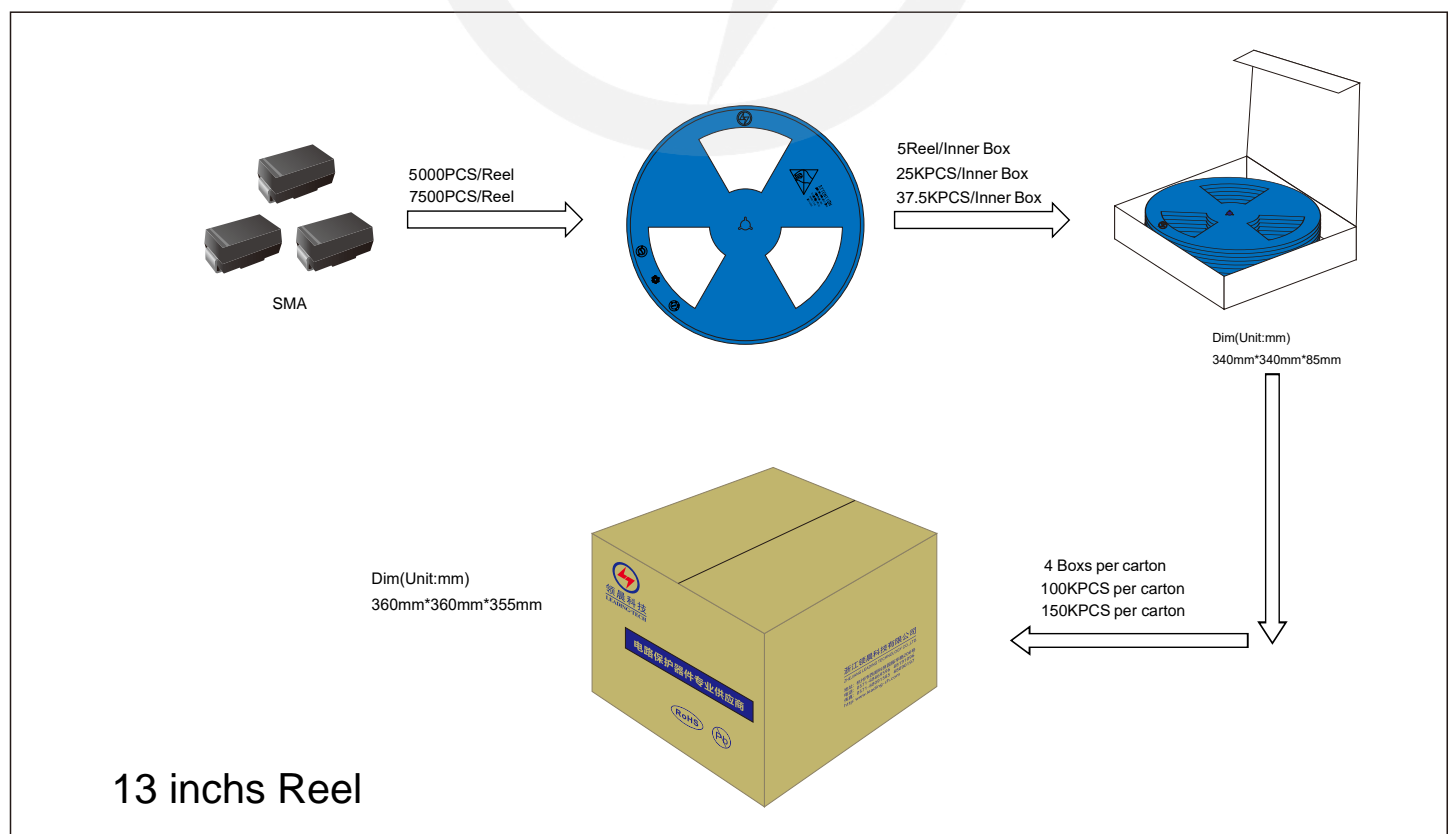


## Reel Dimensions

Unit : mm



## Packaging



13 inches Reel



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	2024.05.31	2024.05.31	3.0	New File	/	Ding	
02	2025.06.17	2025.06.17	3.1	Update packaging information	/	Ding	
03	2025.08.27	2025.08.27	3.2	Add Weight	/	Ding	