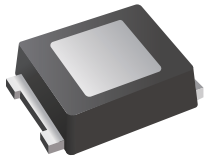
领晨科技
LEADING-TECH

LTE3AL THRU LTE3JL

Surface Mount Superfast Recovery Rectifier

Features





- Top-side Cooling(TSC) Packaging technology
- Compact and Slim Packaging Solutions
- Superfast reverse recovery time
- For surface mounted applications
- Low reverse leakage
- High forward surge current capability
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0
- Meets MSL level 1, per J-STD-020
- Lead free in comply with EU RoHS 2011/65/EU directives



Mechanical Data

- Case: SMHL
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity:Color band denotes cathode end

Ordering Information

Part Number	Shipping	Reel
LTE3AL THRU LTE3JL	6000PCS Tape&Reel	13 inchs

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	LTE3AL	LTE3BL	LTE3CL	LTE3DL	LTE3EL	LTE3GL	LTE3JL	Unit
	Marking	E3A	E3B	E3C	E3D	E3E	E3G	E3J	
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_c = 125 °C	$I_{F(AV)}$	3							A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load	I_{FSM}	90							A
Maximum Forward Voltage at 3 A	V_F	1				1.25		1.68	V
Maximum DC Reverse Current T_a = 25 °C at Rated DC Blocking Voltage T_a =125 °C	I_R	1 100							μA
Typical Junction Capacitance (Note1)	C_j	76				70		38	pF
Maximum Reverse Recovery Time (Note2)	t_{rr}	35							ns
Typical Thermal Resistance (Note3)	$R_{\theta JA}$ $R_{\theta JC}$	47 4							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 to +150							°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" (5.0mm X 5.0 mm) copper pad areas.

Characteristics Curves

Fig.1 Maximum Average Forward Current Rating

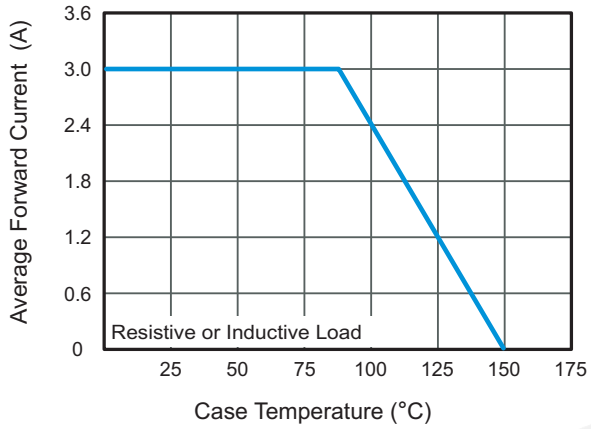


Fig.2 Typical Reverse Characteristics

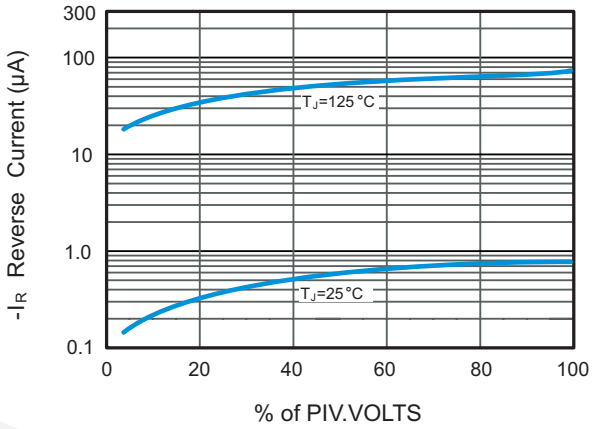


Fig.3 Typical Forward Characteristics

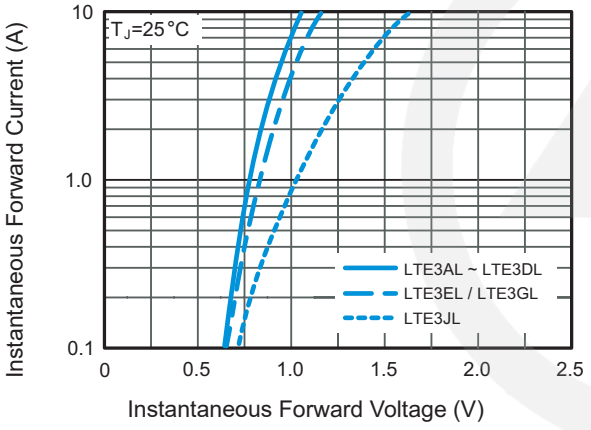


Fig.4 Typical Junction Capacitance

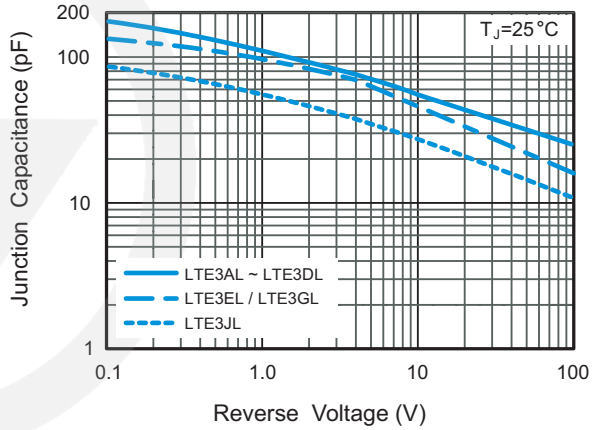
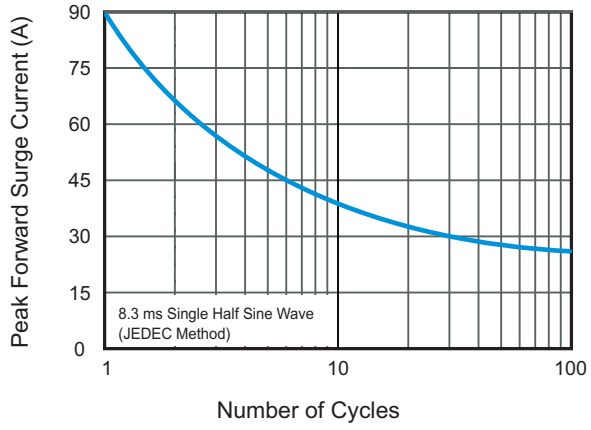


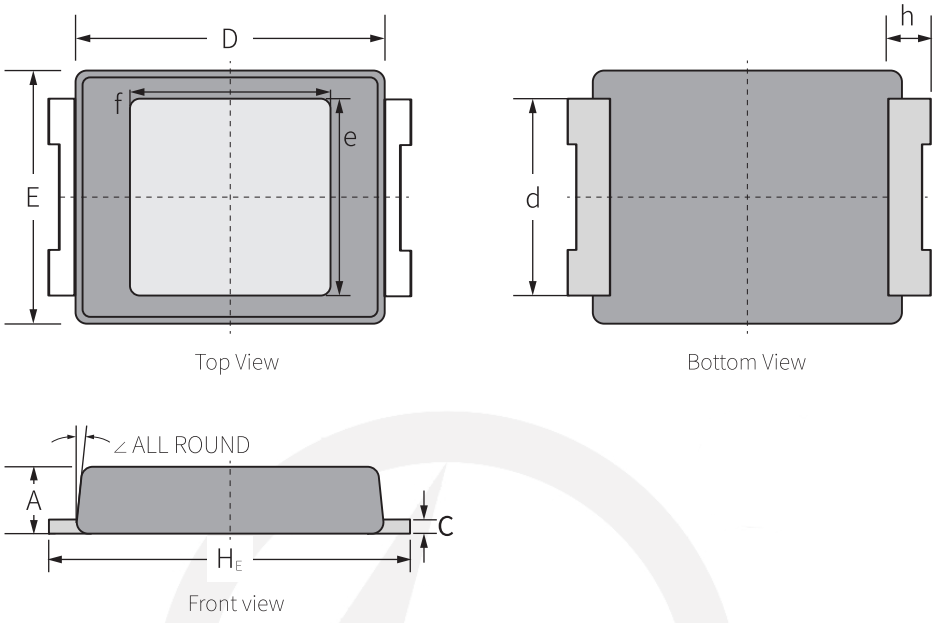
Fig.5 Maximum Non-Repetitive Peak Forward Surge Current



Package Outline

SMHL

Unit：mm

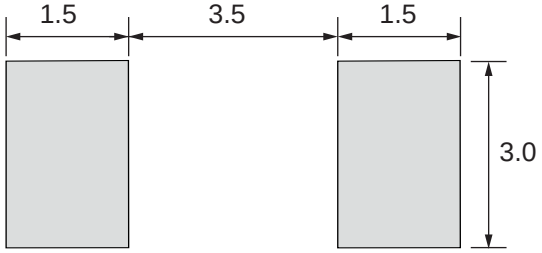


UNIT		A	C	D	E	H_E	d	e	f	h	∠
mm	max	1.00	0.25	4.60	3.80	5.30	2.90	2.90	2.95	0.60	6°
	min	0.90	0.15	4.20	3.40	4.70	2.70	2.70	2.75	0.40	

Suggested Pad Layout

SMHL

Unit：mm

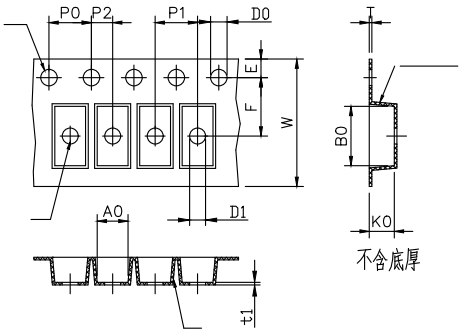


Note:

1. Controlling dimension:in millimeters.
2. General tolerance:±0.05mm
3. The pad layout is for reference purpose only.

Carrier Tape Dimensions

Unit：mm

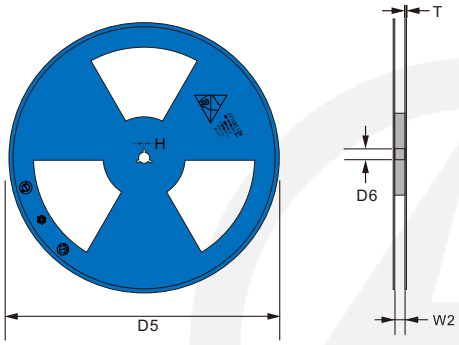


Symbol	Spec	Symbol	Spec
W	12.0±0.10	P2	2.00±0.10
E	1.75±0.10	t	0.25±0.03
F	5.50±0.10	t1	0.05+
D0	1.55±0.10	A0	3.85±0.10
D1	1.50±0.10	B0	5.35±0.10
P0	4.00±0.10	K0	1.20±0.10
P1	8.00±0.10		

Reel Dimensions

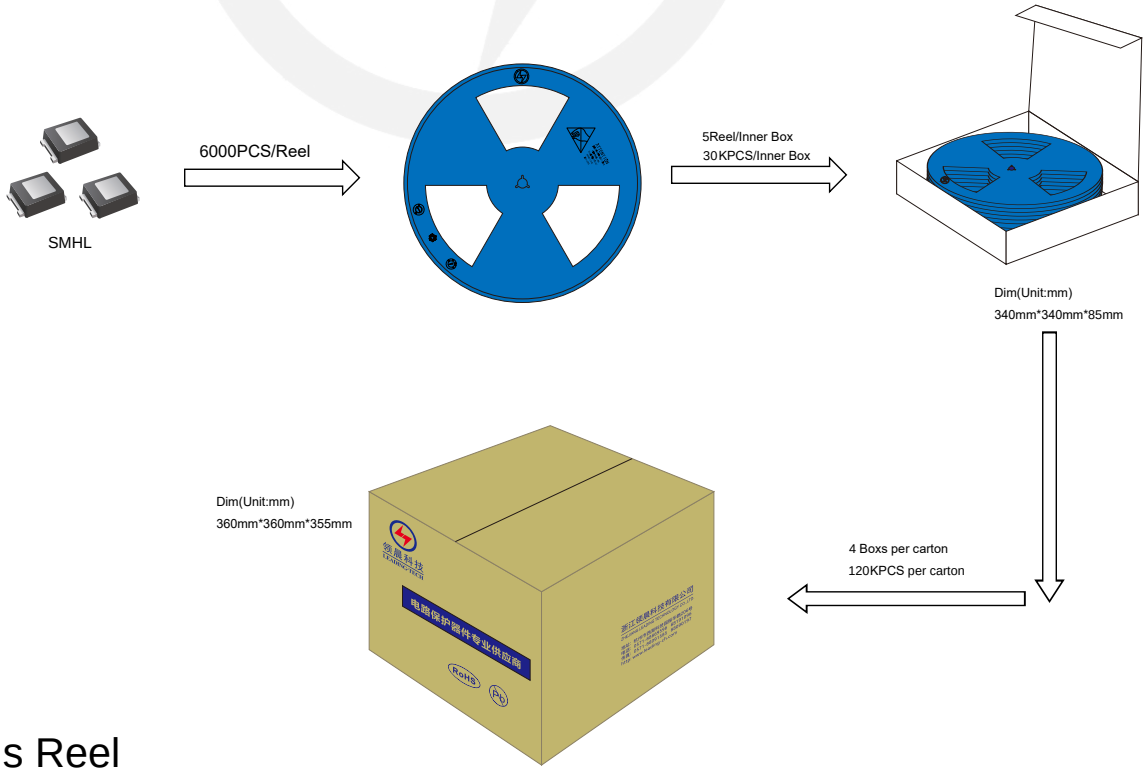
Unit：mm

13” Reel



D5	Φ330.0±5.0
D6	Φ13.5±0.5
H	2.3±0.2
T	1.95±0.5
W2	12±2.0
Quantity: 6000PCS	

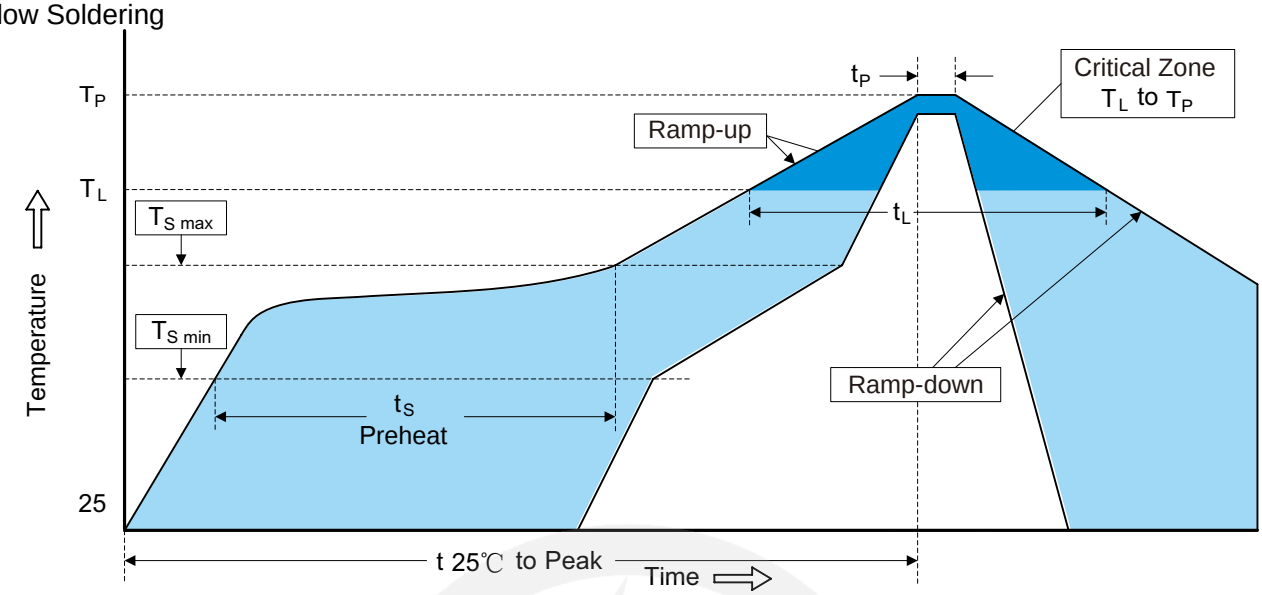
Packaging



13 inchs Reel

Recommended Soldering Conditions

Reflow Soldering



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3℃/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_S)	 150℃ 200℃ 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	 3℃/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	 217℃ 60-150 seconds
Peak Temperature (T_P)	260℃
Time within 5℃ of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6℃/second max.
Time 25℃ to Peak Temperature	8 minutes max.

Important Notice and Disclaimer

Leading-Tech reverses the right to make changes to this document and its products and specifications at any time without notice.

Customers should obtain and confirm the latest product information and specifications before final design,purchase or use.

Leading-Tech makes no warranty,representation or guarantee regarding the suitability of its products for any particular purpose,not does Leading-Tech assume any liability for application assistance or customer product design.

Leading-Tech does not warrant or accept any liability with products which are purchase or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Leading-Tech.

Leading-Tech products are not authorized for use as critical components in life support devices or systems without express written approval of Leading-tech.

Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision Content	Revision Reason	Revision Person	Note
01	2025.09.14	2025.09.14	1.0	New file	/	Ding	