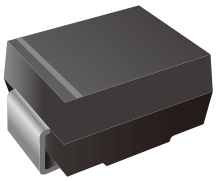
领晨科技
LEADING-TECH

LTE5AB THRU LTE5JB

Surface Mount Superfast Recovery Rectifier

Features



- For surface mounted applications
- Low profile package
- Glass Passivated Chip Junction
- Superfast reverse recovery time
- Lead free in comply with EU RoHS 2011/65/EU directives

Mechanial Data

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

Ordering Information

Part Number	Shipping	Reel
LTE5AB THRU LTE5JB-TR3	3000PCS Tape&Reel	13 inchs

Absolute Maximum Ratings and Characteristics

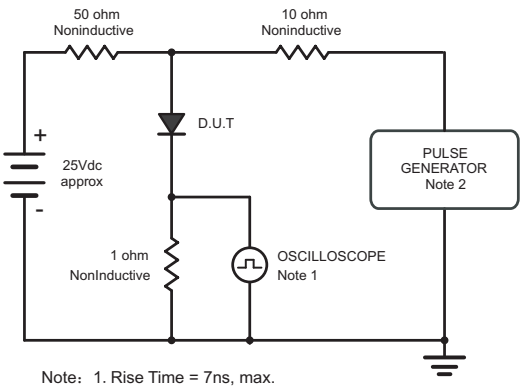
Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60 Hz, resistive or inductive load.For capacitive load, derate current by 20%.

Parameter	Symbol	LTE5AB	LTE5BB	LTE5CB	LTE5DB	LTE5EB	LTE5GB	LTE5JB	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 @ Fig.1	$I_{F(AV)}$	5							A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method)	I_{FSM}	100							A
Max Instantaneous Forward Voltage at 5 A	V_F	1.0				1.25		1.7	V
Maximum DC Reverse Current T_a = 25°C at Rated DC Reverse Voltage T_a =125°C	I_R	5 100							μA
Typical Junction Capacitance (Note1)	C_j	128				76		50	pF
Maximum Reverse Recovery Time (Note2)	t_{rr}	35							ns
Typical Thermal Resistance (Note3)	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	43 9 18							°C/W
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							°C

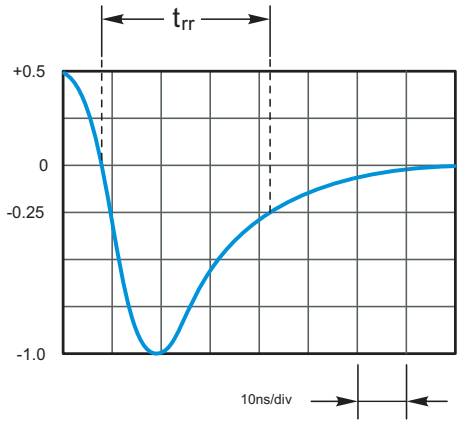
(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C
(2) Measured with I_F = 0.5 A, I_R = 1 A, I_{rr} = 0.25 A.
(3) PCB mounted with 1.5" X 1.5" (3.81cm X 3.81cm) copper pad areas.

Characteristic Curves

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



Note：1. Rise Time = 7ns, max.
Input Impedance = 1megohm,22pF.
2. Ries Time =10ns, max.
Source Impedance = 50 ohms.



Set time Base for 10ns/div

Fig.2 MaximumAverage Forward Current Rating

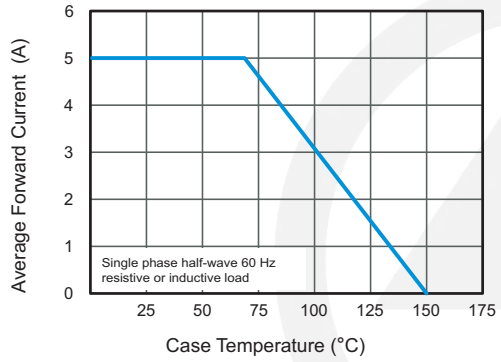


Fig.3 Typical Reverse Characteristics

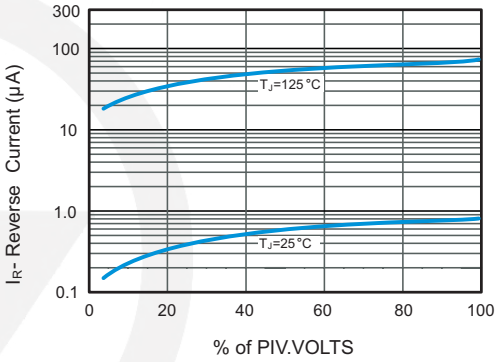


Fig.4 Typical Forward Characteristics

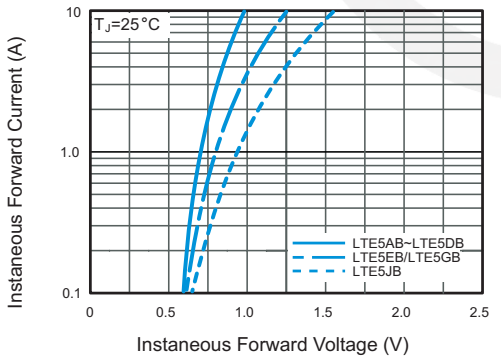


Fig.5 Typical Junction Capacitance

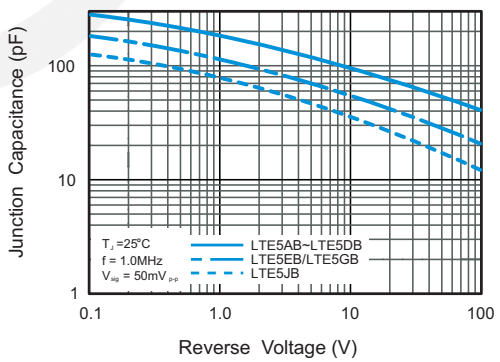
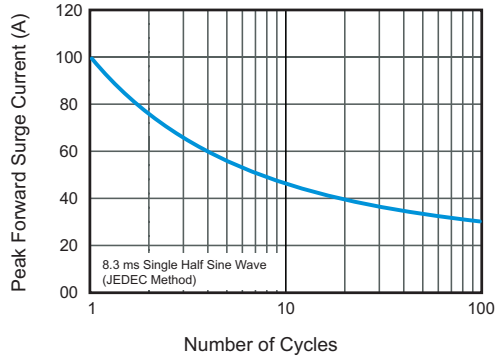
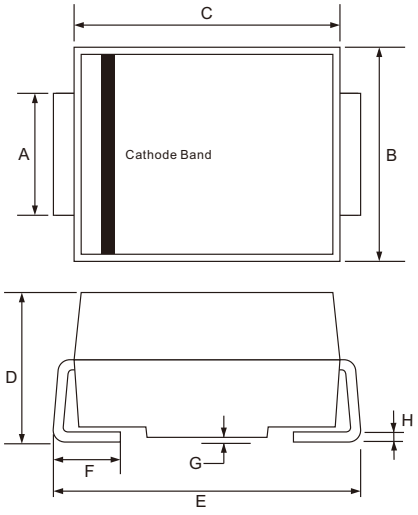


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



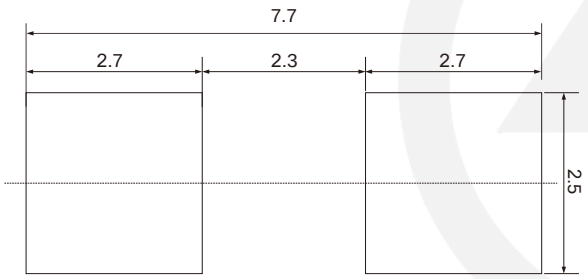
SMB Package Outline



Unit : mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.90	2.20
B	3.30	3.94
C	4.05	4.75
D	2.13	2.65
E	5.08	5.59
F	0.76	1.52
G	0.203 TYP.	
H	0.15	0.31

SMB Suggested Pad Layout



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

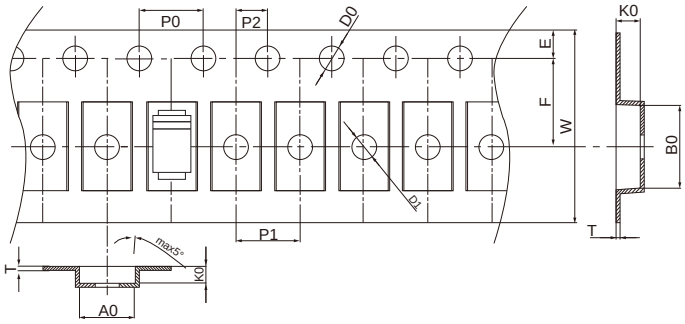
Marking

Type number	Marking code
LTE5AB	ES5A
LTE5BB	ES5B
LTE5CB	ES5C
LTE5DB	ES5D
LTE5EB	ES5E
LTE5GB	ES5G
LTE5JB	ES5J

LTE5AB THRU LTE5JB

Carrier Tape Dimensions

Unit：mm

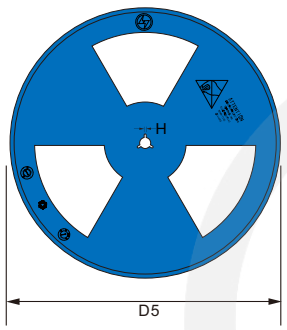


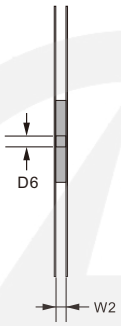
Symbol	Spec	Symbol	Spec
A0	3.80±0.10	D0	1.55±0.05
B0	5.45±0.10	D1	1.55±0.05
K0	2.50±0.10	T	0.25±0.05
P0	4.00±0.10	E	1.75±0.10
P1	8.00±0.10	F	5.50±0.05
P2	2.00±0.10	W	12.0 $^{+0.3}_{-0.1}$

Reel Dimensions

Unit：mm

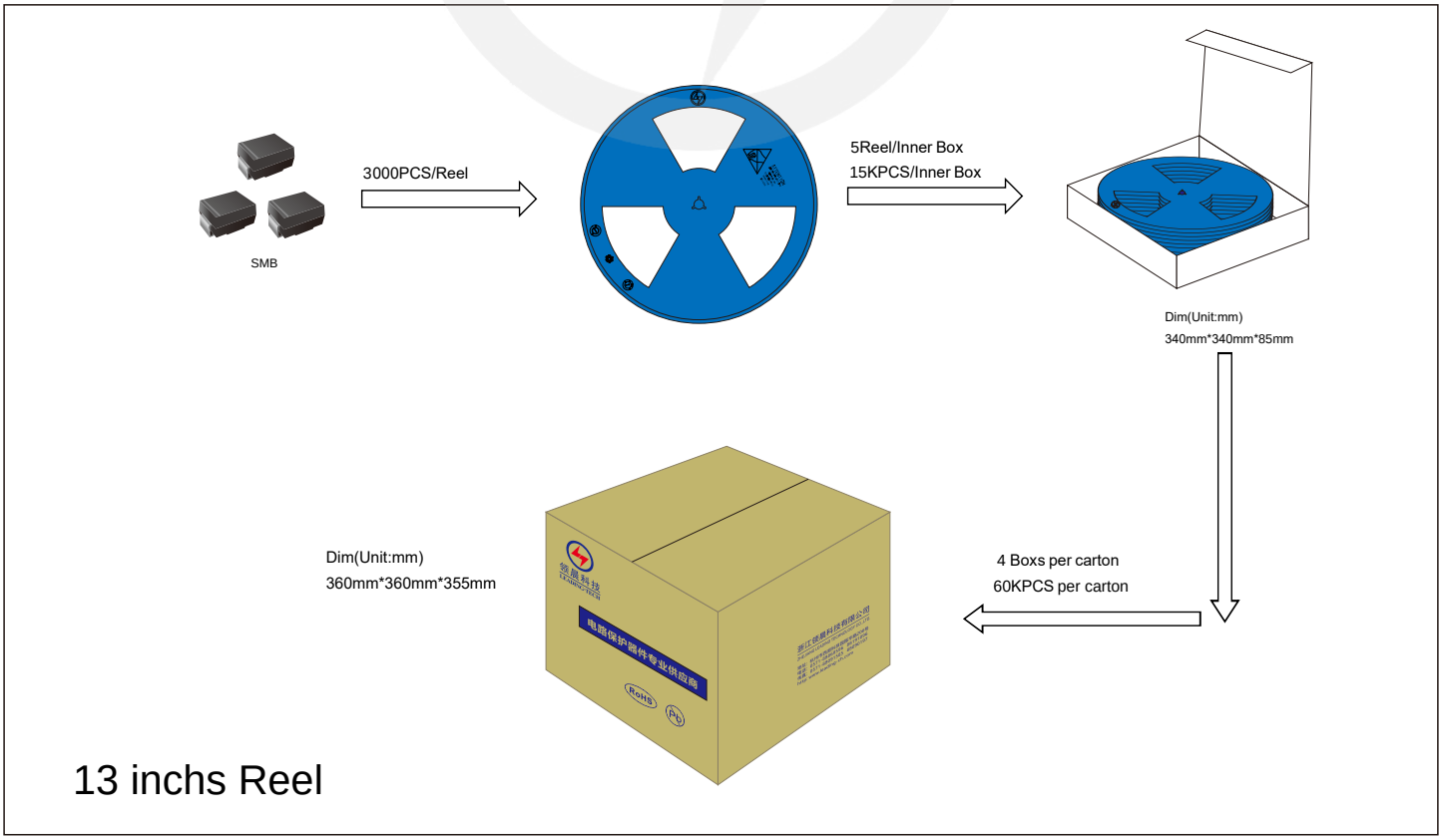
13” Reel





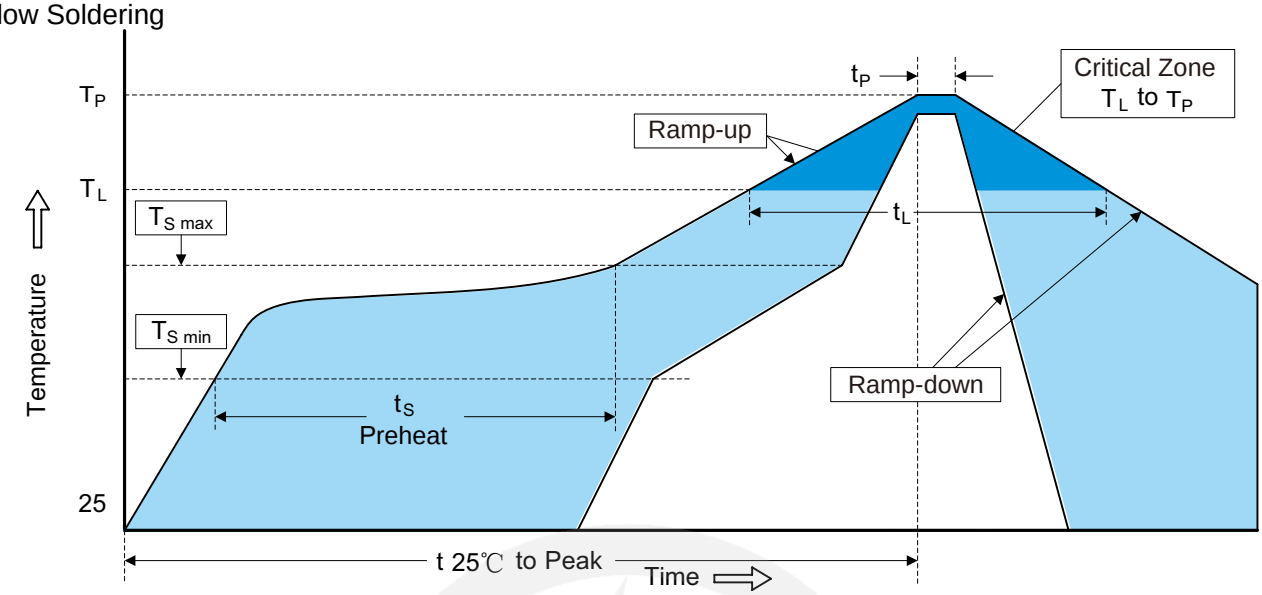
D5	Φ330.0±2.0
D6	Φ13.5±0.5
H	2.5±1.0
W2	12±2.0
Quantity: 3000PCS	

Packaging



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.

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Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.5.18	2024.5.18	3.0	New File	/	Ding	
02	2025.06.16	2025.06.16	3.1	Update packaging information	/	Ding	