

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
- The plastic package carries Underwriters Laboratory Flammability Classification 94V-0



Mechanical Data

- Case: SMC
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Approx. Weight: 0.24g
- MSL1

Ordering Information

Part Number	Shipping	Reel
LTE3AC THRU LTE3JC-TR3	3000PCS Tape&Reel	13 inches

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	LTE3AC	LTE3BC	LTE3CC	LTE3DC	LTE3EC	LTE3GC	LTE3JC	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 $T_c = 125\text{ }^\circ\text{C}$	$I_{F(AV)}$	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 $T_a = 25\text{ }^\circ\text{C}$ at Rated DC Blocking Voltage $T_a = 125\text{ }^\circ\text{C}$	I_R	5				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)	$R_{\theta JA}$ $R_{\theta JC}$ $R_{\theta JL}$	37				10		13		$^\circ\text{C/W}$
Operating and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150							$^\circ\text{C}$	

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

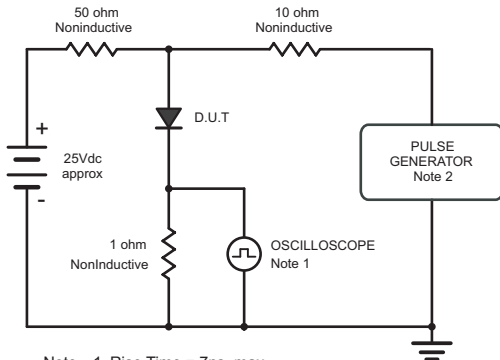
(2) Measured with $I_F = 0.5\text{ A}$, $I_R = 1\text{ A}$, $I_{rr} = 0.25\text{ A}$.

(3) PCB mounted with 1.5" X 1.5" (3.81 cm X 3.81 cm) copper pad areas.



Characteristics Curves

Fig.1 Reverse Recovery Time Characteristic And Test Circuit Diagram



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

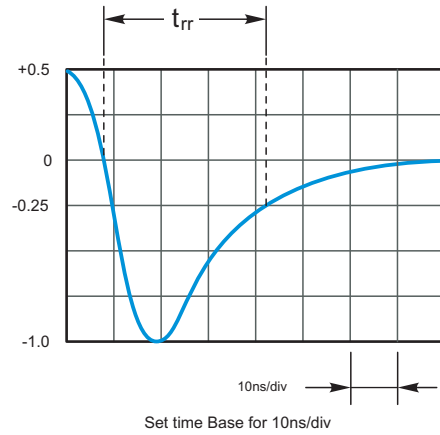


Fig.2 Maximum Average Forward Current Rating

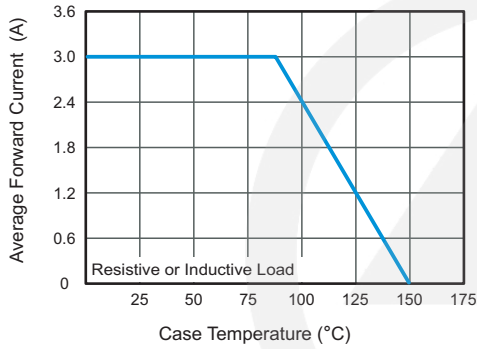


Fig.3 Typical Reverse Characteristics

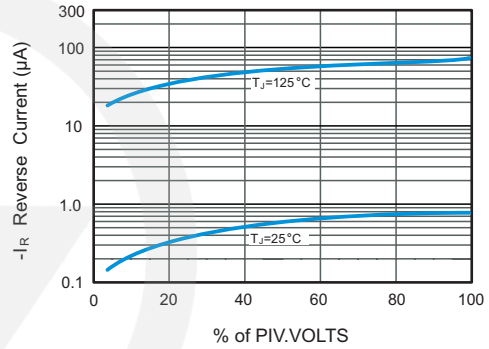


Fig.3 Typical Forward Characteristics

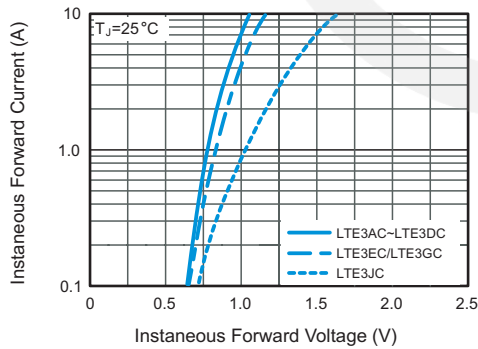


Fig.4 Typical Junction Capacitance

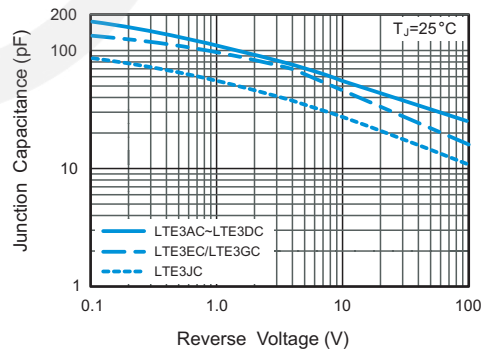
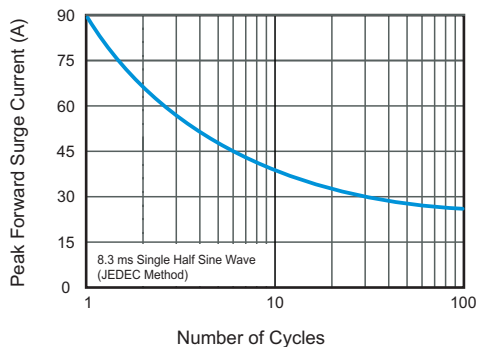
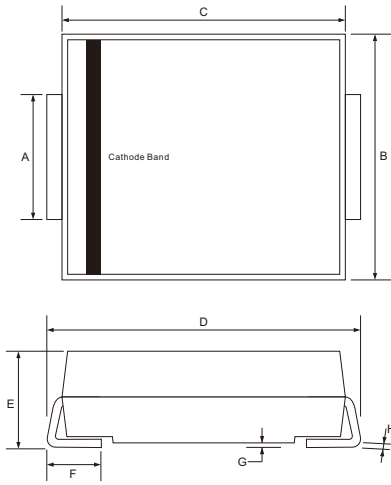


Fig.6 Maximum Non-Repetitive Peak Forward Surge Current



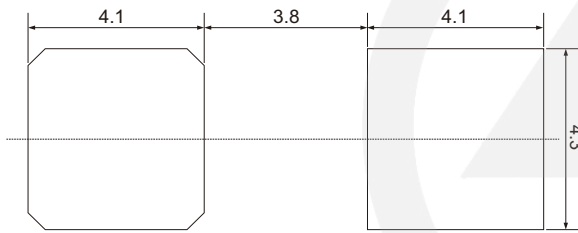
SMC Package Outline



Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	2.75	3.27
B	5.59	6.22
C	6.50	7.11
D	7.60	8.13
E	1.99	2.80
F	0.76	1.60
G	0.05	0.31
H	0.10	0.31

SMC Suggested Pad Layout



Note:

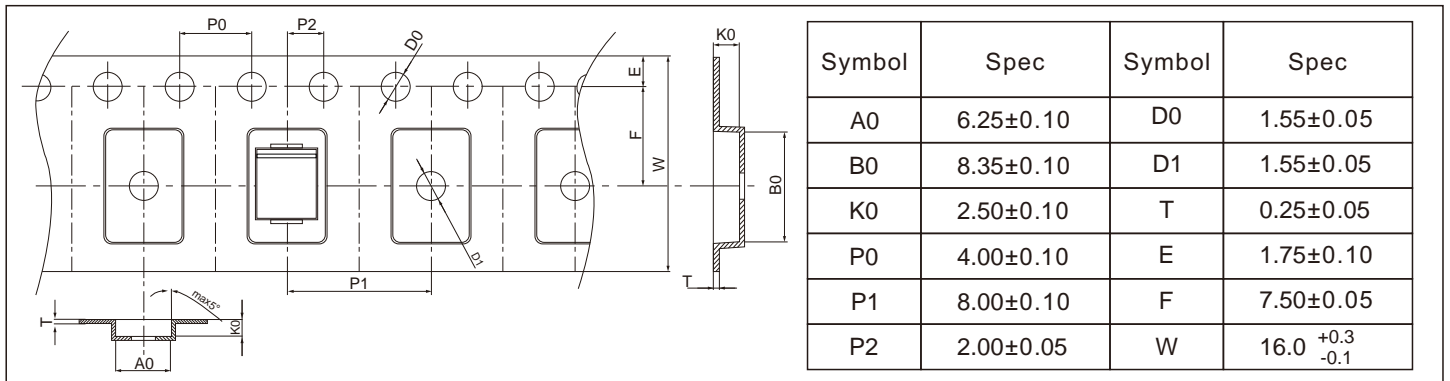
1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purpose only.

Marking

Type number	Marking code
LTE3AC	ES3A
LTE3BC	ES3B
LTE3CC	ES3C
LTE3DC	ES3D
LTE3EC	ES3E
LTE3GC	ES3G
LTE3JC	ES3J

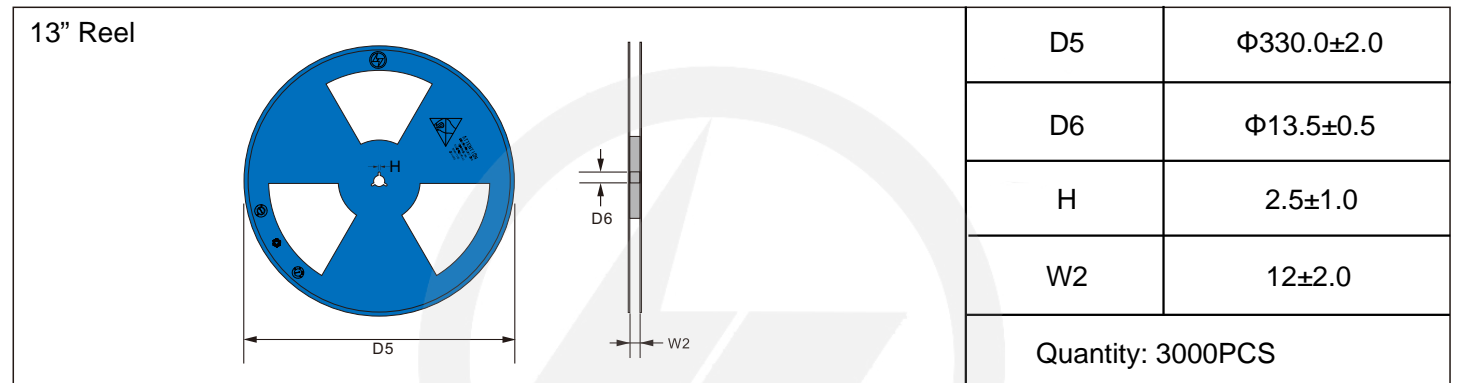
Carrier Tape Dimensions

Unit : mm

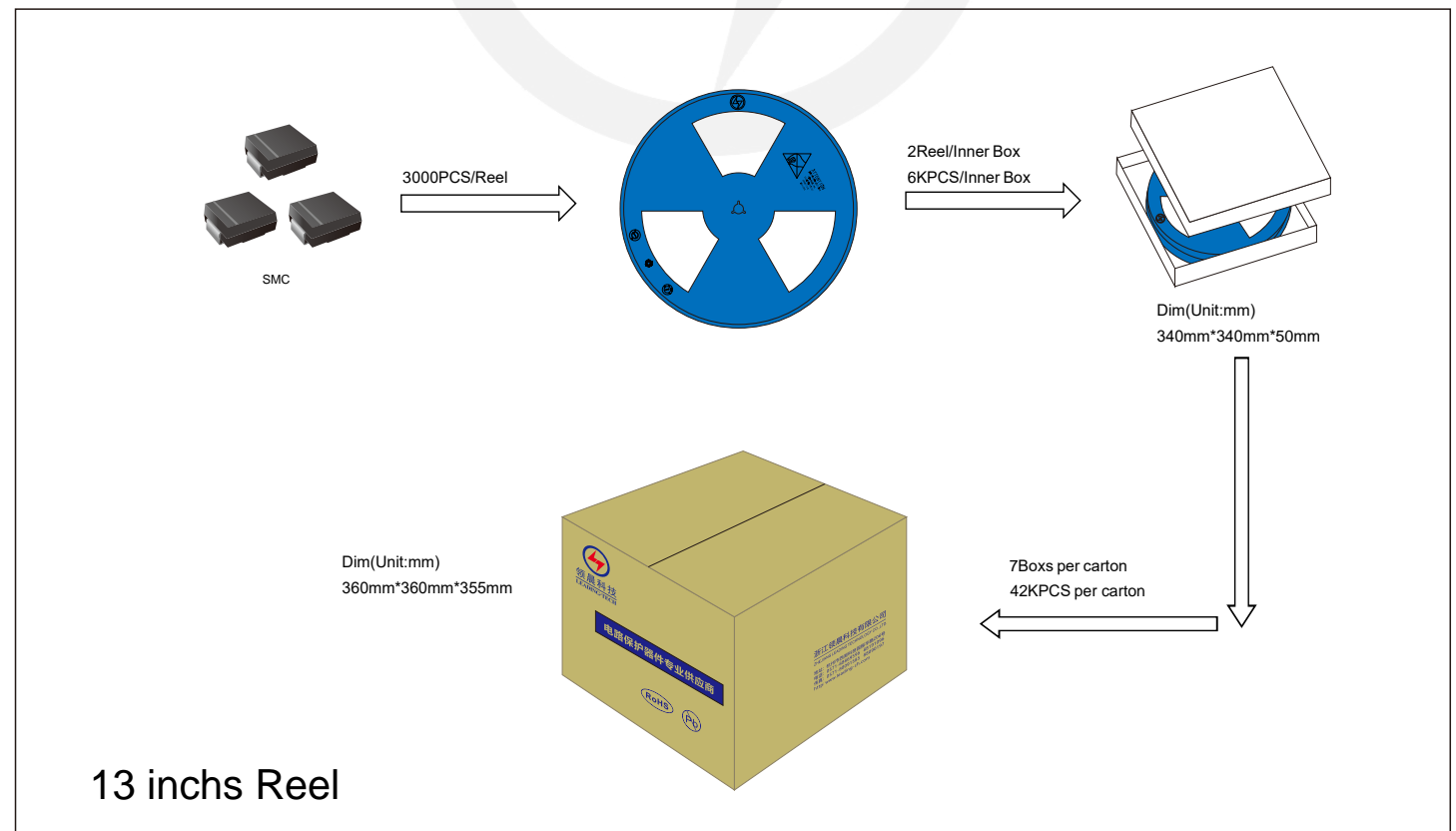


Reel Dimensions

Unit : mm



Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T _L to T _P)	3°C/second max.
Preheat	
-Temperature Min (T _{S min})	150°C
-Temperature Max (T _{S max})	200°C
-Time (min to max) (t _s)	60-180 seconds
T _{S max} to T _L	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T _L)	217°C
-Time (t _L)	60-150 seconds
Peak Temperature (T _P)	260°C
Time within 5°C of actual Peak Temperature (t _p)	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	2024.5.18	2024.5.18	3.0	New file	/	Ding	
02	2025.06.16	2025.06.16	3.1	Update packaging information	/	Ding	
03	2025.08.26	2025.08.26	3.2	Change in packaging quantity	/	Ding	
04	2025.10.29	2025.10.29	3.3	Add weight	/	Ding	
05	2025.11.05	2025.11.05	3.4	Add moisture sensitivity level	/	Ding	