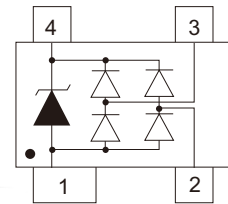
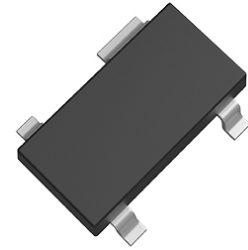


Quad-direction ESD Protection Array

Features

- Protects two I/O lines and one Vcc line
- Low capacitance
- Low leakage current
- No insertion to 3.0 GHz
- 5V operating voltage
- Response time < 1ns
- Solid-state silicon avalanche technology
- Device meets MSL 1 requirements
- Lead free in comply with EU RoHS 2011/65/EU directives



Applications

- xDSL
- USB 1.1/2.0/OTG
- IEEE 1394 Firewire Ports
- Notebooks & Handhelds
- Projection TV & Monitors
- Set-top box
- Flat Panel Displays

Mechanical Data

- Case: SOT-143
- Rating: UL 94V-0
- Terminal: Matte tin plated.
- Packaging: Tape and Reel

Ordering Information

Part Number	Marking	Shipping	Reel
LTE14T05A03L-TR3	SL3 or R05	3000PCS Tape&Reel	7 inches

Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (8/20μs)	125	W
I _{PP}	Peak Pulse Current (8/20μs)	5	A
V _{ESD}	ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	±15 ±8	kV
T _{OPT}	Operating Temperature	-55/+150	°C
T _{STG}	Storage Temperature	-55/+150	°C



Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage	Any I/O pin to GND			5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1mA$ Any I/O pin to GND	6.0			V
I_R	Reverse Leakage Current	$V_{RWM} = 5V$ Any I/O pin to GND			1	μA
V_F	Diode Forward Voltage	$I_F = 15mA$		0.85	1.2	V
V_{C1}	Clamping Voltage 1	$I_{PP} = 1A, t_p = 8/20\mu s$ Any I/O pin to GND			15.5	V
V_{C2}	Clamping Voltage 2	$I_{PP} = 5A, t_p = 8/20\mu s$ Any I/O pin to GND			25	V
I_{PP}	Peak Pulse Current	$t_p = 8/20\mu s$ Any I/O pin to GND			5	A
C_{J1}	Junction Capacitance 1	$V_R = 0V, f = 1MHz$ Between I/O pins		0.45	0.8	pF
C_{J2}	Junction Capacitance 2	$V_R = 0V, f = 1MHz$ Any I/O pin to GND		0.9	1.8	pF

Note: I/O pins are pin2,3.

Characteristic Curves

Fig.1 Pulse Waveform

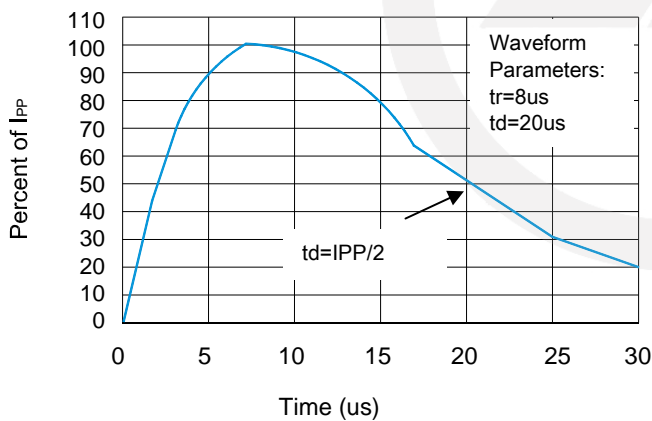


Fig.2 Power Derating Curve

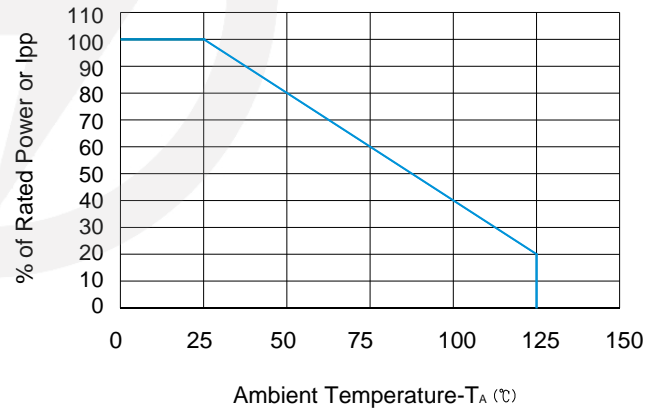
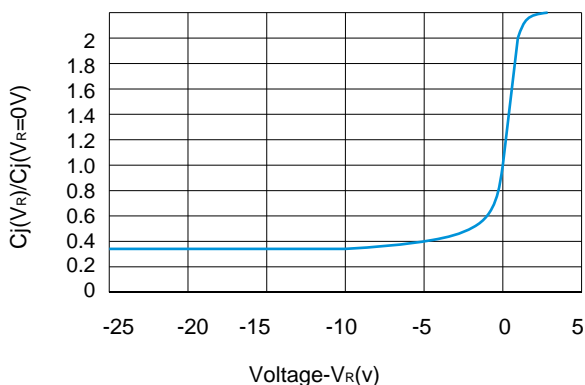


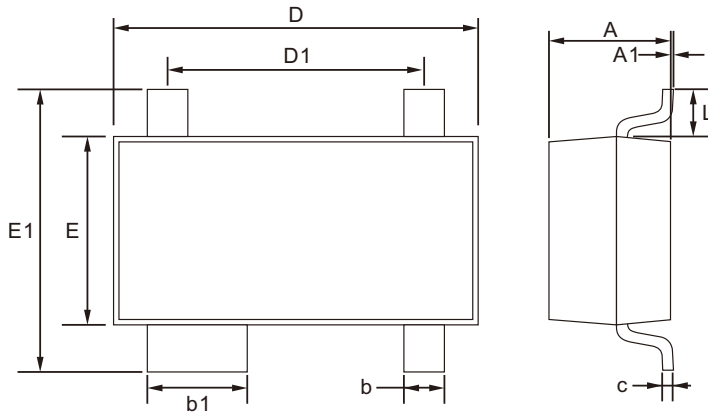
Fig.3 Junction Capacitance vs. Reverse Voltage





SOT-143 Package Outline

Unit: mm

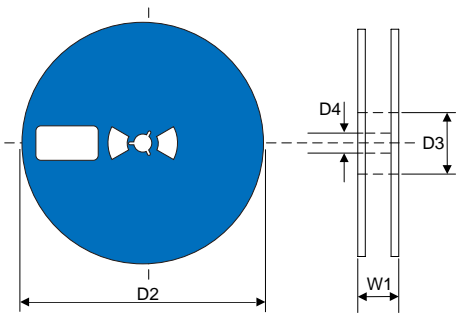


SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	0.90	1.05
A1	0.00	0.10
b	0.30	0.50
b1	0.75	0.90
c	0.08	0.15
D	2.80	3.00
D1	1.80	2.00
E	1.20	1.40
E1	2.25	2.55
L	0.55TYP.	

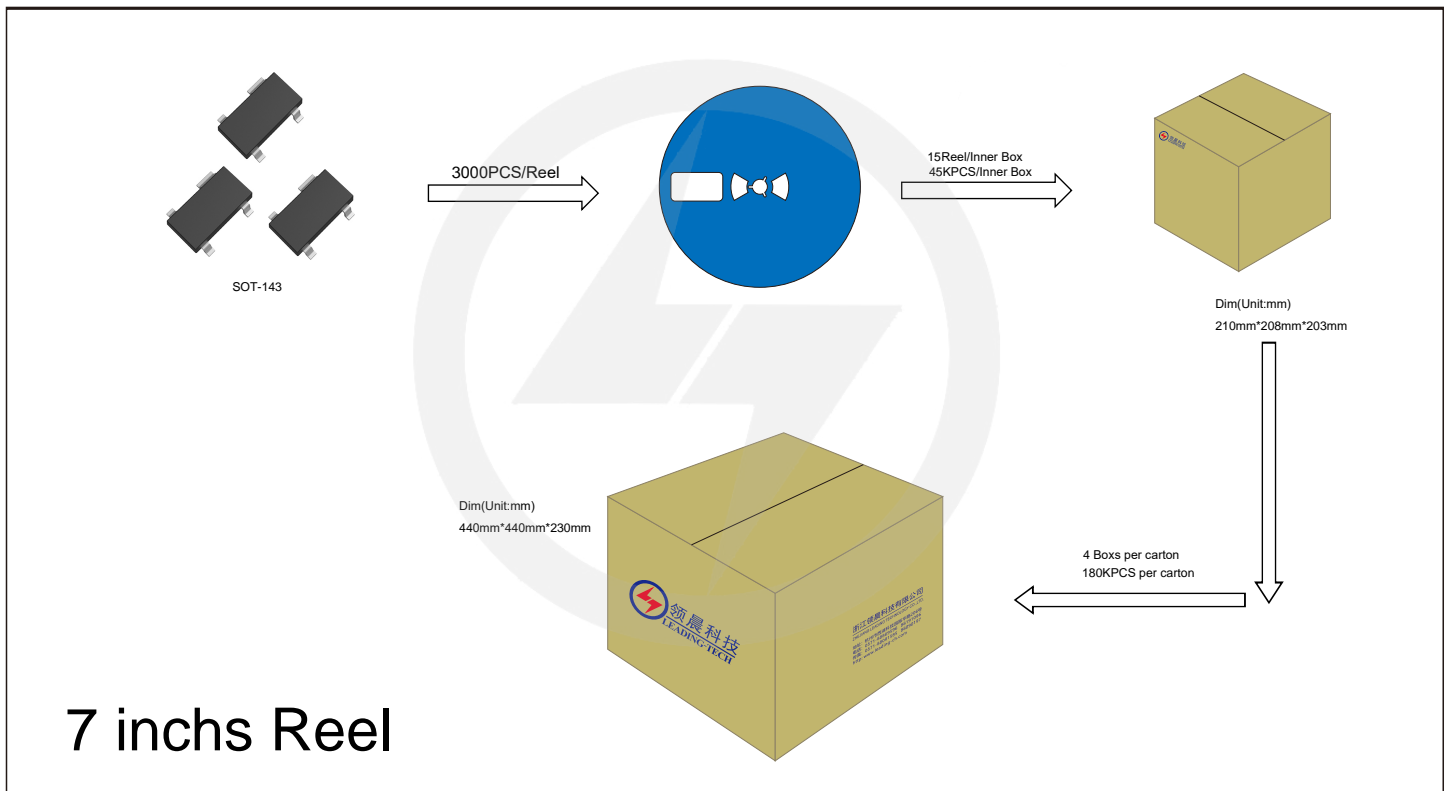


Reel Dimensions

Unit : mm

<p>7" Reel</p> 	D2	$\Phi 178.0 \pm 2.0$
	D3	$\Phi 50$
	D4	13.0 ± 0.5
	W1	12 ± 0.5
	Quantity: 3000PCS	

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	2024.4.15	2024.4.15	3.0	New File	/	Ding	
02	2025.4.25	2025.4.25	3.1	C _{J1} (Max)=1.0 C _{J2} (Max)=2.0	/	Ding	