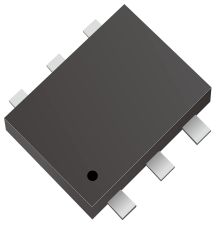
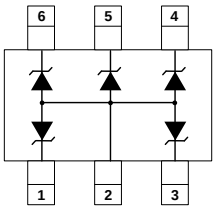
LTE56T05A05LG

Low Capacitance ESD Protection Array

Features



- Protects five I/O lines
- Low capacitance
- Working voltages: 5V
- Low leakage current
- Low clamping voltage
- Low capacitance for high-speed interfaces
- Lead free in comply with EU RoHS 2011/65/EU directives



Machanical Data

- Case:SOT-563
- Flammability Rating: UL 94V-0
- Terminal: Matte tin plated
- Material: Halogen free

Applications

- High Definition Multi-Media Interface (HDMI)
- Digital Visual Interface (DVI)
- Dual USB port
- IEEE 1394 Firewire Ports
- Notebooks & Handhelds
- Projection TV & Monitors
- Set-top box
- Flat Panel Displays

Ordering Information

Part Number	Marking	Shipping	Reel
LTE56T05A05LG-TR3	55L	3000PCS Tape&Reel	7 inchs

Absolute Maximum Ratings

Symbol	Parameter	Value	Units
P_{PP}	Peak Pulse Power (8/20μs)	60	W
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±20 ±25	kV
T_L	Lead Soldering Temperature	260(10sec.)	°C
T_J	Operating Temperature	-55/+125	°C
T_{STG}	Storage Temperature	-55/+150	°C

Electrical Characteristics (Tamb=25˚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	Forward Voltage	I_F = 10mA Any I/O pin to GND			1.2	V
V_{C1}	Clamping Voltage 1	I_{PP} = 1A, t_p = 8/20μs Any I/O pin to GND			10.0	V
V_{C2}	Clamping Voltage 2	I_{PP} = 4A, t_p = 8/20μs Any I/O pin to GND			15.0	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz Any I/O pin to GND			1.5	pF

Note: I/O pins are pin 1,3,4,5,6.

Characteristic Curves

Fig.1 Power Derating Curve

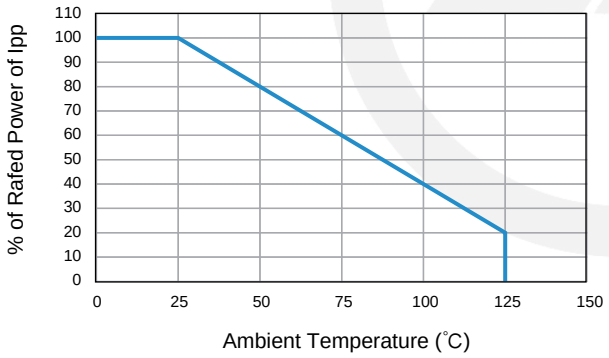


Fig.2 Clamping Voltage vs Peak Pulse Current

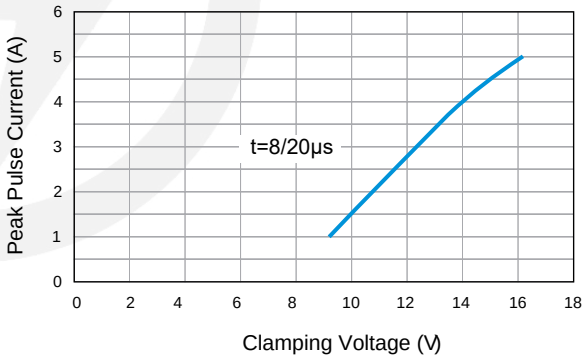


Fig.3 Voltage Sweeping

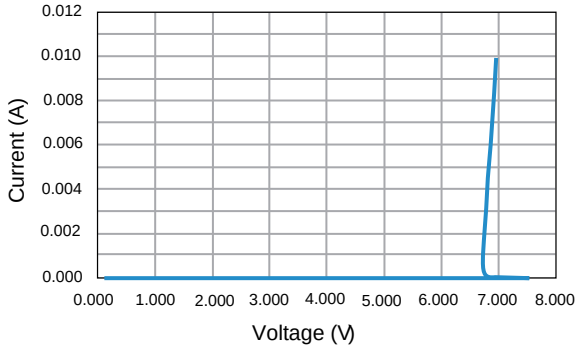
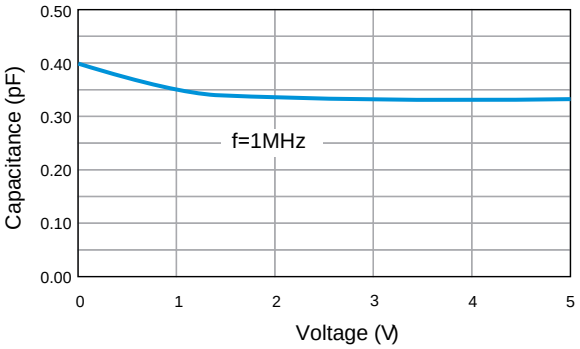
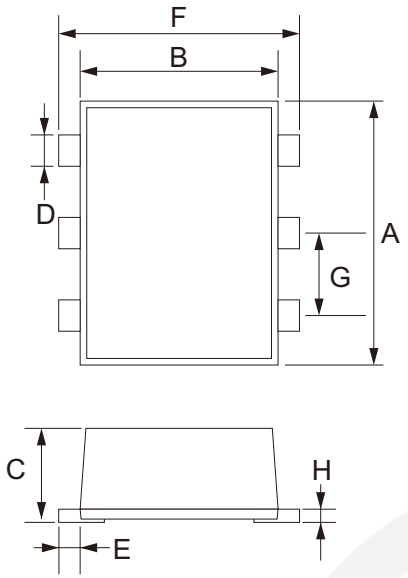


Fig.4 Voltage vs Capacitance



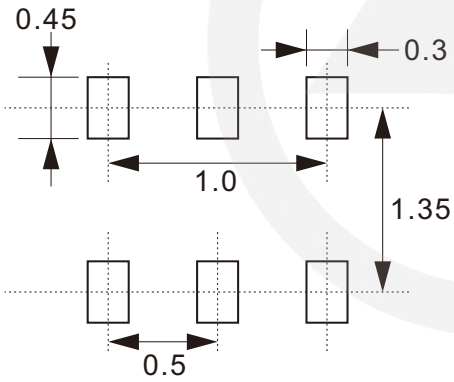
SOT-563 Packeage Outline



Unit: mm

SYMBOL	DIMENSIONS	
	MIN.	MAX.
A	1.50	1.70
B	1.10	1.30
C	0.50	0.60
D	0.17	0.27
E	0.10	0.30
F	1.50	1.70
G	0.50 TYP.	
H	0.08	0.18

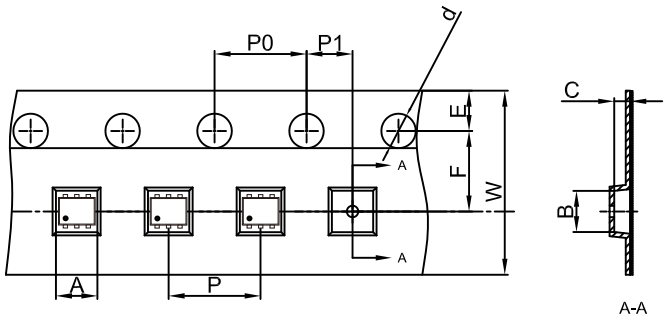
SOT-563 Suggested Pad Layout



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

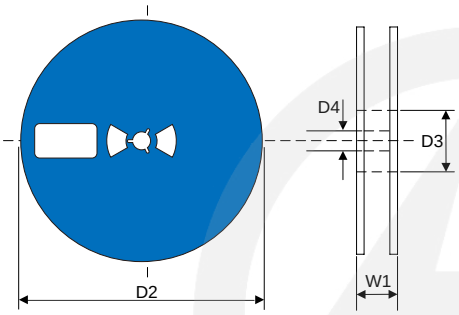


Symbol	Spec	Symbol	Spec
A	1.78	F	3.50
B	1.78	P0	4.00
C	0.69	P	4.00
d	Ø1.50	P1	2.00
E	1.75	W	8.00

Reel Dimensions

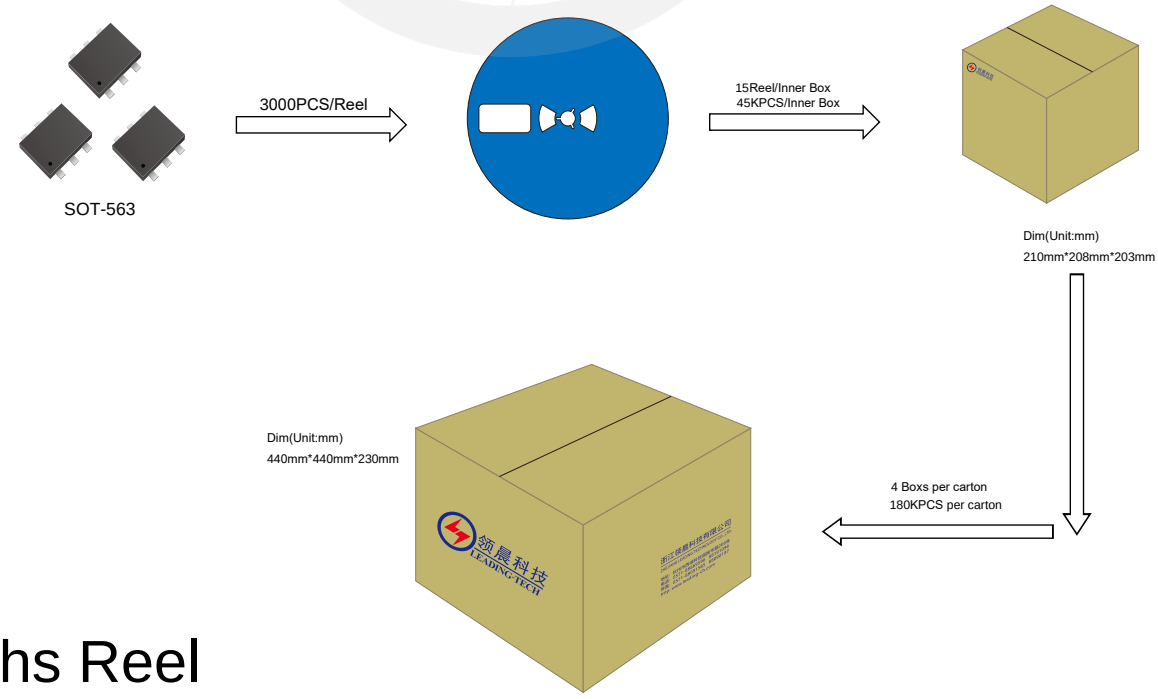
Unit：mm

7” Reel



D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 3000PCS	

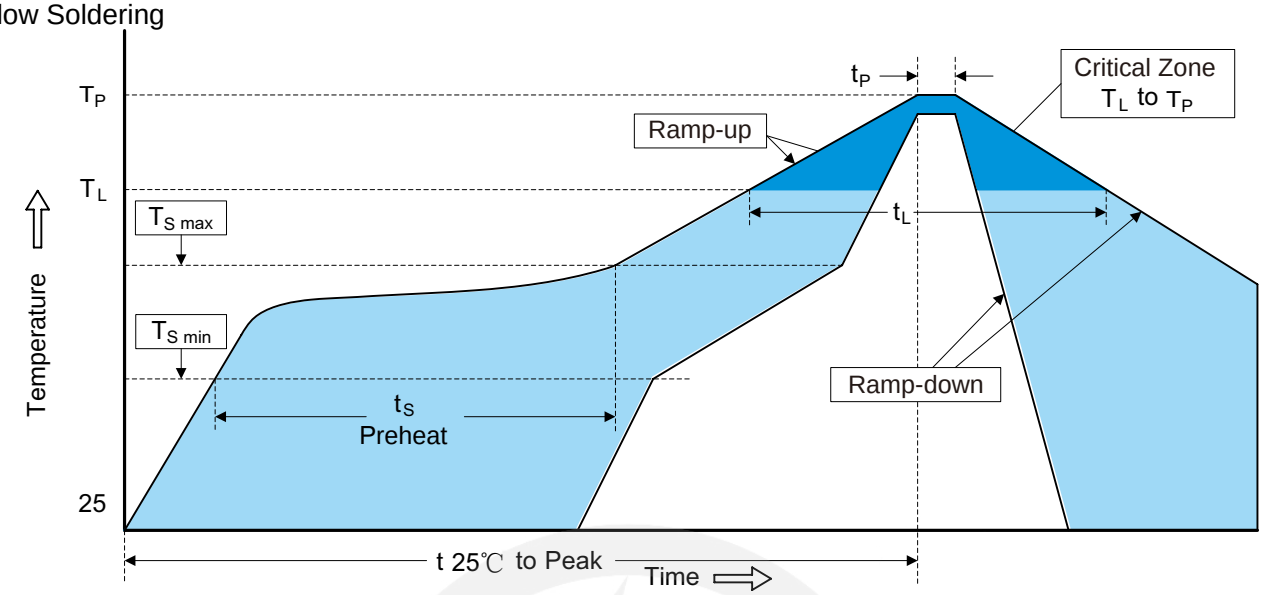
Packaging



7 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.

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Version Update Information

Series NO.	Enactment/Revision Date	Effective Date	Version	Revision content	Revision Reason	Revision Person	Note
01	2024.8.24	2024.8.24	3.0	New File	/	Ding	