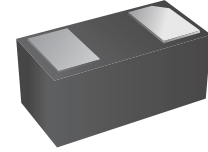




**Ultra Low Capacitance ESD Protection Diode**

**Features**

- Transient protection for high-speed data lines  
IEC 61000-4-2 (ESD) ±15kV (Air)  
±8kV (Contact)  
IEC 61000-4-4 (EFT) 40A (5/50 ns)  
Cable Discharge Event (CDE)
- Package optimized for high-speed lines
- Ultra-small package (0.6mm×0.3mm×0.3mm)
- Protects one data, control line
- Low capacitance: 0.25pF (Typical)
- Low leakage current
- Low clamping voltage
- Lead free in comply with EU RoHS 2011/65/EU directives



**Mechanical Data**

- Case:DFN0603
- Flammability Rating: UL 94V-0

**Applications**

- Serial ATA
- Desktops, Servers and Notebooks
- Cellular Phones
- MDDI Ports
- USB Data Line Protection
- Display Ports
- Digital Visual Interfaces (DVI)

**Ordering Information**

Part Number	Marking	Shipping	Reel
LTE06N05C01LG-TR15	5BU	15000PCS Tape&Reel	7 inches



**Absolute Maximum Ratings** (T<sub>amb</sub>=25°C unless otherwise specified)

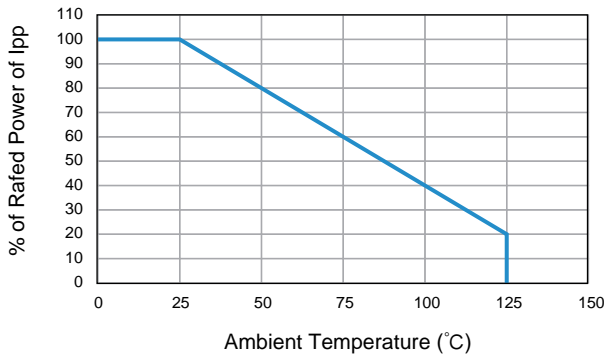
Symbol	Parameter	Value	Unit
V <sub>ESD</sub>	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±20 ±20	kV
P <sub>PP</sub>	Peak Pulse Power (8/20μs)	100	W
T <sub>OPT</sub>	Operating Temperature	-55~125	°C
T <sub>STG</sub>	Storage Temperature	-55~150	°C

**Electrical Characteristics** (T<sub>A</sub>=25°C unless otherwise specified)

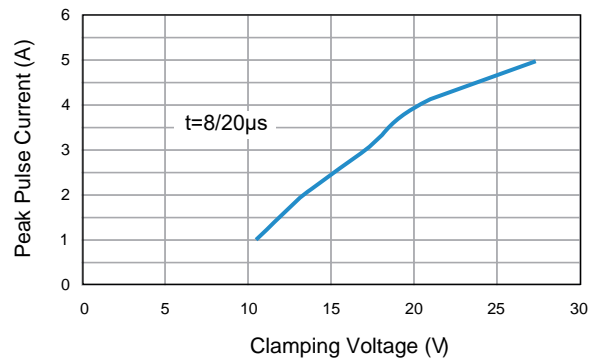
Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V <sub>RWM</sub>	Reverse Working Voltage				5.0	V
V <sub>BR</sub>	Reverse Breakdown Voltage	I <sub>T</sub> = 1mA	6.0			V
I <sub>R</sub>	Reverse Leakage Current	V <sub>RWM</sub> = 5V			100	nA
V <sub>C</sub>	Clamping Voltage	I <sub>PP</sub> = 1A, t <sub>p</sub> = 8/20μs			13	V
		I <sub>PP</sub> = 4A, t <sub>p</sub> = 8/20μs			25	V
C <sub>J</sub>	Junction Capacitance	V <sub>R</sub> = 0V, f = 1MHz		0.25		pF

## Characteristic Curves

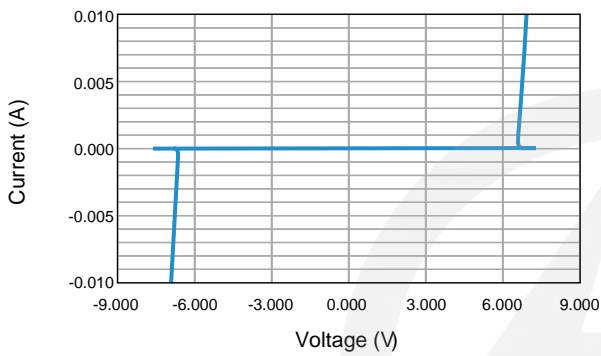
**Fig.1 Power Derating Curve**



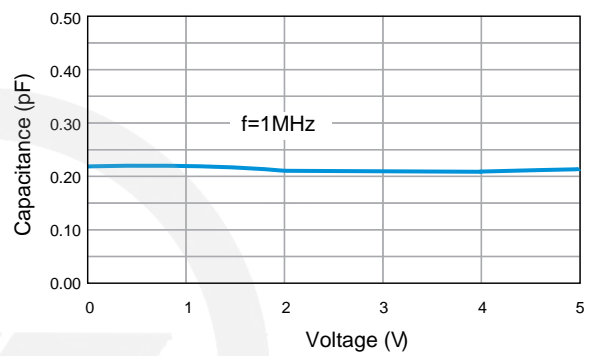
**Fig.2 Clamping Voltage vs Peak Pulse Current**



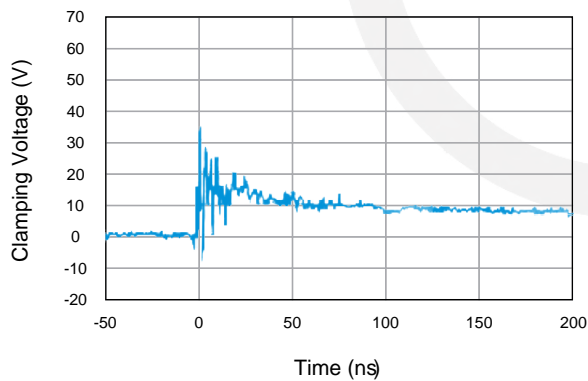
**Fig.3 Voltage Sweeping**



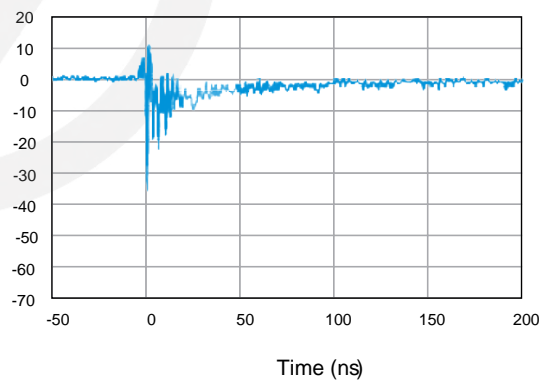
**Fig.4 Voltage vs Capacitance**



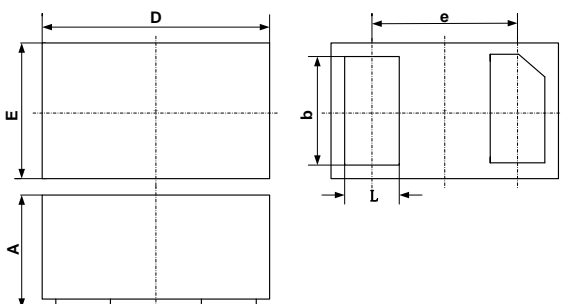
**Fig.5 ESD Clamping (+8kv Contact per IEC 61000-4-2)**



**Fig.6 ESD Clamping (-8kv Contact per IEC 61000-4-2)**



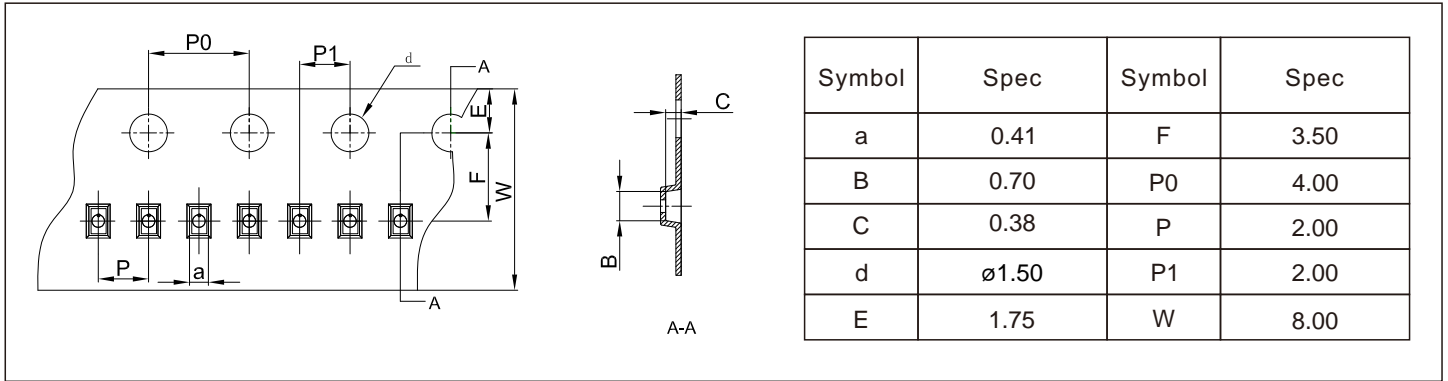
## DFN0603 Package Outline



SYM	DIMENSIONS	
	MILLIMETERS	
	MIN	MAX
A	0.230	0.370
b	0.200	0.275
D	0.550	0.670
e	0.360 BSC	
E	0.250	0.370
L	0.120	0.220

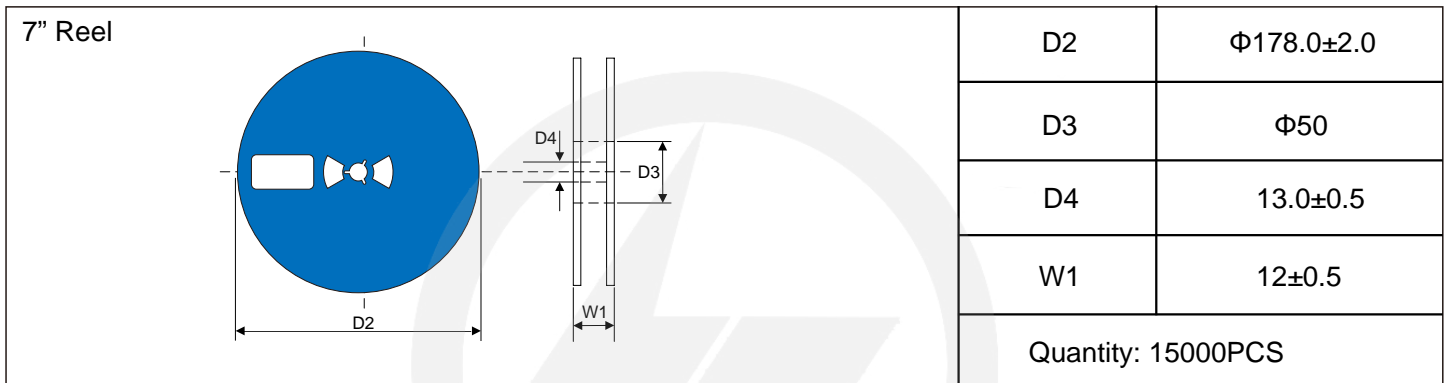
**Carrier Tape Dimensions**

Unit : mm

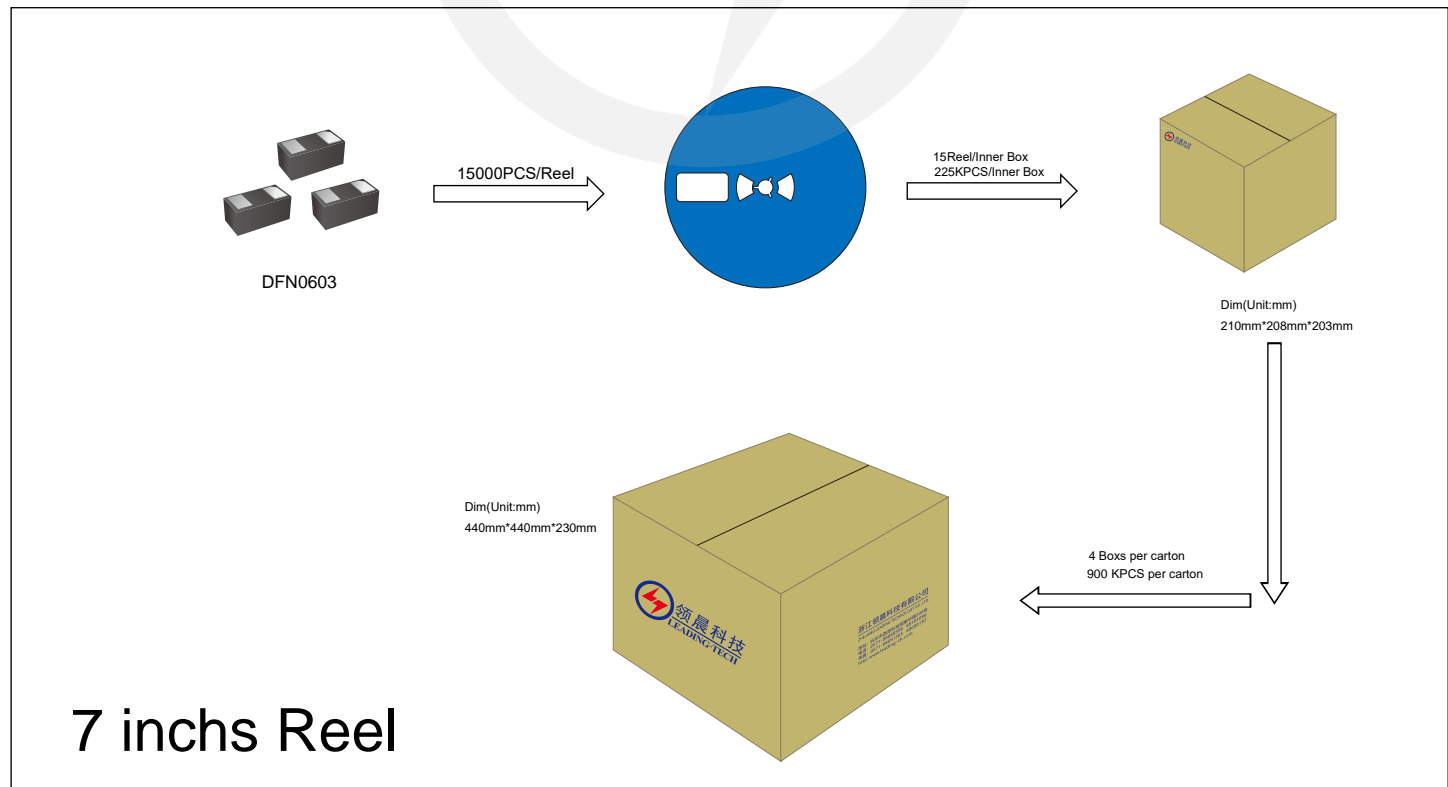


**Reel Dimensions**

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	2024.03.16	2024.03.16	3.0	New File	/	Ding	