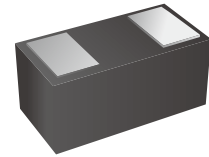


## ESD Protection Diddes

### Features

- IEC 61000-4-2 Level 4 ESD Protection
- -  $\pm 20\text{kV}$  Contact Discharge
- -  $\pm 20\text{kV}$  Air Discharge
- 88W Peak pulse Power (8/20 $\mu\text{s}$ )
- Low clamping voltage
- Working voltage: 5V
- Low leakage current
- Protecting one Bi-directional lines
- Capacitance: 0.25pF Typ.
- Lead free in comply with EU RoHS 2011/65/EU directives



### Mechanical Data

- Case:DFN1006
- Approx. Weight: 0.84mg

### Applications

- MP3 Players
- Battery Protection
- Vbat pin for Mobile Device
- Mobile Phones
- Power Line Protection
- Hand Held portable Applications



### Ordering Information

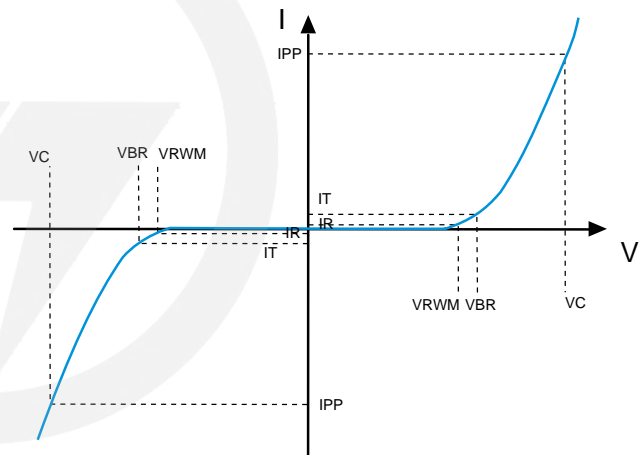
Part Number	Marking	Shipping	Reel
LTE10N05C01LDC-TR10	N $\infty$	10000PCS Tape&Reel	7 inches

### Absolute Maximum Rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20μs)	P <sub>pk</sub>	-	88	W
Peak pulse current (tp=8/20μs)	I <sub>PP</sub>	-	4	A
ESD (IEC61000-4-2 air discharge)	V <sub>ESD</sub>	-	±20	kV
ESD (IEC61000-4-2 contact discharge)	V <sub>ESD</sub>	-	±20	kV
Junction temperature	T <sub>J</sub>	-	125	°C
Operating temperature	T <sub>OP</sub>	-40	125	°C
Storage temperature	T <sub>STG</sub>	-55	150	°C
Lead temperature	T <sub>L</sub>	-	260	°C

Symbol	Parameters
V <sub>RWM</sub>	Peak Reverse Working Voltage
I <sub>R</sub>	Reverse Leakage Current @ V <sub>RWM</sub>
V <sub>BR</sub>	Breakdown Voltage @ I <sub>T</sub>
I <sub>T</sub>	Test Current
I <sub>PP</sub>	Maximum Reverse Peak Pulse Current
V <sub>C</sub>	Clamping Voltage @ I <sub>PP</sub>



### Electrical Characteristics

At T<sub>A</sub> = 25°C unless otherwise noted

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	V <sub>RWM</sub>				5	V
Reverse Breakdown Voltage	V <sub>BR</sub>	I <sub>T</sub> =1mA	6			V
Reverse Leakage Current	I <sub>R</sub>	V <sub>RWM</sub> =5V			0.1	uA
Clamping Voltage	V <sub>C</sub>	I <sub>PP</sub> =1A; tp=8/20us		10	12	V
		I <sub>PP</sub> =4A; tp=8/20us		20	22	V
Junction Capacitance	C <sub>J</sub>	V <sub>R</sub> =0V; f=1MHz		0.25	0.35	pF



Characteristic Curves

Fig.1 8/20μs waveform per IEC61000-4-5

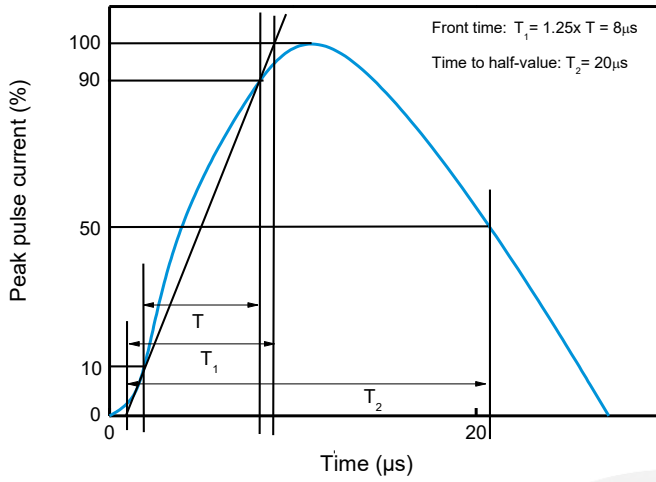


Fig.2 Contact discharge current waveform per IEC61000-4-2

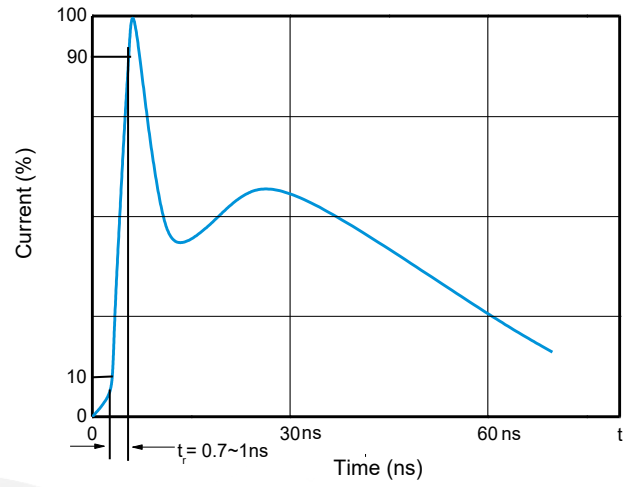


Fig.3 Clamping voltage vs. Peak pulse current

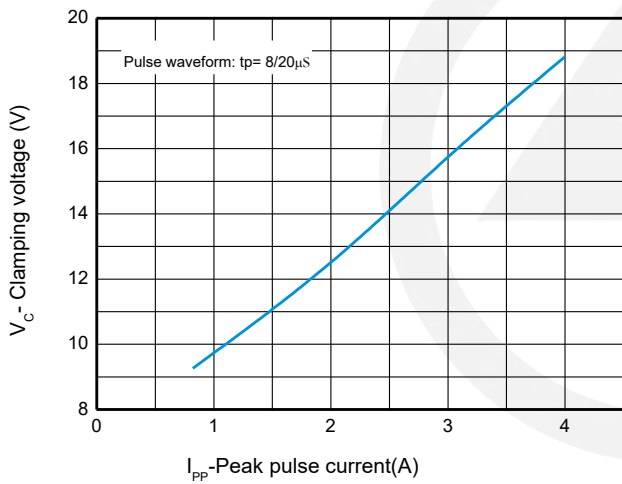


Fig.4 Capacitance vs. Reverse voltage

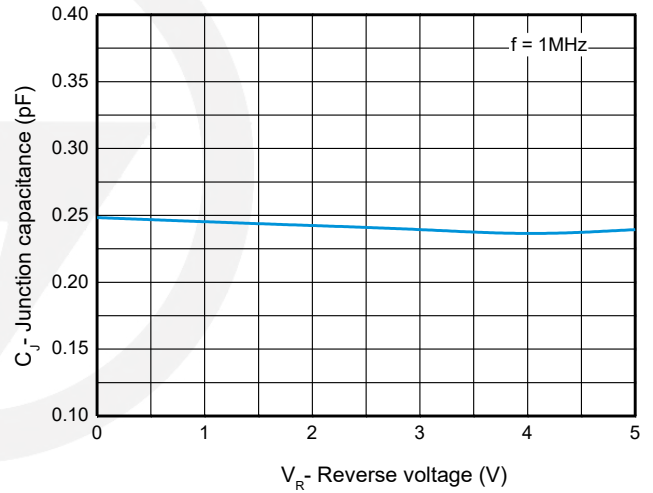


Fig.5 Non-repetitive peak pulse power vs. Pulse time

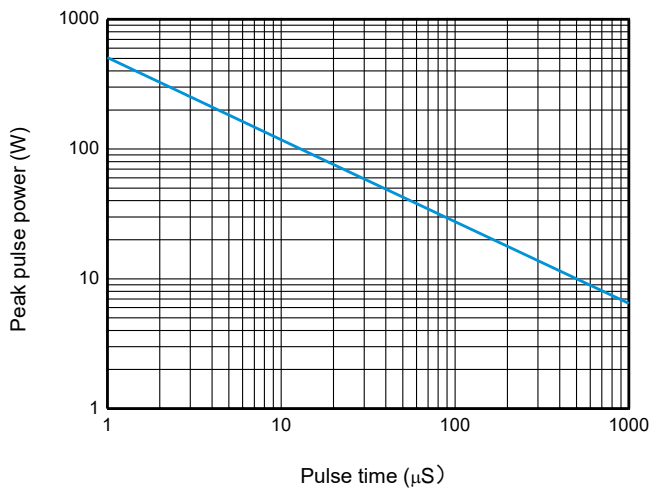
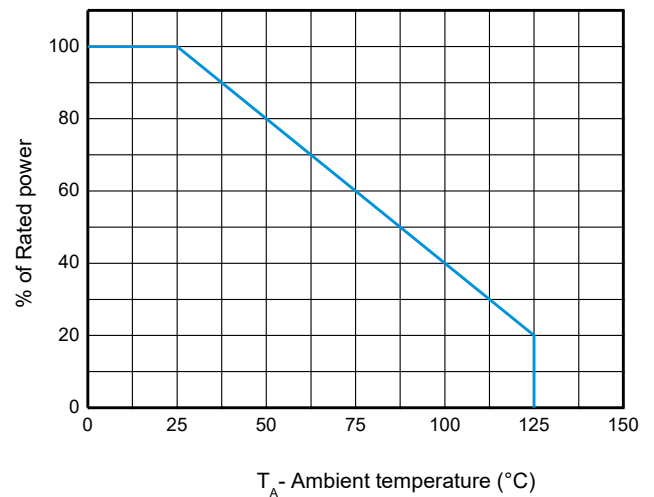
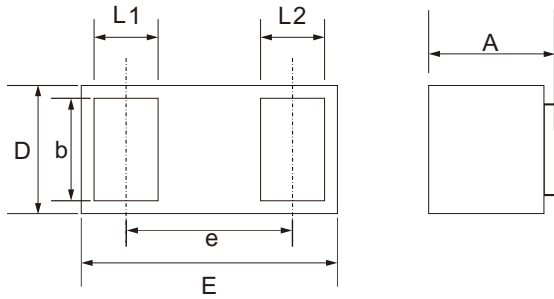


Fig.6 Power derating vs. Ambient temperature



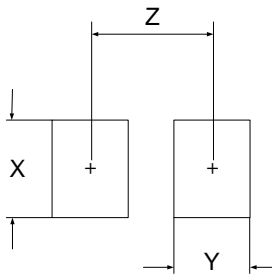
## DFN1006 Package Outline

Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
D	0.550	0.650
E	0.950	1.050
L1	0.200	0.300
L2	0.200	0.300
b	0.450	0.550
e	0.650 TYP.	
A	0.450	0.550

## DFN1006 Suggested Pad Layout

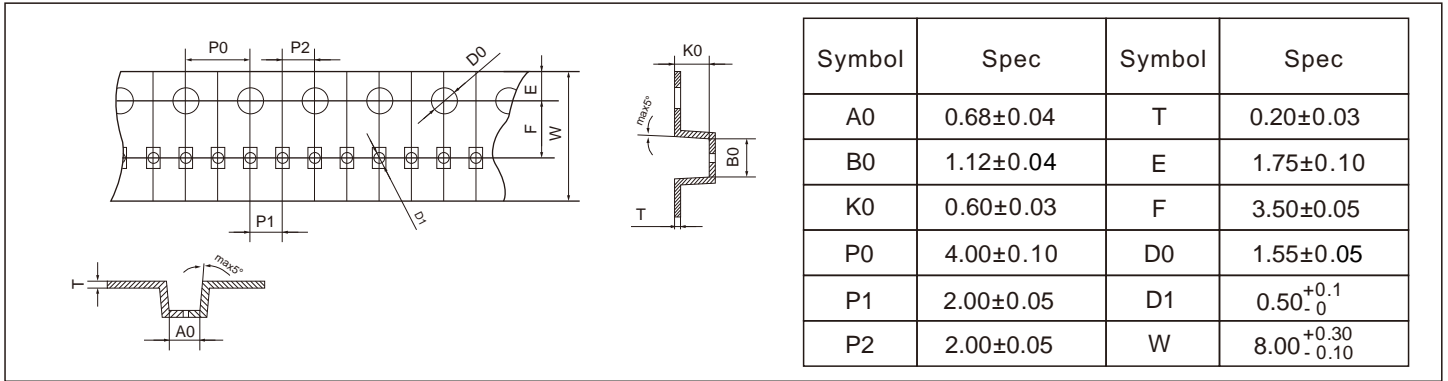


SYM	DIMENSIONS
	MILLIMETERS
X	0.50
Y	0.50
Z	0.90

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

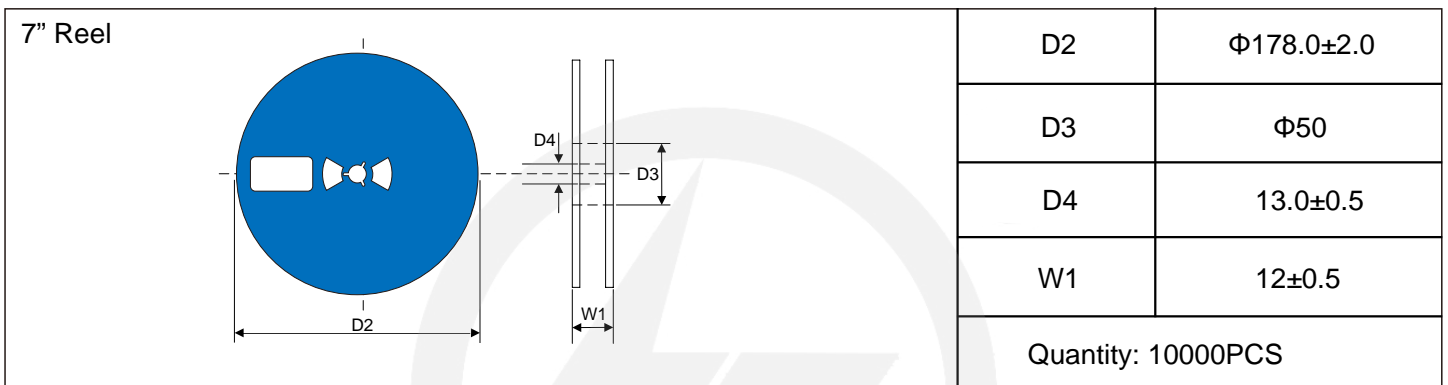
## Carrier Tape Dimensions

Unit : mm

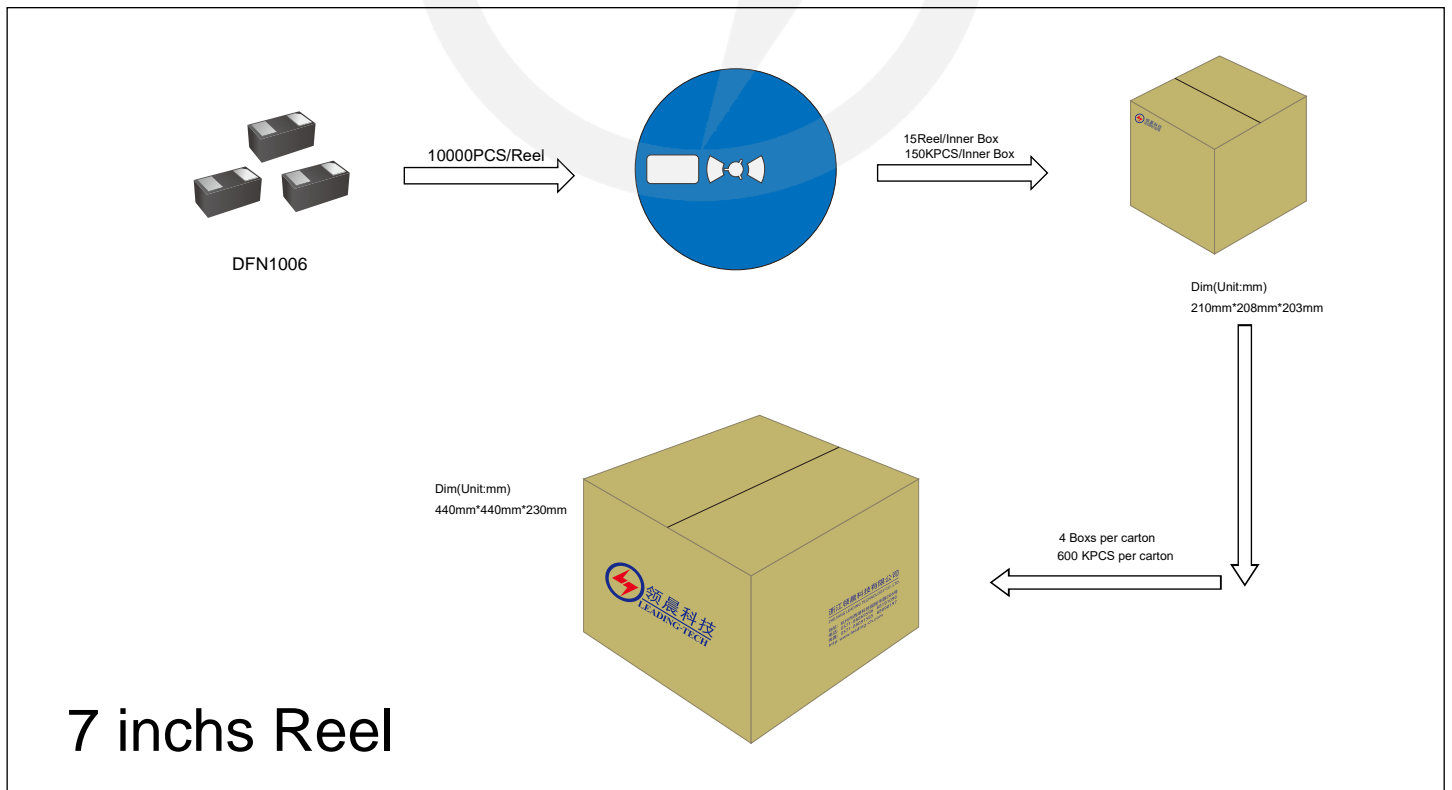


## Reel Dimensions

Unit : mm



## Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )	3°C/second max.
Preheat	
-Temperature Min (T <sub>S min</sub> )	150°C
-Temperature Max (T <sub>S max</sub> )	200°C
-Time (min to max) (t <sub>s</sub> )	60-180 seconds
T <sub>S max</sub> to T <sub>L</sub>	
-Ramp-up Rate	3°C/second max.
Time maintained above:	
-Temperature (T <sub>L</sub> )	217°C
-Time (t <sub>L</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )	260°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	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	2025.03.19	2025.03.19	3.0	New File	/	Ding	