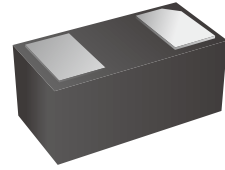


ESD Protection Diddes

Features

- IEC 61000-4-2 (ESD)
 - - ± 20 kV Contact Discharge
 - - ± 20 kV Air Discharge
- IEC 61000-4-5 (Lightning)
 - - 4A (8/20us)
- IEC 61000-4-4 EFT Protection
 - - 40A (5/50ns)
- Protects one directional I/O line
- Transient protection for high-speed data lines
- Low clamping voltage
- Low leakage current
- Low capacitance: 0.35pF (typical)
- Lead free in comply with EU RoHS 011/65/EU directives



Mechanical Data

- Case:DFN1006
- Material: Halogen free
- Flammability Rating: UL94V-0

Applications

- Series ATA
- Cellular Phones
- MDDI Ports
- Notebooks / Desktops / Servers
- USB Data Line Protection
- Display Ports & Digital Visual Interfaces (DVI)

Ordering Information

Part Number	Marking	Shipping	Reel
LTE10N05C01LBA-TR10	JJ	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=8/20us)@25°C	P _{pk}		80	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}		4	A
ESD (IEC61000-4-2 air discharge) @25°C	V _{ESD}		±20	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V _{ESD}		±20	kV
Junction temperature	T _J		125	°C
Operating temperature	T _{OP}	-40	125	°C
Storage temperature	T _{STG}	-55	150	°C
Lead temperature	T _L		260	°C

Electrical Characteristics

At TA = 25°C unless otherwise noted

Parameter	Symbol	Conditions	Min	Typ	Max	Units
Reverse Stand-off Voltage	V _{RWM}				5	V
Reverse Breakdown Voltage	V _{BR}	I _T =1mA	6.5			V
Reverse Leakage Current	I _R	V _{RWM} =5V			1	uA
Clamping Voltage	V _C	I _{PP} =1A; tp=8/20us		12		V
Clamping Voltage	V _C	I _{PP} =4A; tp=8/20us		18		V
Junction Capacitance	C _J	I/O to GND; VR=0V; f=1MHz		0.35		pF

Characteristics Curve

Fig.1 Pulse rating curve

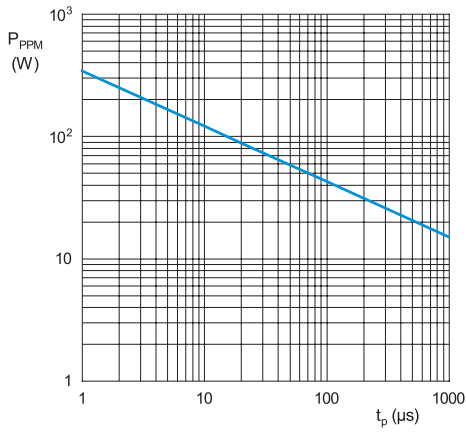


Fig.2 Peak pulse power derating curve

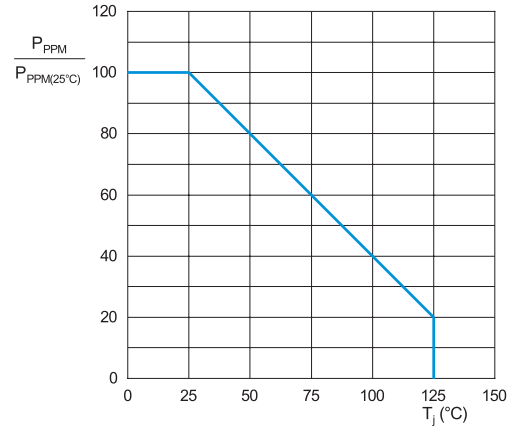


Fig.3 Pulse waveform

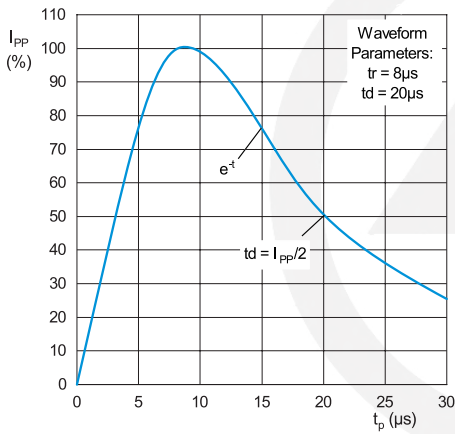


Fig.4 Clamping voltage vs Peak pulse current

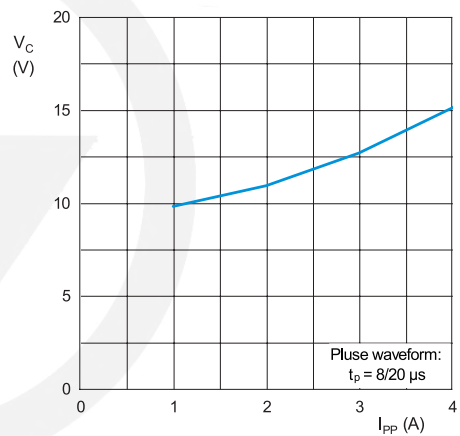


Fig.5 Capacitance vs Reverse voltage

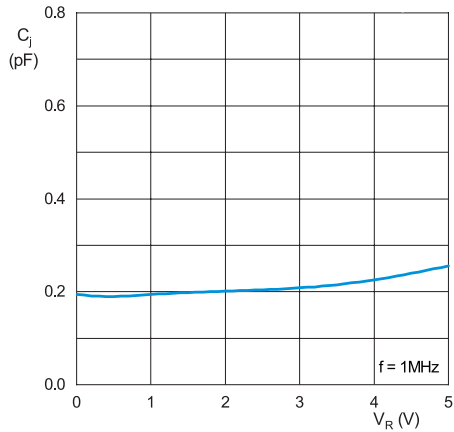
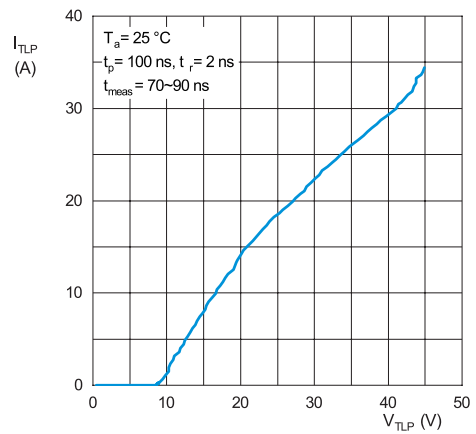
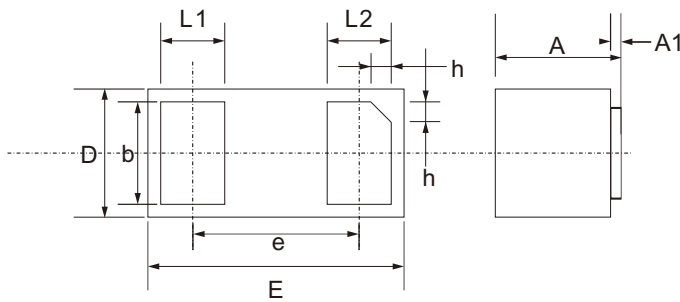


Fig.6 TLP I-V Curve



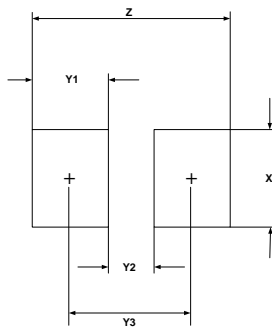
DFN-1006 Package Outline

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
A1	0.000	0.050
h	0.070	0.170

DFN-1006 Suggested Pad Layout



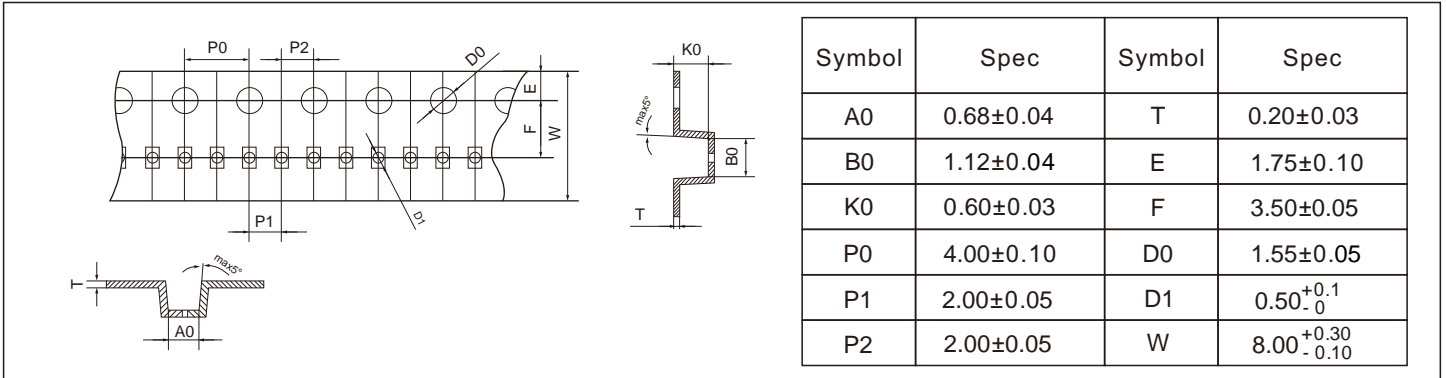
SYM	DIMENSIONS
	MILLIMETERS
X	0.60
Y1	0.50
Y2	0.30
Y3	0.80
Z	1.30

Note:

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

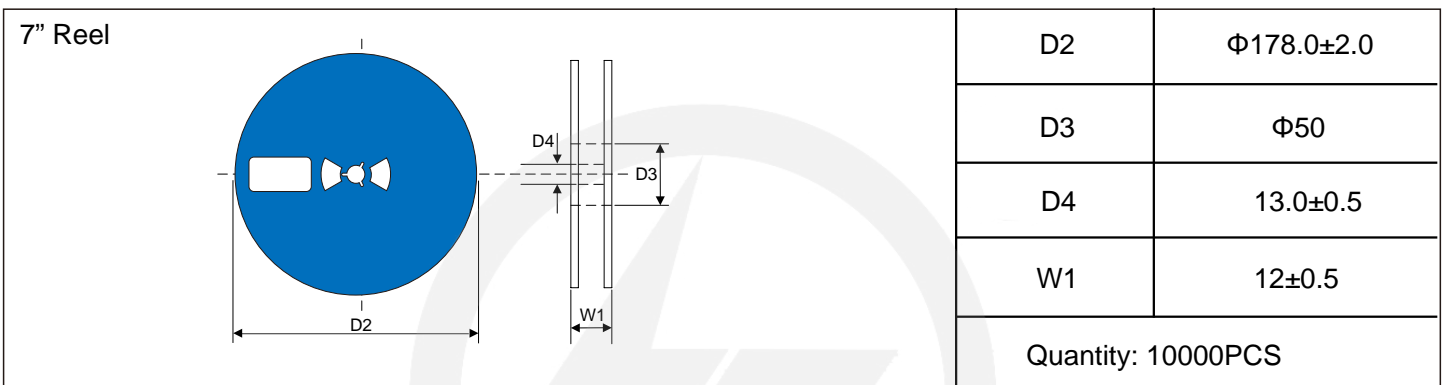
Carrier Tape Dimensions

Unit : mm

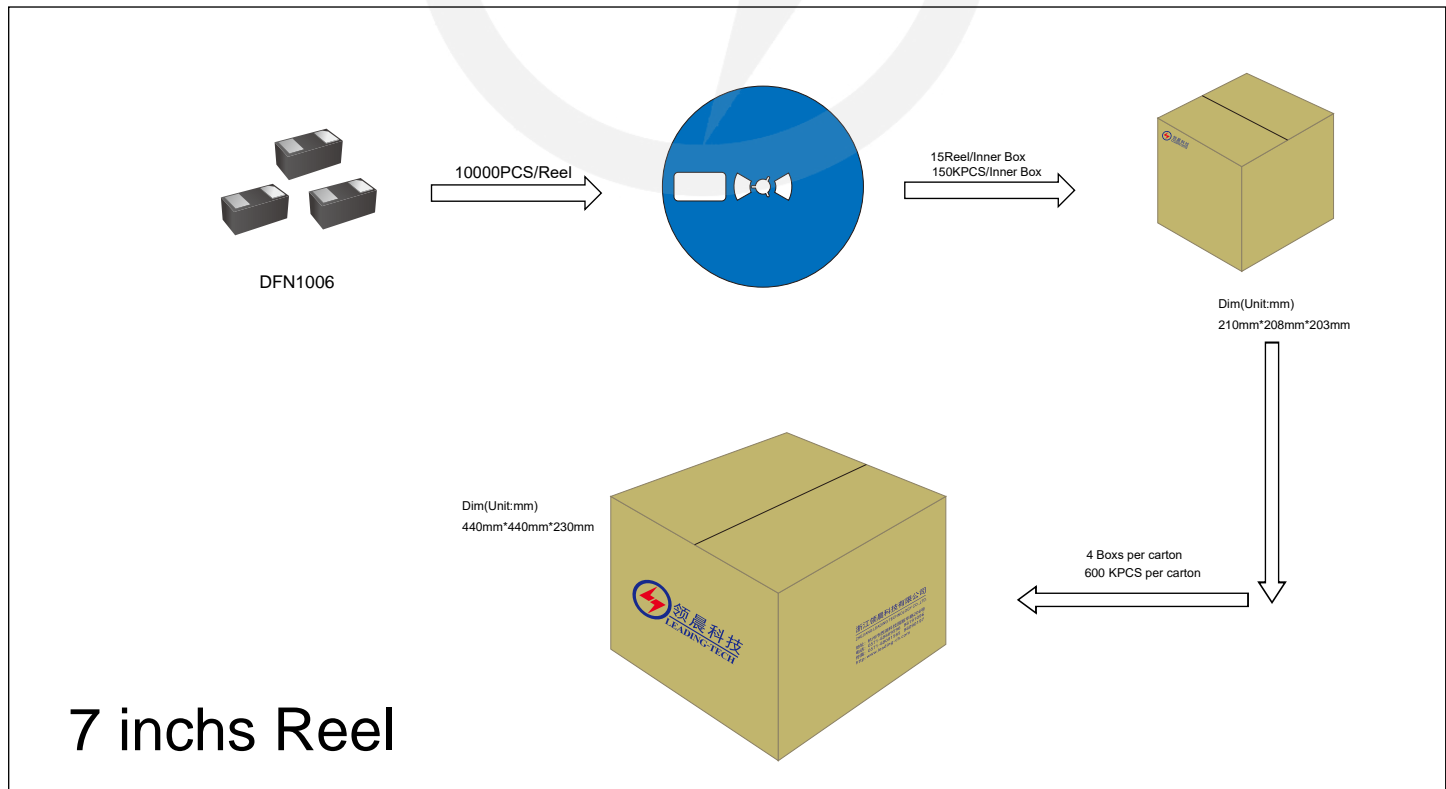


Reel Dimensions

Unit : mm

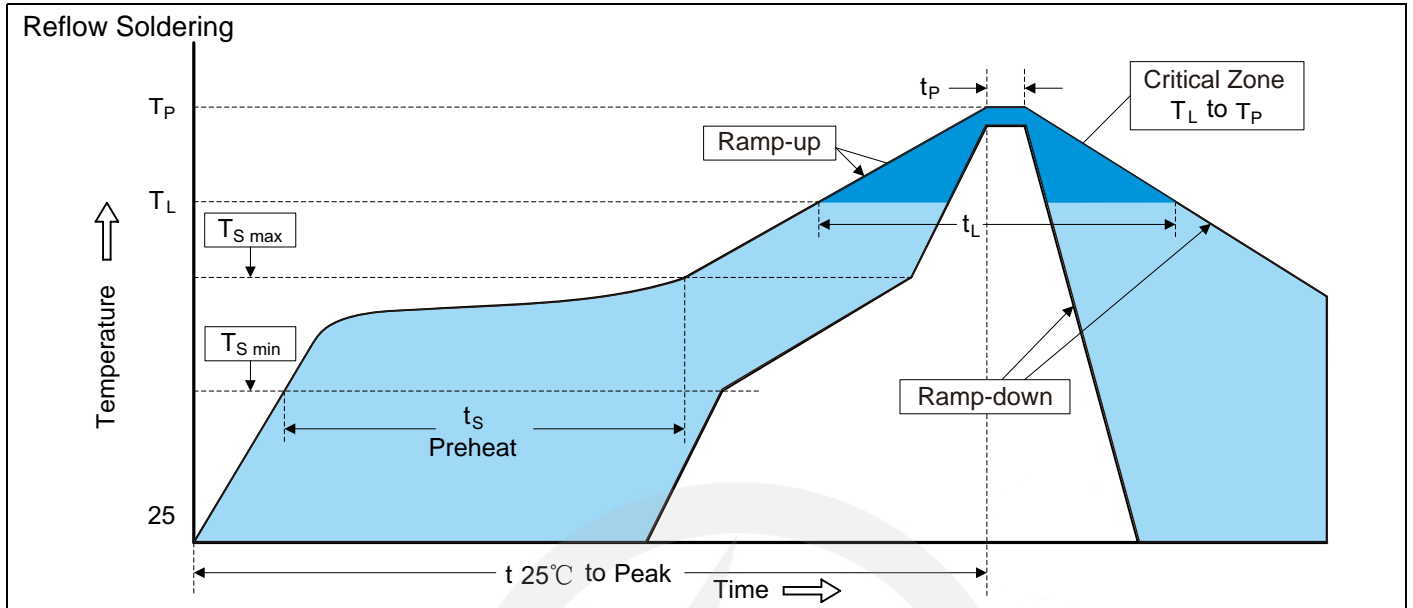


Packaging





Recommended Soldering Conditions



Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T _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	2024.09.11	2024.09.11	3.0	New File	/	Ding	