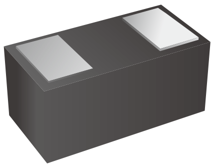
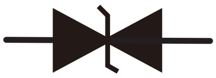
Low Capacitance TVS/ESD Protection Diode

Features





- IEC61000-4-2 (ESD) ±20kV (Contact)
- IEC61000-4-2 (ESD) ±30kV (Air)
- IEC61000-4-4 (EFT) 40A (5/50ηs)
- IEC61000-4-5 (Lighting) 3A (8/20μs)
- 150 Watts Peak Pulse Power (tp=8/20μs)
- Working voltages : 24V
- Low clamping voltage
- Low leakage current
- Lead free in comply with EU RoHS 011/65/EU directives

Mechanical Data

- Case:DFN1006
- Flammability Rating: UL 94V-0
- Material: Halogen free

Applications

- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Projection TV
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Ordering Information

Part Number	Marking	Shipping	Reel
LTE10N24C01L-TR10	DH	10000PCS Tape&Reel	7 inchs

Absolute Maximum Rating

Symbol	Parameter	Value	Unit
V_{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±20 ±30	kV
P_{PP}	Peak Pulse Power (8/20μs)	150	W
T_{OPT}	Operating Temperature	-55 ~ +125	°C
T_{STG}	Storage Temperature	-55 ~ +150	°C
T_{L}	Lead Soldering Temperature	260 (10 sec.)	°C

Electrical Characteristics (Tamb=25°C)

Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V_{RWM}	Reverse Working Voltage				24	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA	26		32	V
I_R	Reverse Leakage Current	V_{RWM} = 24V			1	μA
V_{C1}	Clamping Voltage 1	I_{PP} = 1A, t_p = 8/20μs			40	V
V_{C2}	Clamping Voltage 2	I_{PP} = 3A, t_p = 8/20μs			50	V
C_J	Junction Capacitance	V_R = 0V, f = 1MHz		8	15	pF

Characteristics Curve

Fig.1 8/20us Waveform per IEC61000-4-5

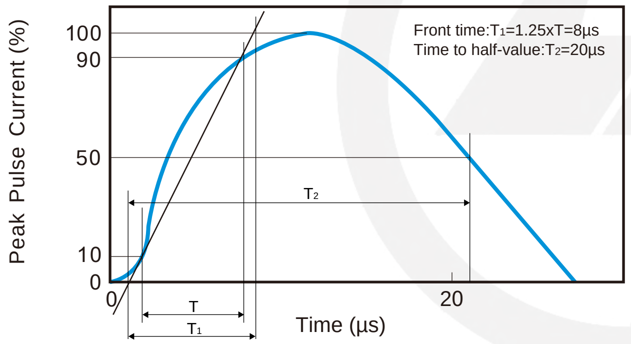


Fig.2 Contact Discharge Current Waveform per IEC 61000-4-2

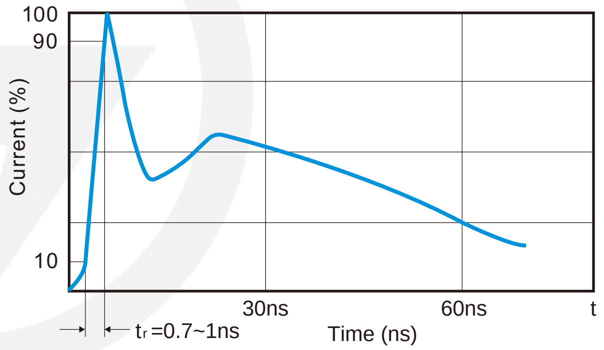


Fig.3 Voltage vs Capacitance

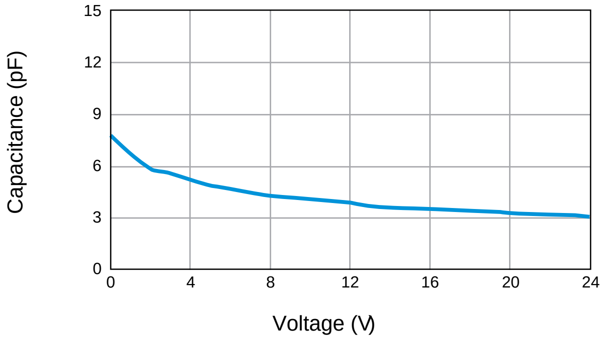
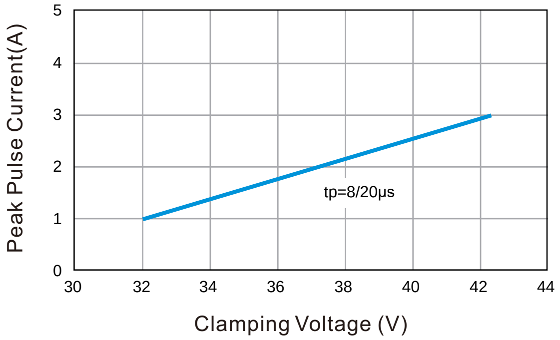
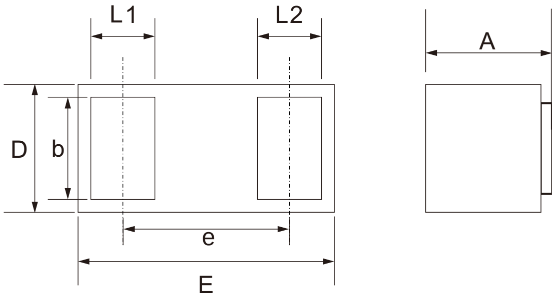


Fig.4 Clamping Voltage vs Peak Pulse Current



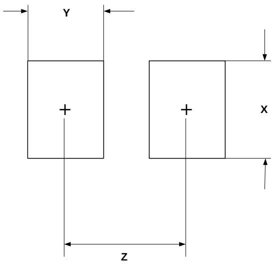
DFN1006 Package Outline



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

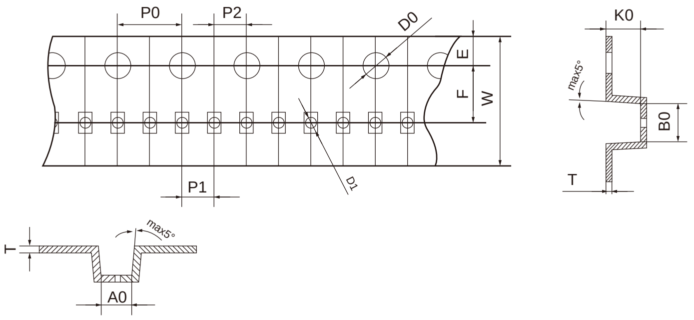


SYM	DIMENSIONS
	MILLIMETERS
X	0.50
Y	0.50
Z	0.90

Note:
1.Controlling dimension:in millimeters.
2.General tolerance:± 0.05mm
3.The pad layout is for reference purpose only.

Carrier Tape Dimensions

Unit：mm

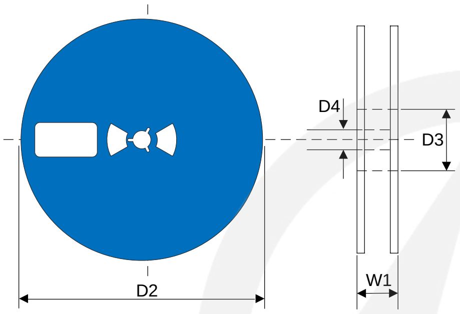


Symbol	Spec	Symbol	Spec
A0	0.68±0.04	T	0.20±0.03
B0	1.12±0.04	E	1.75±0.10
K0	0.60±0.03	F	3.50±0.05
P0	4.00±0.10	D0	1.55±0.05
P1	2.00±0.05	D1	$0.50^{+0.1}_{-0}$
P2	2.00±0.05	W	$8.00^{+0.30}_{-0.10}$

Reel Dimensions

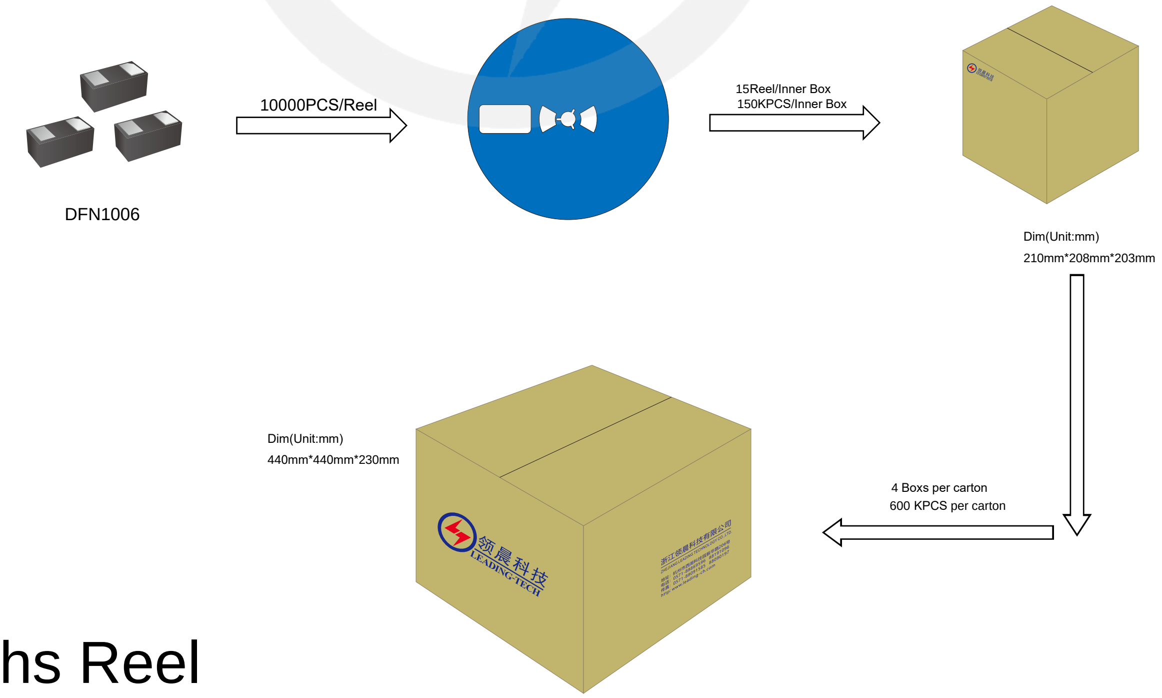
Unit：mm

7” Reel



D2	Φ178.0±2.0
D3	Φ50
D4	13.0±0.5
W1	12±0.5
Quantity: 10000PCS	

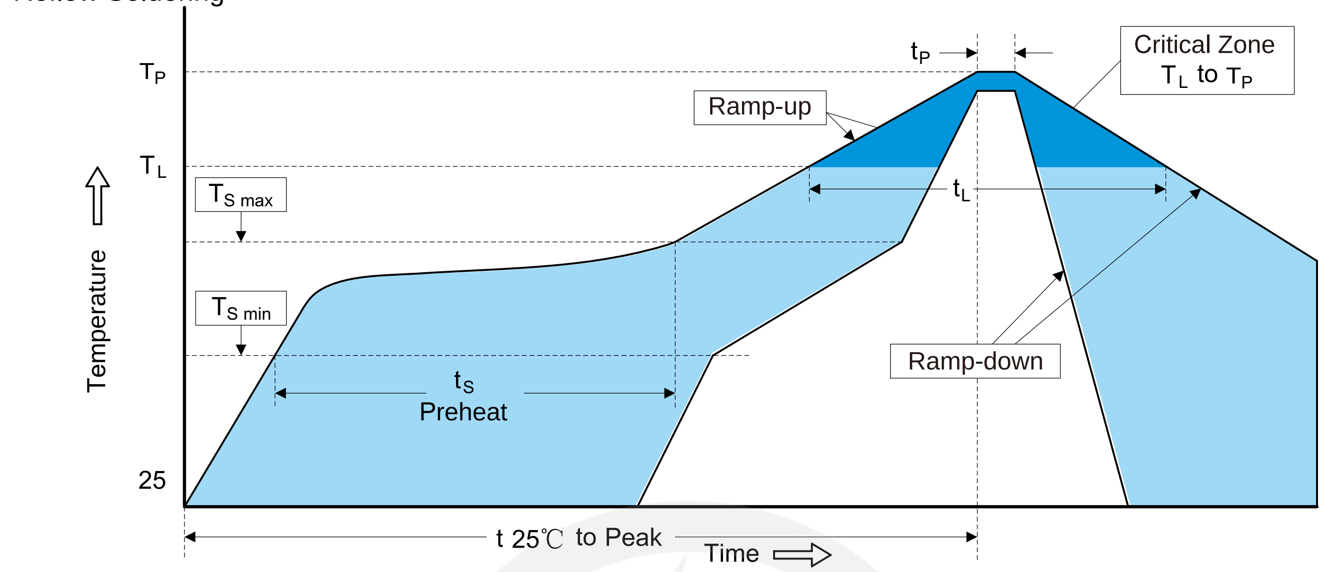
Packaging



7 inchs Reel

Recommended Soldering Conditons

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	2024.05.16	2024.05.16	3.0	New File	/	Ding	