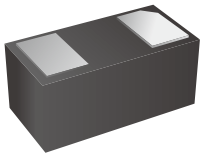
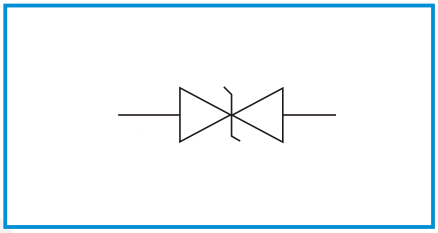
TVS/ESD Protection Diode

Features



- Peak Power Dissipation −50 W (8 x 20 usWaveform)
- Stand-off Voltage:8 V
- IEC61000-4-2 (ESD) ±25kV (air), ±25kV (contact)
  IEC61000-4-4 (EFT) 40A (5/50ns)
- Low capacitance for high-speed interfaces
- Replacement for MLV (0402)
- Protects I/O、VCC Port
- Low Clamping Voltage
- Low Leakage
- Low Capacitance
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- ROHS compliant

Functional Diagram



Applications

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

Ordering Information

Device	Marking	Qty per Reel	Reel Size
LTE10N08C01	Z	10000	7 Inch

Maximum Ratings (Ta=25°C unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20μs waveform)	P_{PPP}	50	Watts
Peak pulse current (tp=8/20μs waveform)	I_{PP}	5	A
ESD Rating per IEC61000-4-2: Contact Air		±25 ±25	KV
Lead Soldering Temperature	T_L	260 (10 sec.)	℃
Operating Temperature Range	T_J	-55 ~ 150	℃
Storage Temperature Range	T_{STG}	-55 ~ 150	℃

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

**Other voltages may be available upon request.*

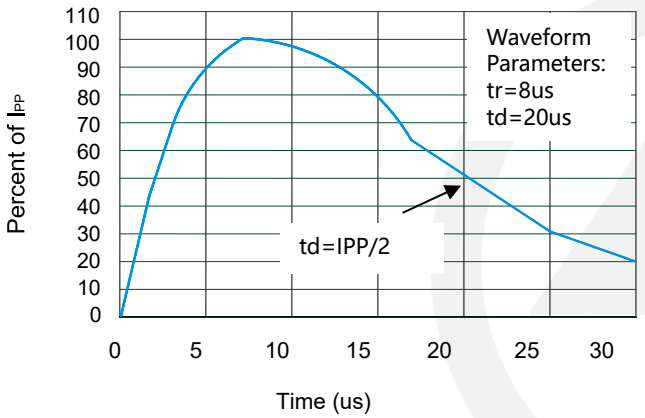
1. Non-repetitive current pulse, per Figure 1.

Electrical Characteristics (Ta=25℃)

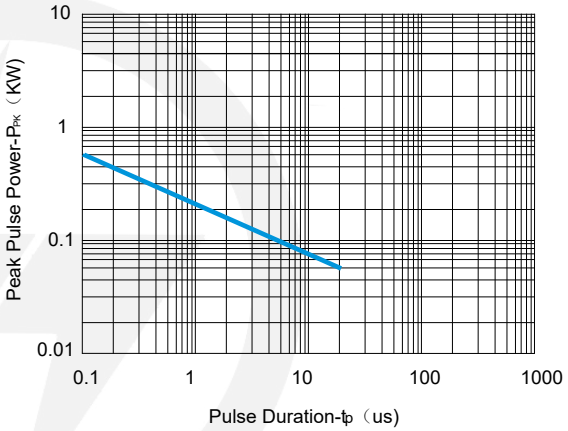
Symbol	Parameter	Conditions	Min.	Typ.	Max.	Units
V_{RWM}	Reverse Working Voltage				8	V
V_{BR}	Reverse Breakdown Voltage	I_T = 1mA,	8.5		10	V
I_R	Reverse Leakage Current	V_{RWM} = 8V,			0.5	μA
V_C	Clamping Voltage	I_{PP} = 5A, tp =8/20μs,		10	12	V
C_J	Junction Capacitance	V_R = 1V, f = 1MHz,		15	20	pF

Electrical Characteristics Curve

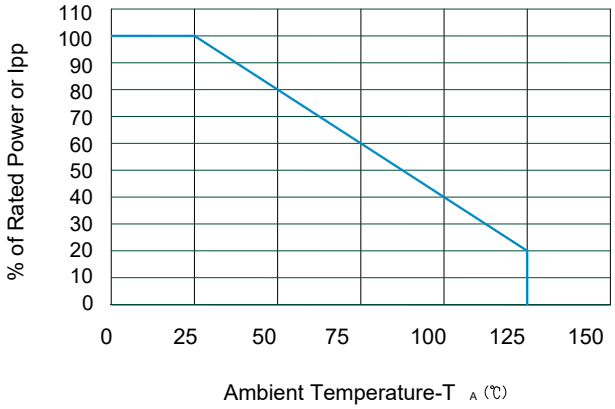
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time

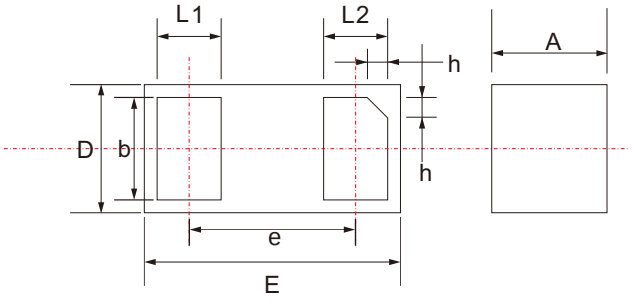


Power Derating Curve



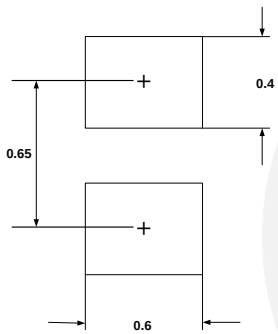
DFN-1006 Package Outline

Unit : mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
D	0.480	0.650
E	0.950	1.050
L1	0.150	0.350
L2	0.150	0.350
b	0.350	0.550
e	0.650 TYP.	
A	0.370	0.550
h	0.070	0.170

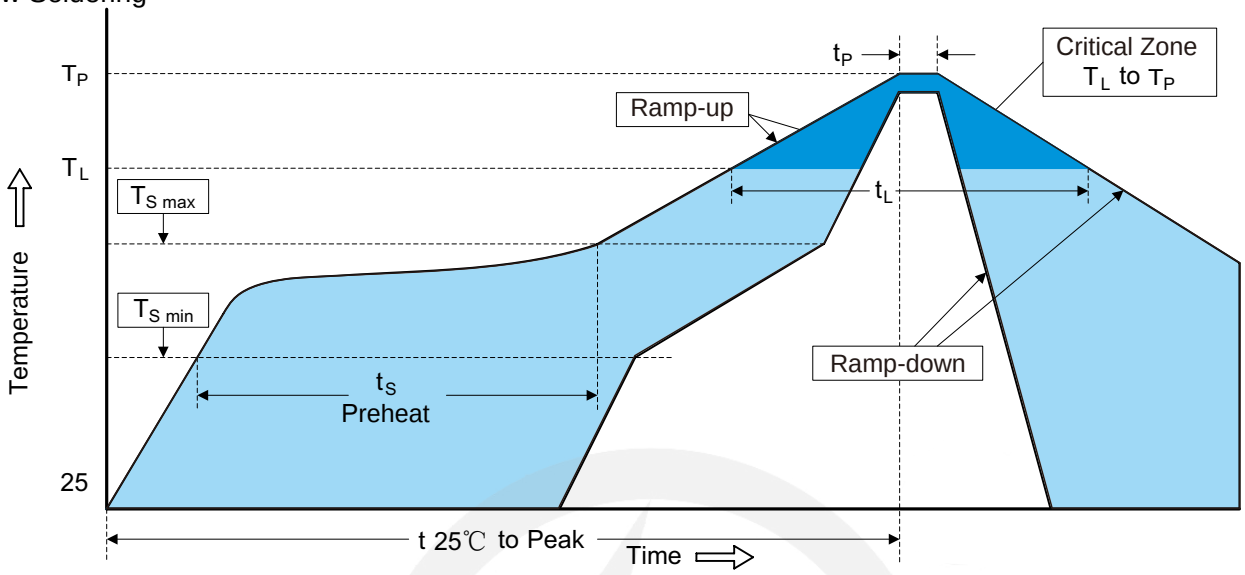
DFN-1006 Suggested Pad Layout



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

Recommended Soldering Conditions

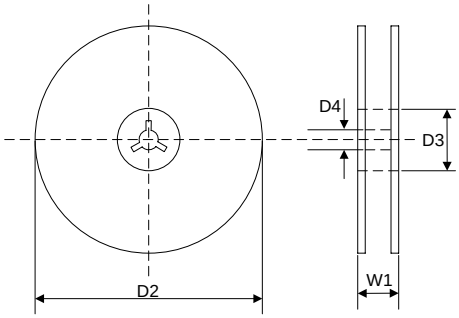
Reflow Soldering



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.

7” Reel



D2	Φ178.0±2.0
D3	Φ50.0Min.
D4	Φ13.0±0.5
W1	16.0±2.0
Quantity: 10000PCS	