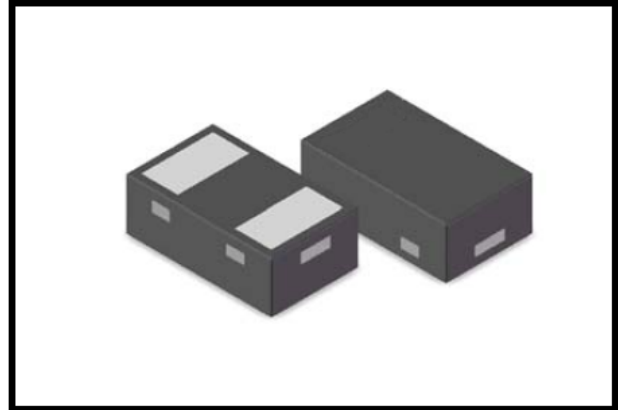


PT0321NLV – ESD Protection Diode

Feature

- 80 Watts peak pulse power (8/20 μ s)
- Tiny DFN1006 package
- Bidirectional configurations
- Solid state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC61000-4-2 (ESD) \pm 25 kV (Air), \pm 15 kV (Contact)
- IEC61000-4-4 (EFT) 40 A (5/50 ns)
- IEC61000-4-5 (Lightning): 12 A (8/20 μ s)



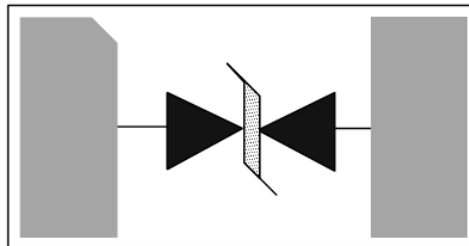
Applications

- Micro processor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops and Servers
- Portable Instrumentation
- Cell Phone Handsets and Accessories

Mechanical Data

- DFN1006 package
- Molding compound flammability rating: UL94 V-0
- Tape and Reel Packaging
- RoHS/WEEE Compliant

Schematic and PIN Configuration



DFN1006

Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	$V_{ESD}^{(1)}$	\pm 25	kV
IEC61000-4-2 ESD Voltage – Contact Mode		\pm 15	
Peak Pulse Power	$P_{PP}^{(2)}$	80	W
Peak Pulse Current	$I_{PP}^{(2)}$	12	A
Maximum Lead Solder Temperature (10 seconds duration)	T_L	260	$^{\circ}$ C
Junction Temperature	T_J	-55~125	$^{\circ}$ C
Storage Temperature Range	T_{stg}	-55~125	$^{\circ}$ C

Note:

1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20 μ s exponential decay waveform according to IEC61000-4-5.
3. All ratings are measured at environmental temperature of $T_A = 25^{\circ}$ C unless otherwise noted.

PT0321NLV – ESD Protection Diode

Electrical Characteristics

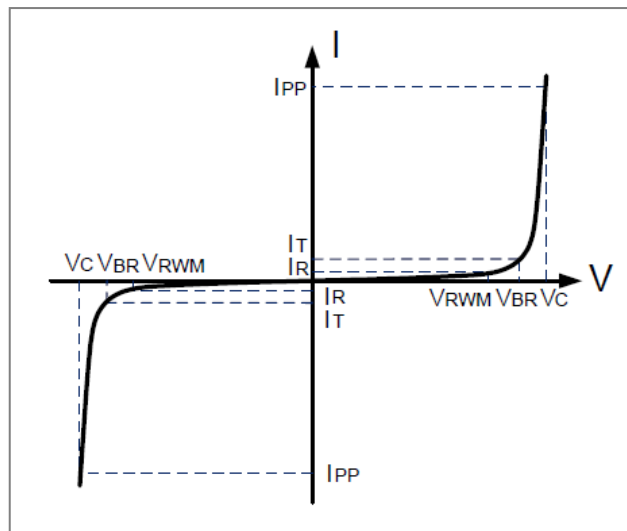
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				3.3	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1 \text{ mA}$	3.8			V
Reverse Leakage Current	I_R	$V_{RWM} = 3.3 \text{ V}$			0.5	μA
Clamping Voltage	V_C	$I_{PP} = 12 \text{ A}$		8.0		V
Dynamic Resistance	R_{DYN}			0.2		Ω
Junction Capacitance	C_J	$V_R = 0 \text{ V}, f = 1 \text{ MHz}$		17	25	pF

Note:

1. Other voltages available upon request.
2. Non-repetitive current pulse 8/20 μs exponential decay waveform according to IEC61000-4-5.
3. All ratings are measured at environmental temperature of $T_A = 25^\circ\text{C}$ unless otherwise noted.

Electrical Parameters

Symbol	Parameter
V_C	Clamping Voltage @ I_{PP}
I_{PP}	Peak Pulse Current
V_{BR}	Breakdown Voltage @ I_T
I_T	Test Current
I_R	Reverse Leakage Current @ V_{RWM}
V_{RWM}	Reverse Stand-off Voltage



PT0321NLV – ESD Protection Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

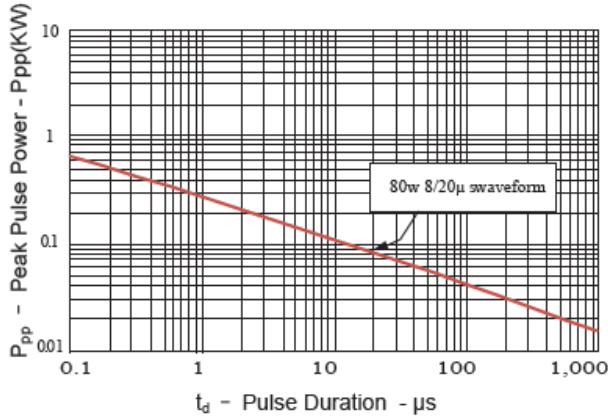


Figure 2: Power Derating Curve

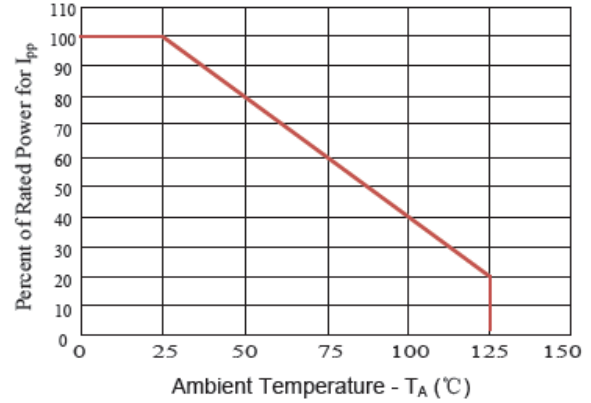


Figure 3: Pulse Waveform

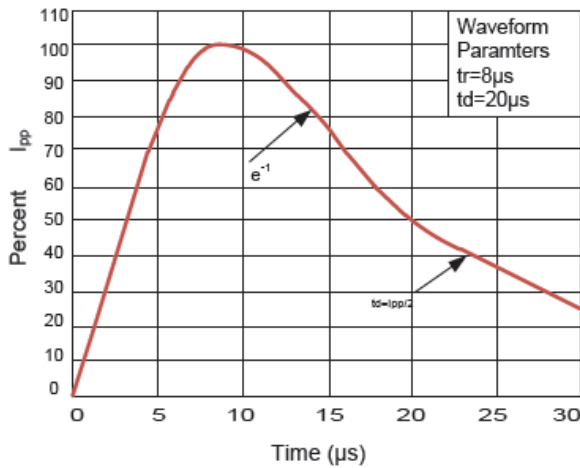
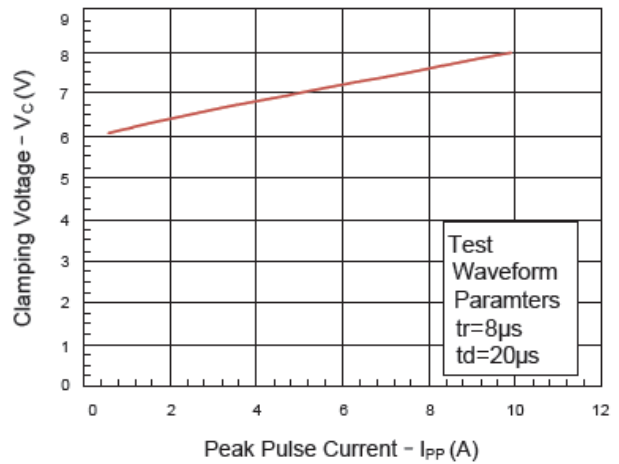
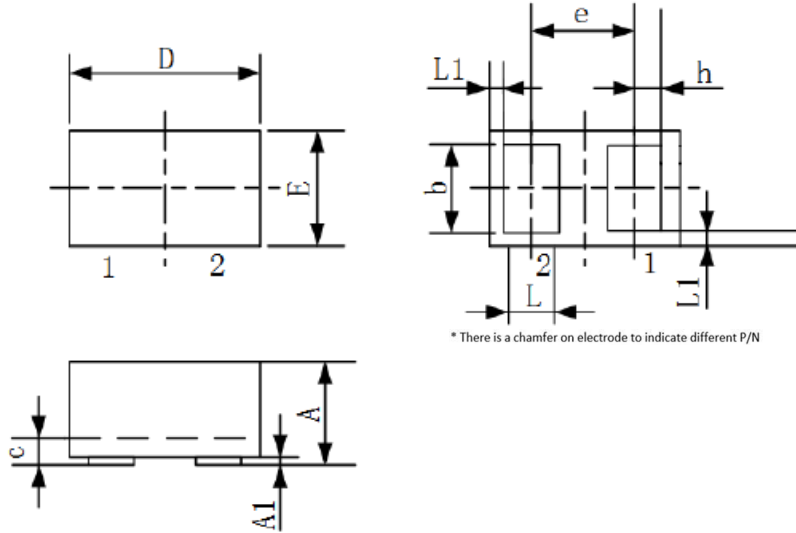


Figure 4: Clamping Voltage vs. Ipp



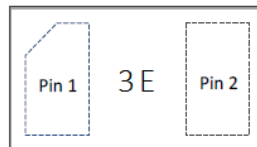
PT0321NLV – ESD Protection Diode

DFN1006 Package Outline Dimensions



Symbol	Dimensions (mm)		
	Min	Typ	Max
A	0.40	0.50	0.55
A1	0.00	0.02	0.05
b	0.45	0.50	0.55
c	0.12	0.15	0.18
D	0.95	1.00	1.05
e	0.65 BSC		
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.05 REF		
h	0.07	0.12	0.17

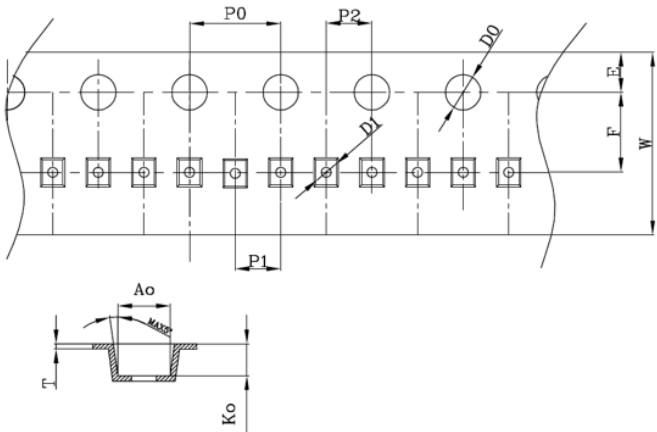
Marking



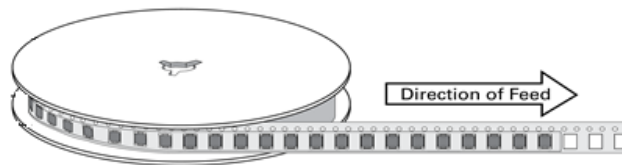
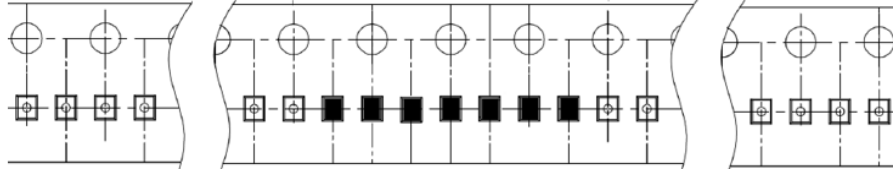
PT0321NLV – ESD Protection Diode

Packaging Information

Order Code	Packaging	Reel Size	PCS/Reel
PT0321NLV	DFN1006	7 inch	10,000

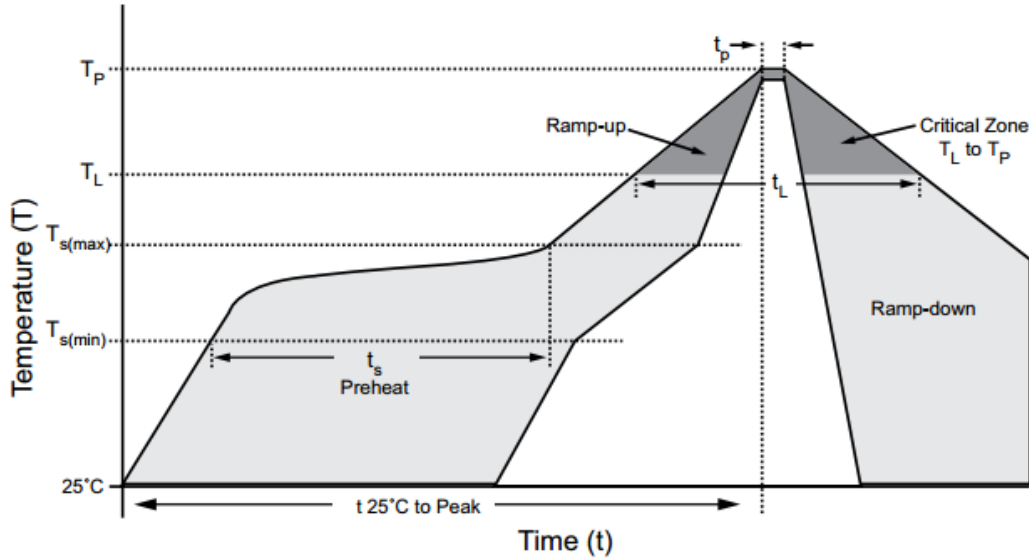


Symbol	Dimension (mm)
A0	0.69±0.05
B0	1.19±0.05
K0	0.66±0.05
P0	4.00±0.10
P1	2.00±0.05
P2	2.00±0.05
T	0.20±0.02
E	1.75±0.10
F	3.50±0.05
D0	1.55±0.05
D1	0.50±0.10
W	8.00±0.10



PT0321NLV – ESD Protection Diode

Lead Free Reflow Soldering Recommendations



Profile Feature	Pb Free Assembly
Preheat - Temperature Min (T_{s_min}) - Temperature Max (T_{s_max}) - Time (T_{s_min} to T_{s_max}) - Average Ramp-Up Rate	150°C 200°C 60-180 seconds 1~3°C/second
Peak Temperature	260°C max.
Time within 5°C of actual Peak Temperature (t_p)	40 seconds max.
Ramp-Down Rate	6 °C /second max.

Note: If the soldering temperatures exceed the recommended profile, devices may not meet the performance requirements.