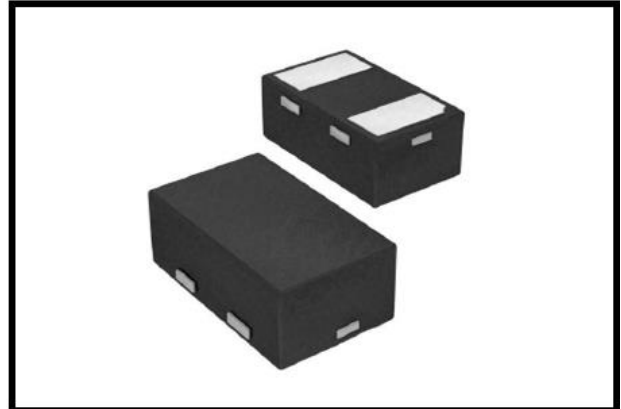


PT0682NH – ESD Protection Diode

Feature

- 2200 Watts peak pulse power (8/20 μ s)
- Bidirectional configurations
- Solid state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protection one data/power line
- IEC61000-4-2 (ESD) \pm 30kV (Air), \pm 30kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning): 160A (8/20 μ s)



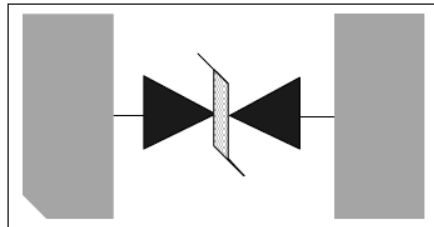
Applications

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

Mechanical Data

- DFN1610 package
- Molding compound flammability rating: UL94 V-0
- Tape and Reel Packaging
- RoHS/WEEE Compliant

Schematic and PIN Configuration



DFN1610

Maximum Rating

Parameter	Symbol	Limit	Unit
IEC61000-4-2 ESD Voltage – Air Mode	V _{ESD} ⁽¹⁾	\pm 30	kV
IEC61000-4-2 ESD Voltage – Contact Mode		\pm 30	
Peak Pulse Power	P _{PP} ⁽²⁾	2200	W
Peak Pulse Current	I _{PP} ⁽²⁾	160	A
Maximum Lead Solder Temperature (10 seconds duration)	T _L	260	°C
Junction Temperature	T _J	-55~125	°C
Storage Temperature Range	T _{stg}	-55~125	°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 TA = 25 °C unless otherwise noted.

PT0682NH – ESD Protection Diode

Electrical Characteristics

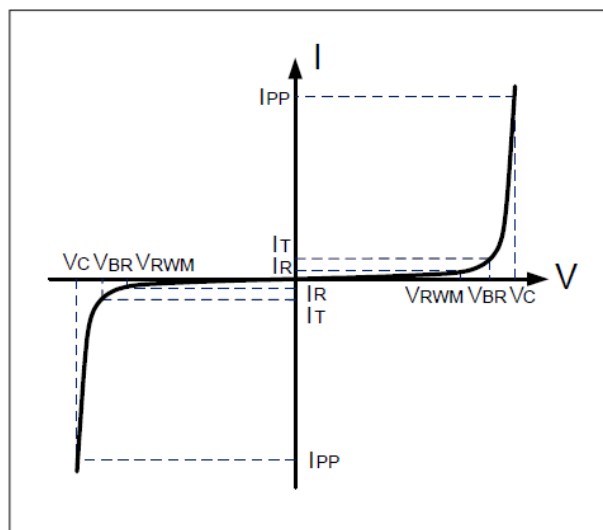
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				6.8	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	7.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 6.8\text{V}$			1.0	μA
Clamping Voltage	$V_C^{(2)}$	$I_{PP} = 160\text{A}$		14		V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		550		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



PT0682NH – ESD Protection Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

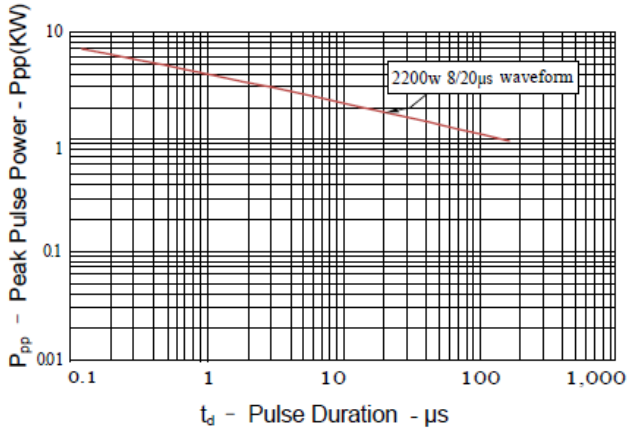


Figure 2: Power Derating Curve

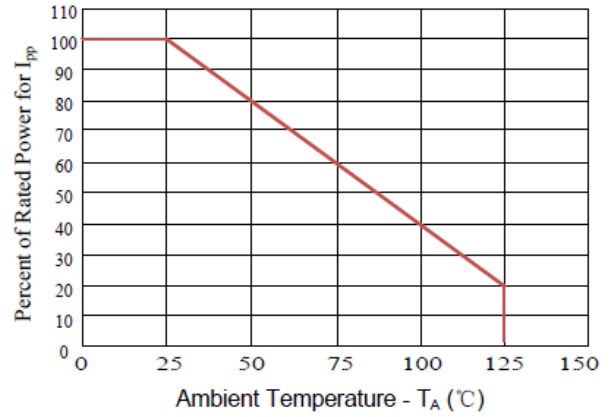


Figure 3: Pulse Waveform

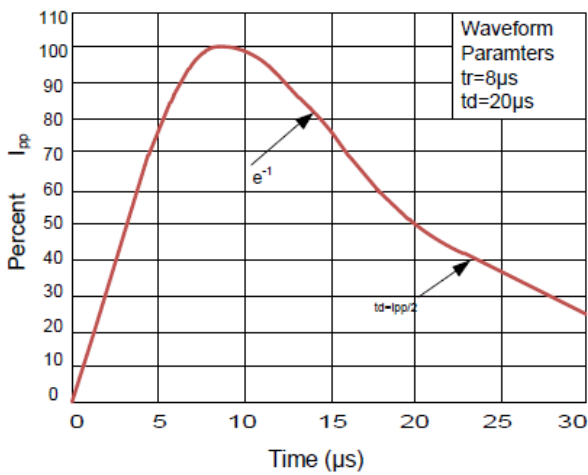
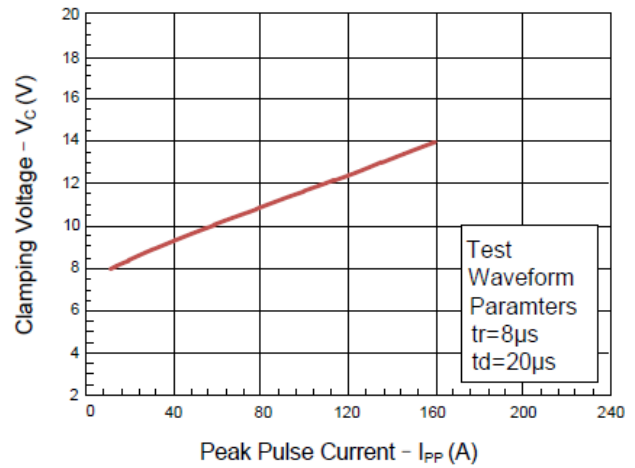
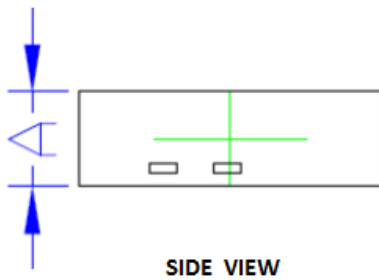
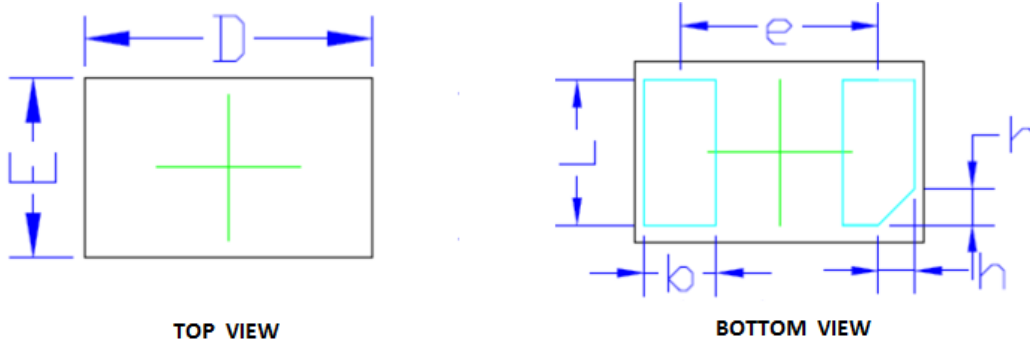


Figure 4: Clamping Voltage vs. Ipp



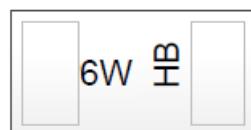
PT0682NH – ESD Protection Diode

DFN1610 Package Outline Dimensions



Symbol	Dimensions (mm)		
	Min	Typ	Max
A	0.45	0.50	0.55
D	1.55	1.60	1.65
E	0.95	1.00	1.05
b	0.35	0.40	0.45
L	0.75	0.80	0.85
e	1.10 BSC		
h	0.15	0.20	0.25

Marking



Packaging Information

Order Code	Packaging	Reel Size	PCS/Reel
PT0682NH	DFN1610	7 inch	10,000