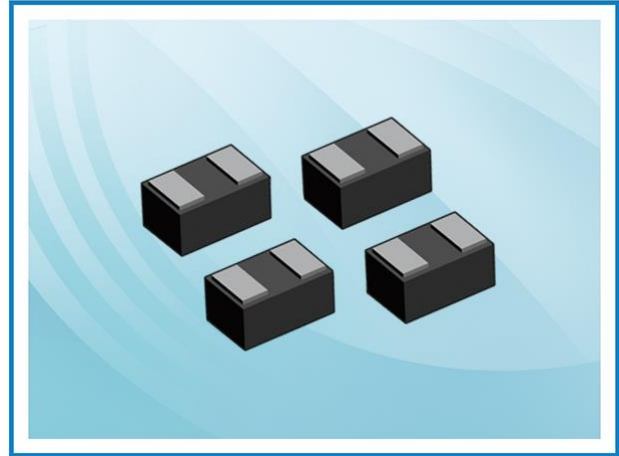


APT05NFC – ESD Protection Diode

Feature

- 65 Watts peak pulse power (8/20μs)
- Bidirectional configurations
- Solid state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- IEC61000-4-2 (ESD) ±25kV (Air), ±25kV (Contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning): 6A (8/20μs)
- AEC-Q101 qualified



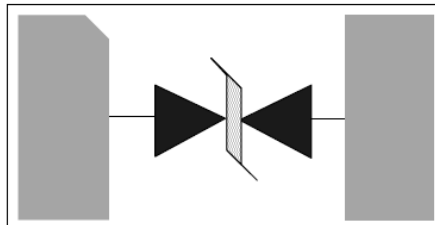
Applications

- Micro processor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops and Servers
- Portable Instrumentation
- Pagers Peripherals

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⁾	±25	kV
IEC61000-4-2 ESD Voltage – Contact Mode		±25	
Peak Pulse Power	P _{PP} ⁽²⁾	65	W
Peak Pulse Current	I _{PP} ⁽²⁾	6	A
Maximum Lead Solder Temperature (10 seconds duration)	T _L	260	°C
Junction Temperature	T _J	-55~150	°C
Storage Temperature Range	T _{stg}	-55~150	°C

Note:

1. Device stressed with ten non-repetitive ESD pulses.
2. Non-repetitive current pulse 8/20μs exponential decay waveform according to IEC61000-4-5.
3. All ratings are measured at environmental temperature of TA = 25 °C unless otherwise noted.

APT05NFC – ESD Protection Diode

Electrical Characteristics

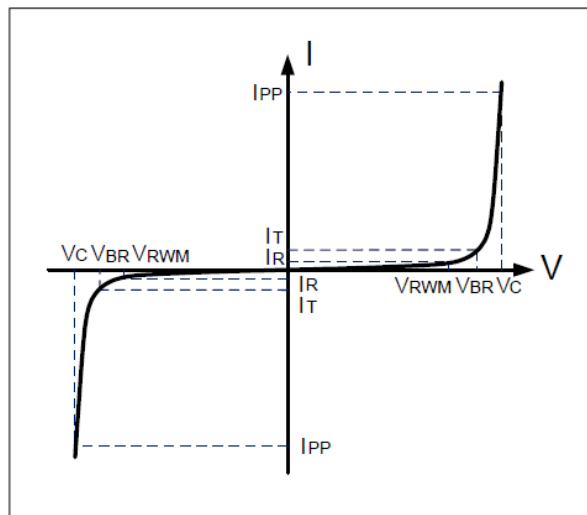
Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse Stand-off Voltage	$V_{RWM}^{(1)}$				5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T = 1\text{mA}$	6.0			V
Reverse Leakage Current	I_R	$V_{RWM} = 5\text{V}$			1.0	μA
Clamping Voltage	$V_C^{(2)}$	$I_{PP} = 6\text{A}$		11	15	V
Junction Capacitance	C_J	$V_R = 0\text{V}, f = 1\text{MHz}$		6.0	8.0	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



APT05NFC – ESD Protection Diode

Typical Characteristics

Figure 1: Peak Pulse Power vs. Pulse Time

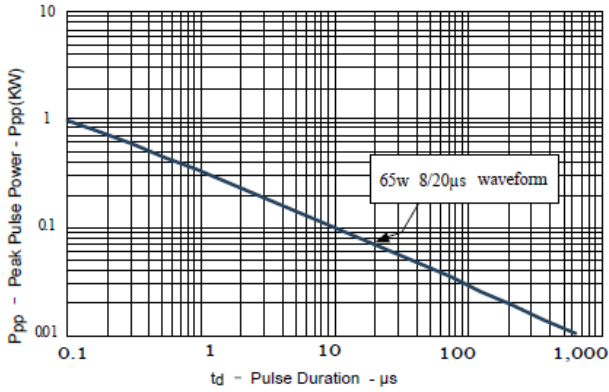


Fig.2 Clamping Voltage vs. Ipp

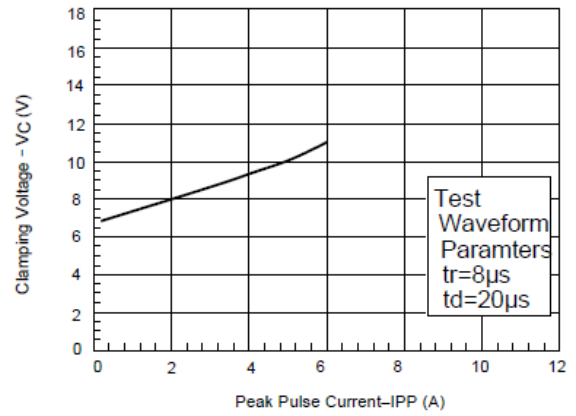


Fig.3 Pulse Waveform-8/20μs

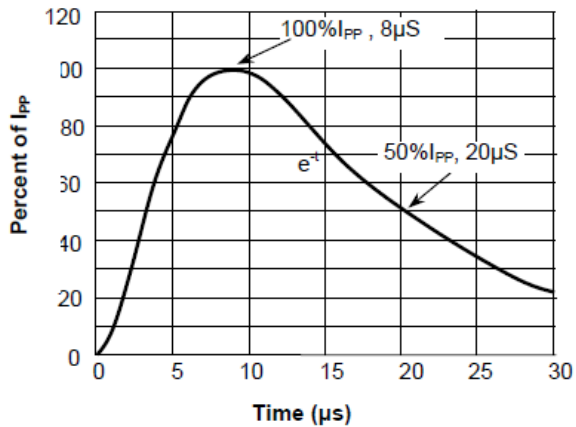


Fig.4 Pulse Waveform-ESD(IEC61000-4-2)

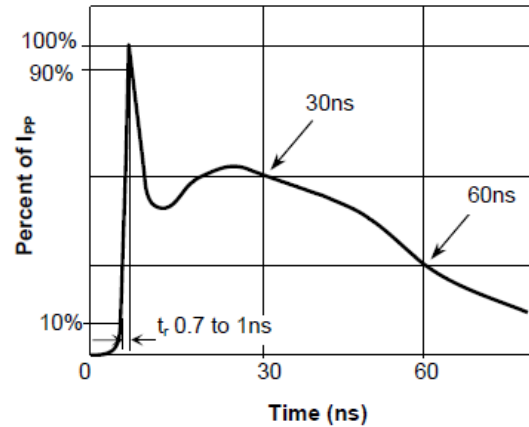


Fig.5 IEC61000-4-2 +8kV Contact Discharge

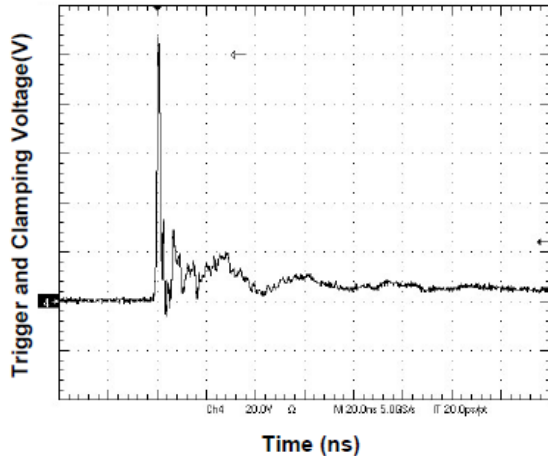
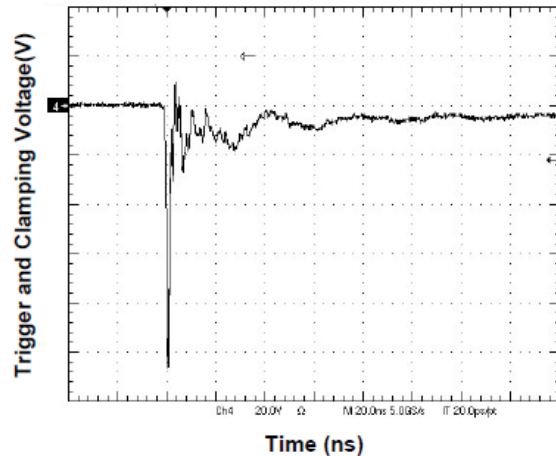
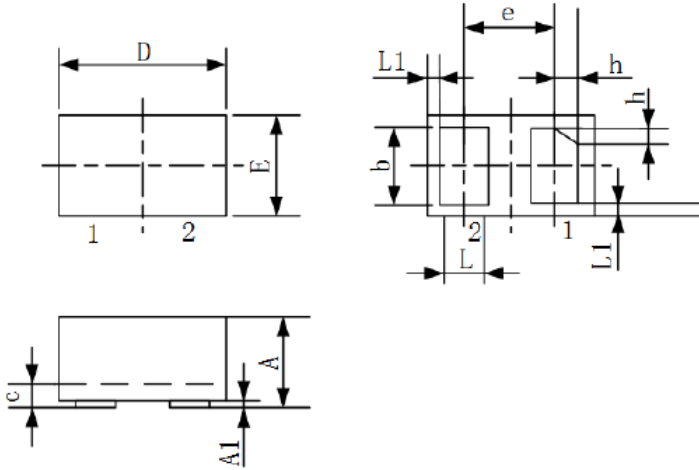


Fig.6 IEC61000-4-2 -8kV Contact Discharge



APT05NFC – 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



