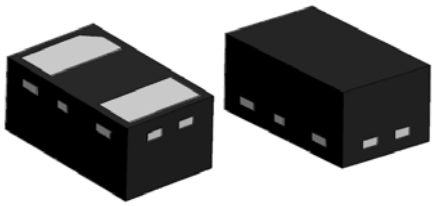
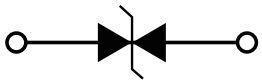
Transient Voltage Suppressors for ESD Protection General Description

Features

- 50W (8/20μs) Peak Pulse Power
- Ultra-Low Capacitance ESD Protection
- DFN1006-2Package
  RoHS Compliant
- Matte Tin Lead finish (Pb-Free)
- Protect One High Speed Data Line
- Meet IEC61000-4-2 Level 4:
- Contact Discharge > 8kV
- Air Discharge > 15kV

DFN1006

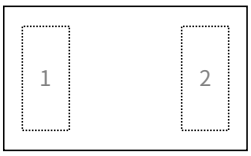




Package Outline

Applications

- Serial ATA
- USB Ports
- MDDI Ports
- Display Port
- PCI Express
- Digital Visual Interface (DVI)
- Cellular Handsets and Accessories



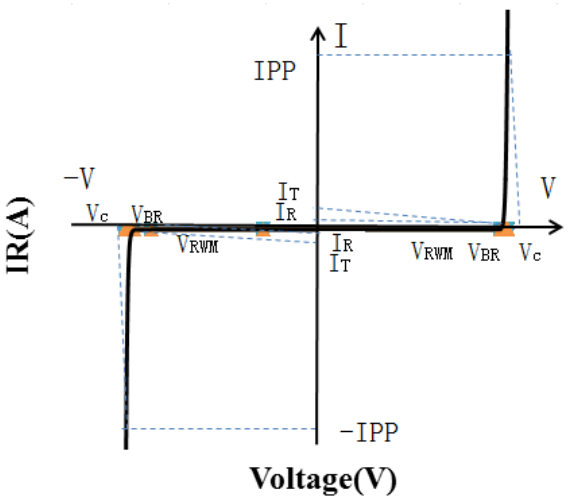
MARKING: N

Absolute Maximum Ratings (TA=25°C unless otherwise specified)

Symbol	Parameter	Value	Unit
PPK	Peak Pulse Power	50	W
IPP	Peak Pulse Current	3	A
VESD (Contact)	Contact ESD Voltage per IEC61000-4-2	20	kV
VESD (Air)	Air ESD Voltage per IEC61000-4-2	17	kV
TJ	Junction Temperature	-55 to +125	℃
TSTG	Storage Temperature	-55 to +150	℃

Portion Electronics Parameter

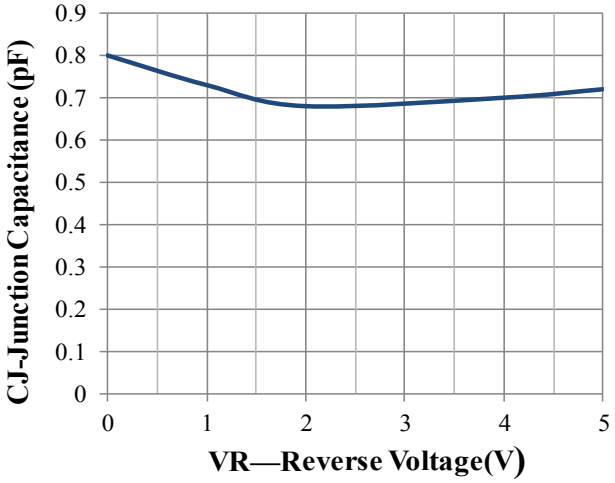
Symbol	Parameter
IT	Test Current
IPP	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ic



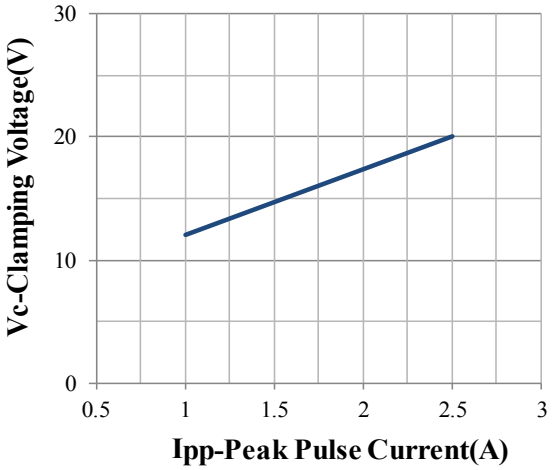
Electrical Characteristics (TA=25°C unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
VRWM	Reverse Working Peak Voltage				5	V
VBR	Reverse Breakdown Voltage	IT = 1mA	6	7.5	8.5	V
IR	Reverse Leakage Current	VRWM = 5V			1	μA
VC	Clamping Voltage	IPP = 1A (8/20μs)			12	V
VC	Clamping Voltage	IPP = 2 A (8/20μs)			25	V
CJ	Capacitance	VR = 0V, f = 1MHz	0.5	0.8	0. 9	pF

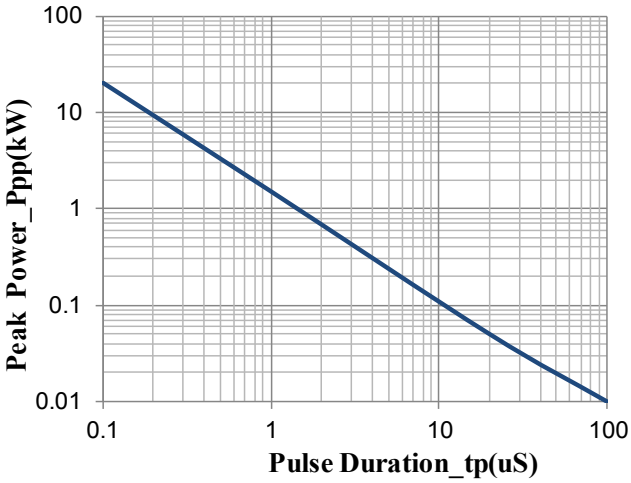
Typical Characteristics



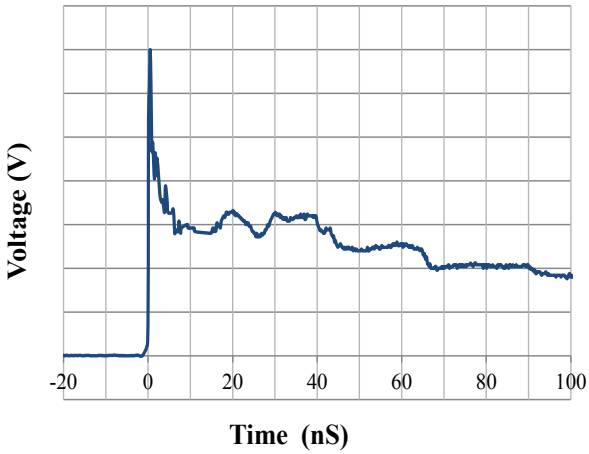
Junction Capacitance vs. Reverse Voltage



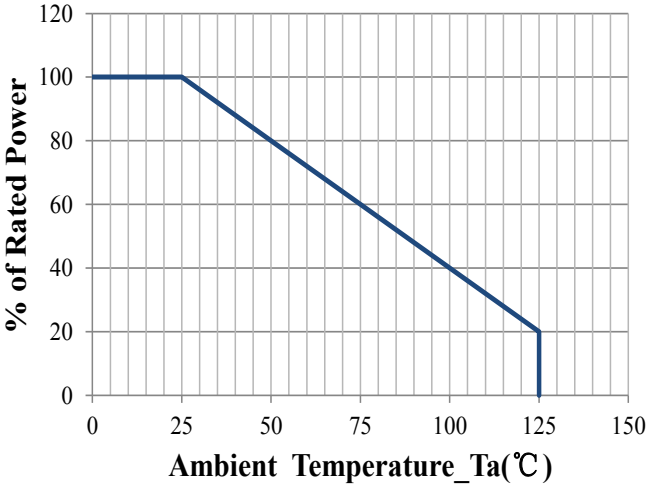
Clamping Voltage vs. Peak Pulse Current



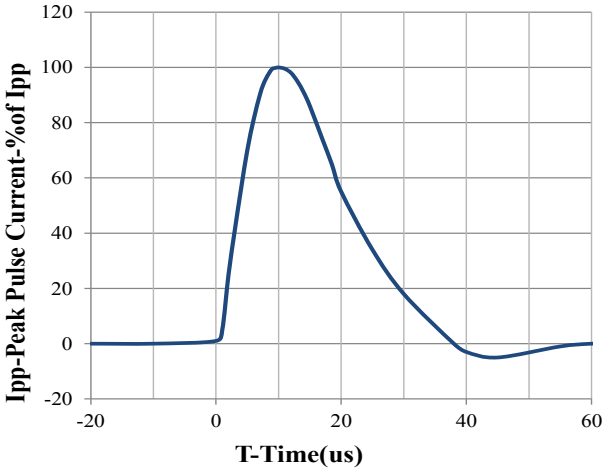
Peak Pulse Power vs. Pulse Time



IEC61000-4-2 Pulse Waveform

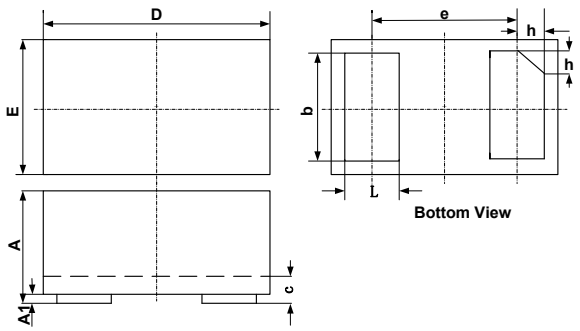


Power Derating Curve



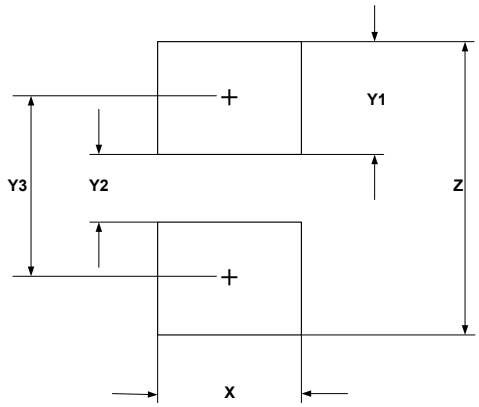
8 X 20us Pulse Waveform

DFN1006-2L Package Outline Drawing



SYM	DIMENSIONS					
	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.45	0.50	0.55	0.018	0.020	0.022
A1	0.00	0.02	0.05	0.000	0.001	0.002
b	0.45	0.50	0.55	0.018	0.020	0.022
c	0.12	0.15	0.18	0.005	0.006	0.007
D	0.95	1.00	1.05	0.037	0.039	0.041
e	0.65 BSC			0.026 BSC		
E	0.55	0.60	0.65	0.022	0.024	0.026
L	0.20	0.25	0.30	0.008	0.010	0.012
h	0.07	0.12	0.17	0.003	0.005	0.007

Suggested Land Pattern



SYM	DIMENSIONS	
	MILLIMETERS	INCHES
X	0.60	0.024
Y1	0.50	0.020
Y2	0.30	0.012
Y3	0.80	0.032
Z	1.30	0.052