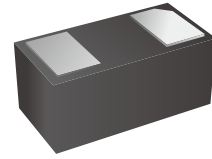


Low Capacitance Bidirectional TVS/ESD Protection Diode

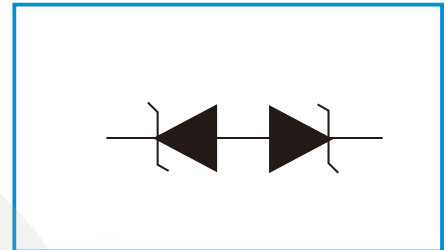
Features

- ESD per IEC 61000-4-2 ±30 kV (Contact)
- ESD per IEC 61000-4-2 ±30 kV (Air)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- Peak power dissipation: 400W (8/20μs)
- Protects one Vcc or data line
- Low clamping voltage
- Working voltages : 5V
- Low leakage current
- Low capacitance



DFN1006

Functional Diagram



Mechanical Data

- DFN1006 package
- Flammability Rating: UL 94V-0
- High temperature soldering guaranteed: 260°C/10s
- Packaging: Tape and Reel
- Reel size: 7 inch
- Marking :H

Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Networking and Telecom
- Serial and Parallel Ports
- Peripherals

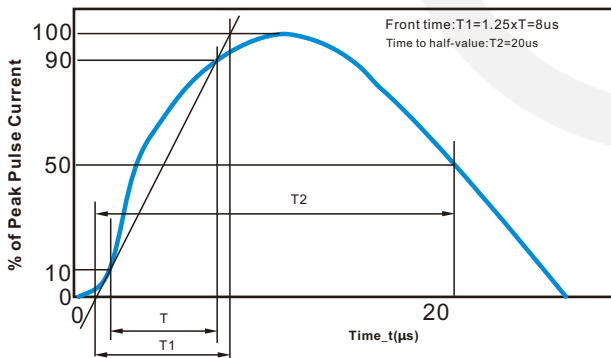
Absolute Maximum Ratings (T_{amb}=25°C unless otherwise specified)

Symbol	Parameter	Value	Units
V _{ESD}	ESD per IEC 61000-4-2 (Contact) ESD per IEC 61000-4-2 (Air)	±30 ±30	kV
P _{PP}	Peak Pulse Power (8/20μs)	400	W
T _{OPT}	Operating Temperature	-55~150	°C
T _{STG}	Storage Temperature	-55~150	°C

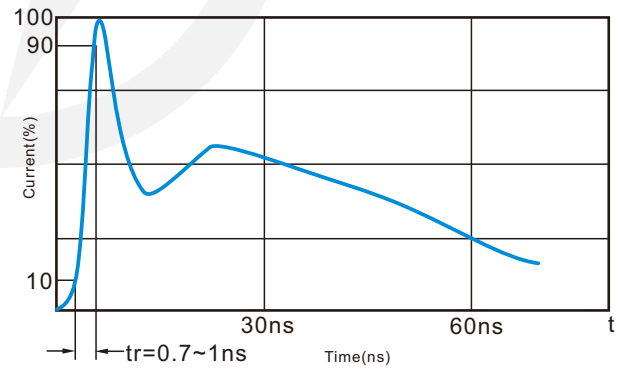
Electrical Characteristics (TA=25°C unless otherwise specified)

Symbol	Parameter	Test Condition	Min	Typ	Max	Units
V_{RWM}	Reverse Working Voltage				5.0	V
V_{BR}	Reverse Breakdown Voltage	$I_T = 1\text{mA}$	5.8		9.0	V
I_R	Reverse Leakage Current	$V_{RWM} = 5\text{V}$			1.0	μA
V_C	Clamping Voltage	$I_{PP} = 1\text{A}, t_p = 8/20\mu\text{s}$			9.8	V
V_C	Clamping Voltage	$I_{PP} = 20\text{A}, t_p = 8/20\mu\text{s}$		15	20	V
C_J	Junction Capacitance	$V_R = 0\text{V}, f = 1\text{MHz}$		33	40	pF

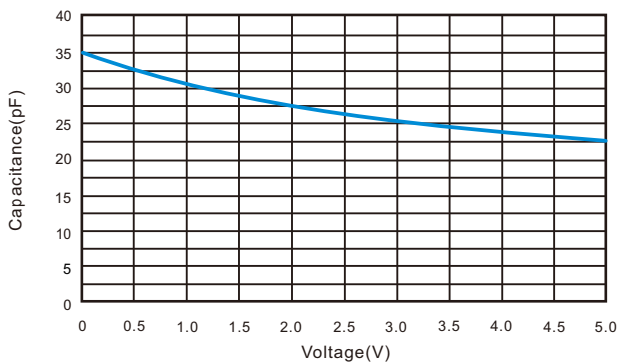
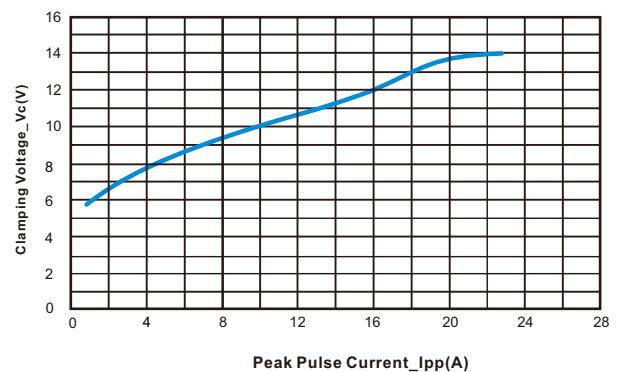
Characteristic Curves

 8x20 μs Pulse Waveform per IEC61000-4-5


Contact Discharge Current Waveform per IEC 61000-4-2

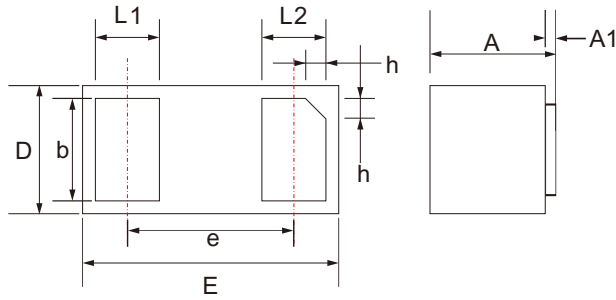


Voltage vs Capacitance


 Clamping Voltage vs. Peak Pulse Current ($t_p = 8/20\mu\text{s}$)


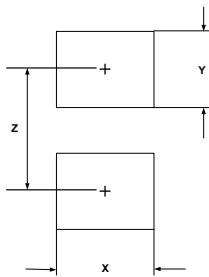
DFN1006 Package Outline

Unit: mm



SYMBOL	DIMENSIONS	
	MIN.	MAX.
D	0.550	0.650
E	0.950	1.050
L1	0.200	0.300
L2	0.200	0.300
b	0.450	0.550
e	0.650 TYP.	
A	0.450	0.550
A1	0.000	0.050
h	0.070	0.170

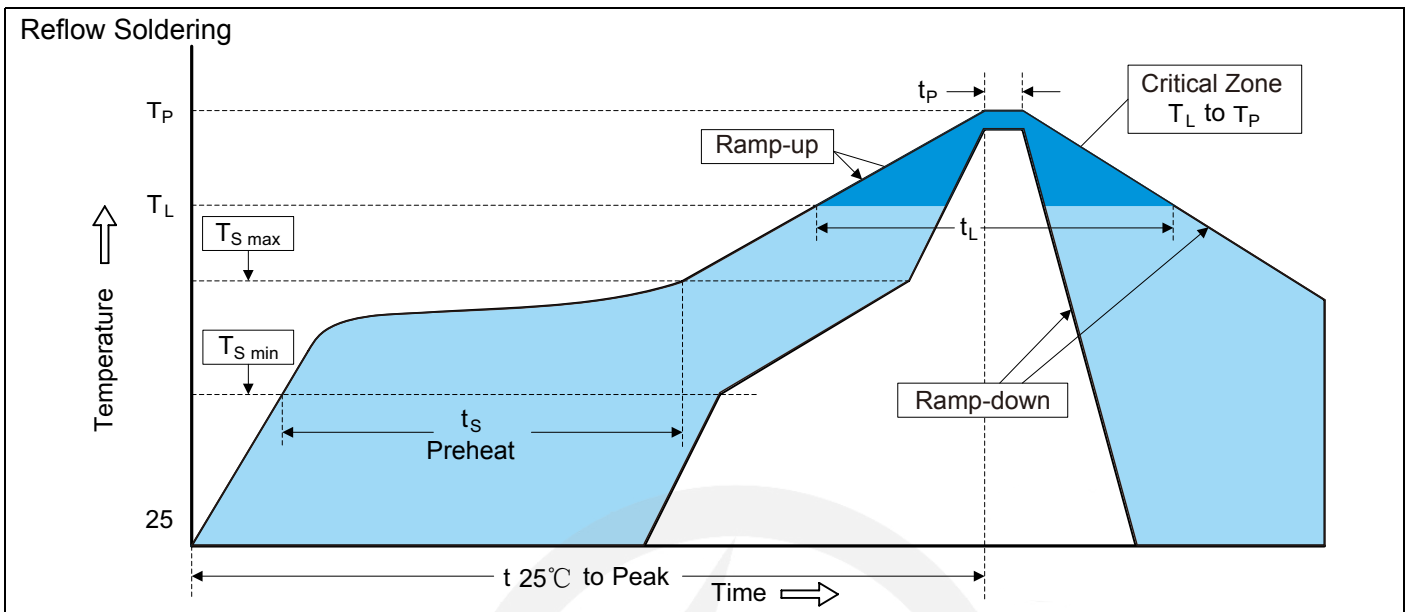
DFN1006 Suggested Pad Layout



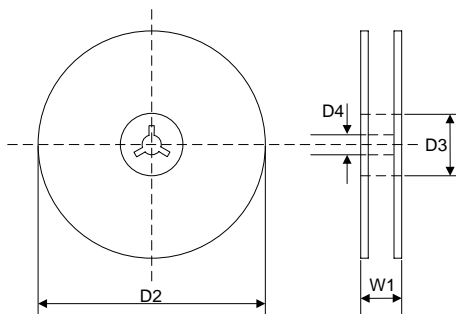
SYM	DIMENSIONS
	MILLIMETERS
X	0.50
Y	0.50
Z	0.90

Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$
3. The pad layout is for reference purpose only.

Recommended Soldering Conditions

Recommended Conditions

Profile Feature	Pb-Free Assembly
Average ramp-up rate (T_L to T_P)	3°C/second max.
Preheat -Temperature Min ($T_{S\ min}$) -Temperature Max ($T_{S\ max}$) -Time (min to max) (t_s)	150°C 200°C 60-180 seconds
$T_{S\ max}$ to T_L -Ramp-up Rate	3°C/second max.
Time maintained above: -Temperature (T_L) -Time (t_L)	217°C 60-150 seconds
Peak Temperature (T_P)	260°C
Time within 5°C of actual Peak Temperature (t_P)	20-40 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to Peak Temperature	8 minutes max.

7" Reel


D2	$\Phi 178.0 \pm 2.0$
----	----------------------

D3	$\Phi 50.0 \text{ Min.}$
----	--------------------------

D4	$\Phi 13.0 \pm 0.5$
----	---------------------

W1	16.0 ± 2.0
----	----------------

Quantity: 10000PCS	
--------------------	--