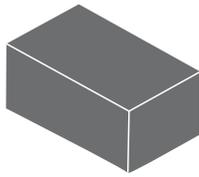
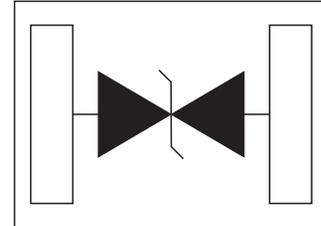


# Electro-Static Discharge TESD12CB Bidirectional TVS Diode

## DFN1006



## Pin Configuration



## Features

- 120 Watts Peak Pulse Power per Line ( $t_p=8/20\mu s$ )
- Protects one bidirectional I/O line
- Low clamping voltage
- Working voltages : 12V
- Low leakage current

## IEC Compatibility

- IEC61000-4-2 (ESD)  $\pm 30kV$  (air),  $\pm 30kV$  (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (EFT) 6A (8/20us)

## Applications

- MP3 Players
- Mobile Phones
- Battery Protection
- Power Line Protection
- Vbat pin for Mobile Device
- Hand Held portable Applications

## Mechanical Characteristics

- JEDEC DFN1006 Package
- Molding Compound Flammability Rating : UL 94V-0
- Weight 0.5 Milligrams (Approximate)
- Quantity Per Reel : 10,000pcs
- Reel Size : 7 inch
- Lead Finish : Lead Free

Maximum Ratings( $T_A=25^{\circ}\text{C}$  unless otherwise specified )

Parameter	Symbol	Value	Units
Peak Pulse Power( $t_p=8/20\mu\text{s}$ )	$P_{PP}$	120	Watts
Lead Soldering Temperature	$T_L$	260(10 sec.)	$^{\circ}\text{C}$
Operating Temperature Range	$T_J$	-40~85	$^{\circ}\text{C}$
Storage Temperature Range	$T_{STG}$	-55~150	$^{\circ}\text{C}$

Electrical Characteristics( $T_A=25^{\circ}\text{C}$  unless otherwise specified )

TESD12CB(Marking: cD)

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Units
Reverse Stand-off Voltage	$V_{RWM}$				12	V
Breakdown Voltage	$V_{BR}$	$I_T=1\text{mA}$	13.5			V
Clamping Voltage	$V_C$	$I_{PP}=1\text{A}, t_p=8/20\mu\text{s}$			16	V
		$I_{PP}=6\text{A}, t_p=8/20\mu\text{s}$			20	V
Reverse Leakage Current	$I_R$	@ $V_{RWM}$			1	$\mu\text{A}$
Junction Capacitance	$C_{I/O}$	0Vdc, f=1MHz Between I/O Pins and GND		7		pF

Ratings and Characteristic Curves

Fig.1 Non-Repetitive Pulse Power vs.Pulse Time

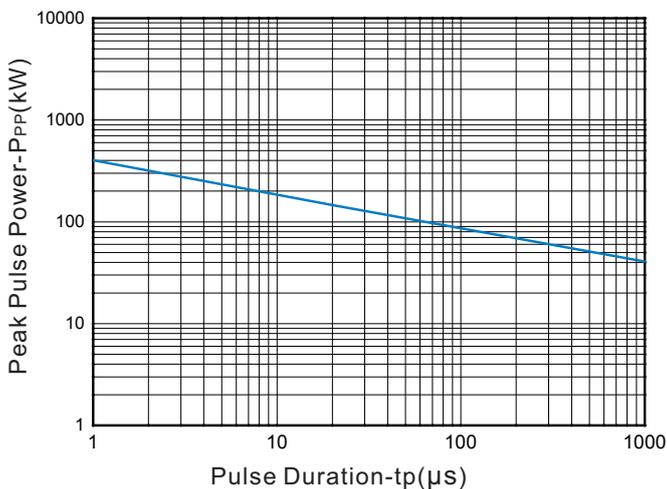
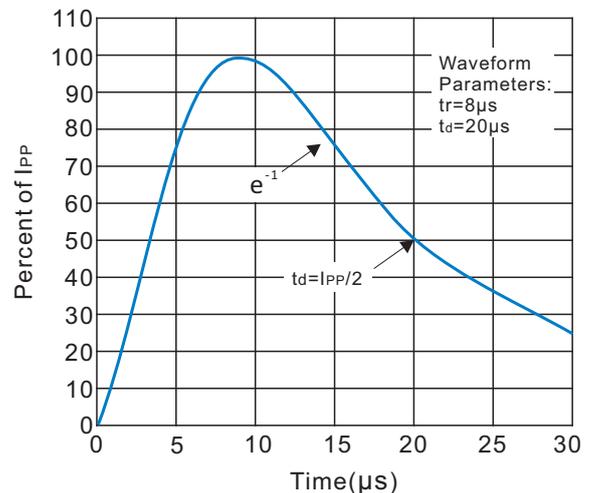
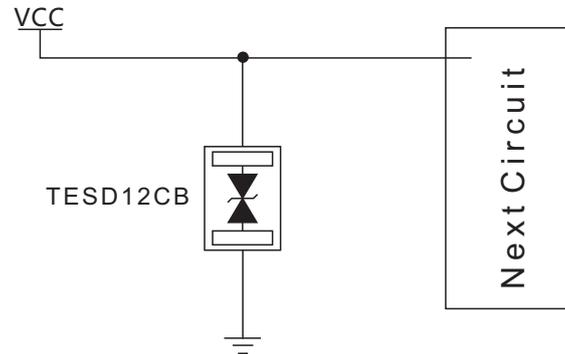


Fig.2 Pulse Waveform



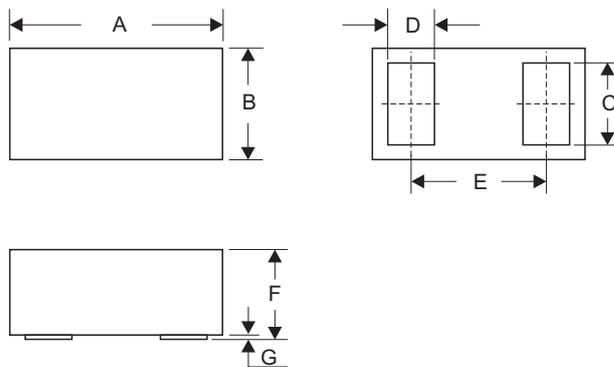
## Application

Power Protection



## Dimensions(DFN1006)

DFN1006



DIM	Millimeters		Inches	
	Min	Max	Min	Max
A	0.95	1.07	0.037	0.042
B	0.55	0.65	0.022	0.026
C	0.45	0.55	0.017	0.022
D	0.20	0.40	0.008	0.016
E	0.65BSC		0.026BSC	
F	0.40	0.55	0.015	0.022
G	0.00	0.10	0.000	0.004