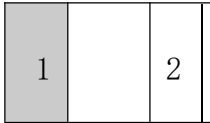
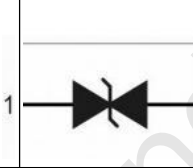




1-Line Bidirectional ESD Protection Diode

DFN1006-2L

Schematic & Pin configuration

Dimensions	Circuit Diagram
	

General description

The ESD8LB5.0C is a bi-directional TVS diode,utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage,making this device an ideal solution for protecting voltage sensitive data and power line. The ESD8LB5.0C complies with the IEC 61000-4-2 (ESD)standard with ± 20 KV air and ± 15 KV contact discharge.It is assembled into an ultra-small 1.0x0.6x0.5mm lead-free 0402 package.The small size and high ESD surge protection make ESD8LB5.0C an ideal choice to protect cell phone,digital cameras,audio players and many other portable applications.

Features and benefits

- Ultra small SMD package 1.0x0.6x0.5 mm
- Bidirectional ESD protection of one line
- Femtofarad capacitance:Cj=0.5pF(Typ)
- Complies with following standards:IEC 61000-4-2 (ESD)immunity test
Air discharge: ± 20 KV,Contact discharge: ± 15 KV
--IEC61000-4-5(Lightning)5A(8/20 μ S)
- RoHS Compliant

Application information

- PCI Express and Serial SATA Ports
- Smart phones
- MDDI Ports
- USB Ports
- Digital Video Interface (DVI)
- Display Ports

Ordering information

Device	Package	Marking	Packaging	Reel Size
ESD8LB5.0C	DFN1006-2L	S1	10000/Tape&Reel	7 Inch

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

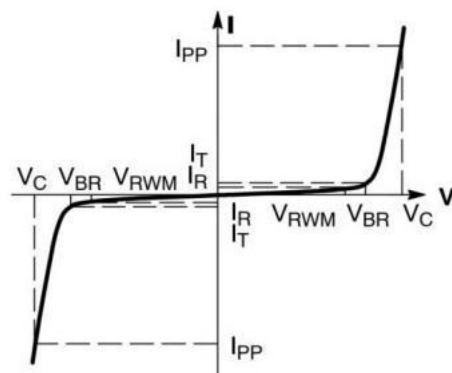
Parameter	Symbo	Value	Unit
Peak Pulse Power (Tp=8/20 μs)	Ppk	40	W
Rated Peak Pulse Current (Tp=8/20 μs)	Ipp	5.0	A
Maximum lead temperature for soldering during 10s	TL	260	°C
Storage Temperature Range	Tstg	-55 to +150	°C
Operating Temperature Range	Top	-40 to +125	°C
ESD voltage IEC 61000-4-2 (air discharge)	VESD	20	kV
ESD voltage IEC 61000-4-2 (contact discharge)	VESD	15	kV

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

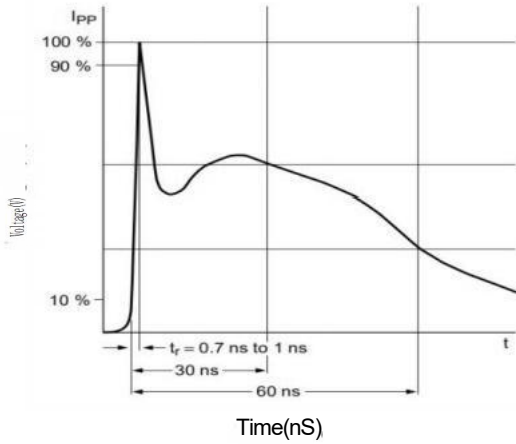
Parameter	Symbo	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	VRWM			5.0	v	
Breakdown Voltage	VBR	8.0	11.0	13.0	v	Ir=1mA
Holding Voltage	VH	2.6		4.0	v	Ih=100mA
Leakage Current ILeak	Ir			0.1	μA	VRwm=5.0V
Clamping Voltage	Vc		5.0	6.5	v	Ipp=1A, Tp=8/20 μs
Clamping Voltage	Vc		6.0	8.0	v	Ipp=5A, Tp=8/20 μs
Junction Capacitance	Cj		0.50	0.60	pF	VR=0V, f=1MHz

Portion Electronics Parameter

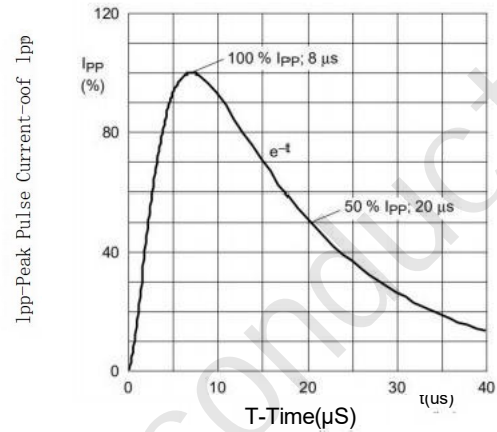
Symbol	Parameter
Ipp	Maximum Reverse Peak Pulse Current
Vc	Clamping Voltage @Ipp
Vewm	Working Peak Reverse Voltage
Ig	Maximum Reverse Leakage Current @Vgwm
r	Test Current
VBR	VBR Breakdown Voltage @r



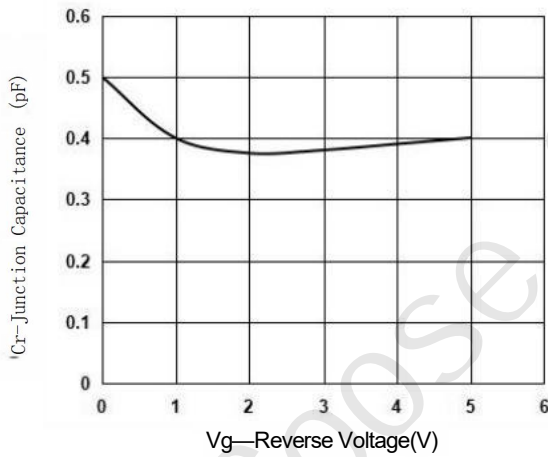
Typical Performance Characteristics ($T_4=25^\circ\text{C}$ unless otherwise Specified)



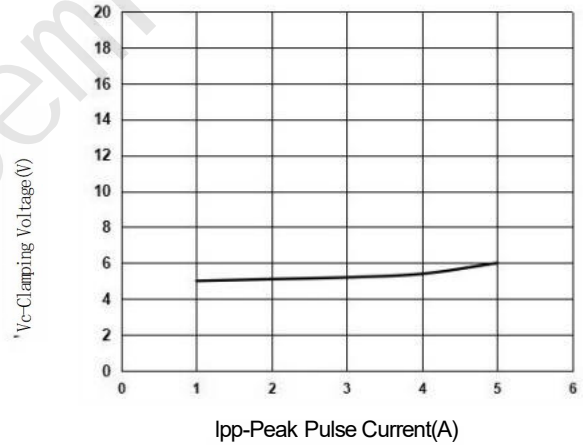
IEC61000-4-2 Pulse Waveform



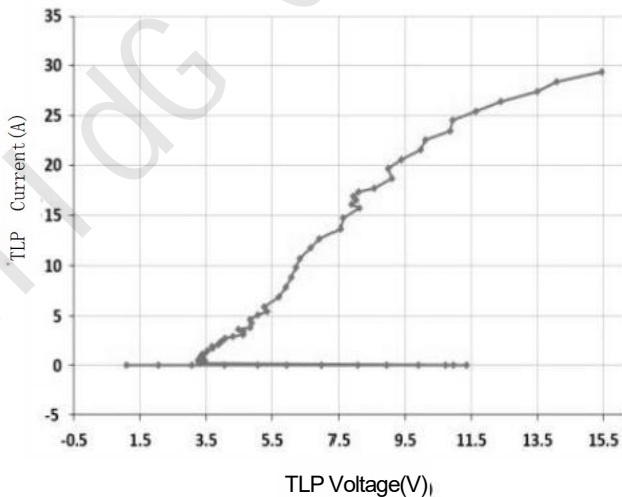
IEC61000-4-58X20µs Pulse Waveform



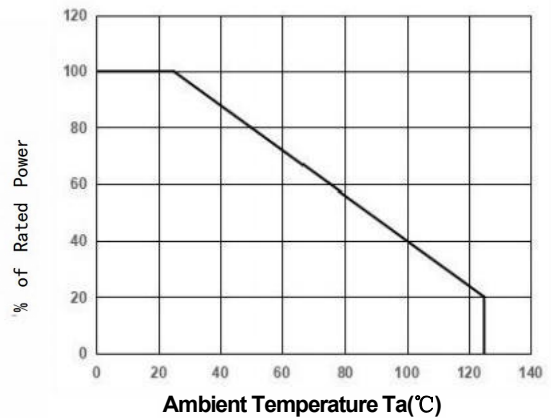
Junction Capacitance vs.Reverse Voltage



Clamping Voltage vs.Peak Pulse Current



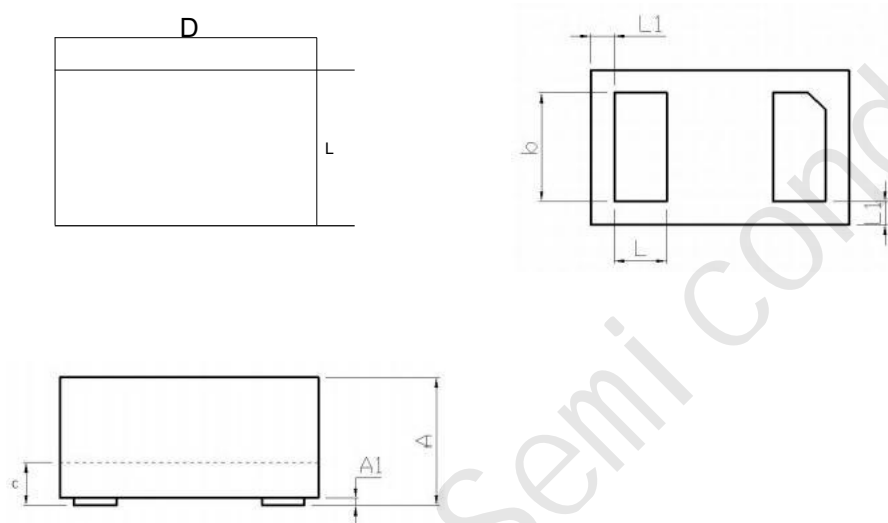
TLP Measurement Curve



Power Derating Curve

Package Outline Dimensions

DFN1006-2L



DFN1006-2L (mm)			
Dim	Min	Typ	Max
A	0.40	0.50	0.55
A1	0	0.02	0.05
b	0.45	0.5	0.55
c	0.12	0.15	0.18
D	0.95	1.00	1.05
E	0.55	0.60	0.65
L	0.20	0.25	0.30
L1	0.035	0.05	0.065

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