ESD5V0LB
ESD PROTECTION DIODE

Discription

Low capacitance bidirectional ElectroStatic Discharge (ESD) protection diode in a DFN1006-2L(SOD-882) leadless ultra small Surface-Mounted Device (SMD) plastic package designed to protect one signal line from the damage caused by ESD and other transients.



DFN1006-2L

Features

- ★ BidirectionalESDprotectionofoneline
- ★ Lowoperatingvoltage:5.0V
- ★ Low clamping voltage VC = 10.5V @100A
- ★ Responsetimeistypically<1ns
- ★ UltraLowLeakage:nALevel
- ★ IEC 61000-4-2: level 4 (ESD)
- ★ IEC 61000-4-5 (surge): IPPMQ100 A



Circuit Diagram

Applications

- ★ Portable electronics
- ★ Computersandperipherals
- ★ Audio and video equipment
- ★ Cellular handsets and accessories
- ★ Communication systems
- ★ Power supplies

Ordering Information

Product ID	Pack	Qty(PCS)
ESD5V0LB	DFN1006-2L	10000

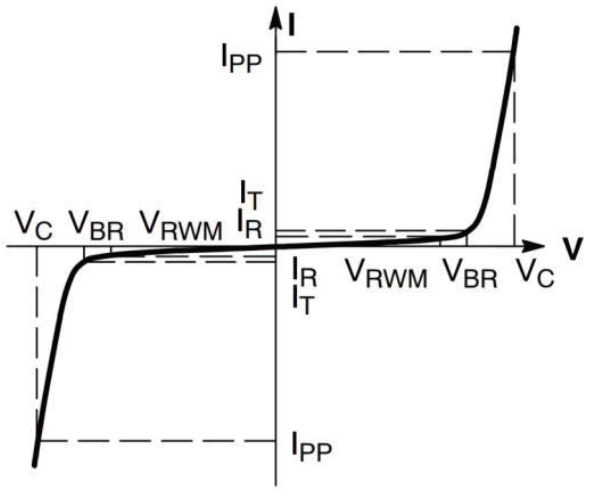
Absolute Ratings(Tamb = 25°C)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp = 8/20μs)	P_{PPM}	1000	W
Peak Pulse Current(tp = 8/20μs)	I_{PPM}	100	A
Maximum lead temperature for soldering during 10s	T_L	260	°C
Storage Temperature Range	T_{stg}	-55 to +150	°C
Operating Temperature Range	T_{OP}	-40 to +125	°C
Maximum junction temperature	T_j	150	°C
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	30	kV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	30	kV

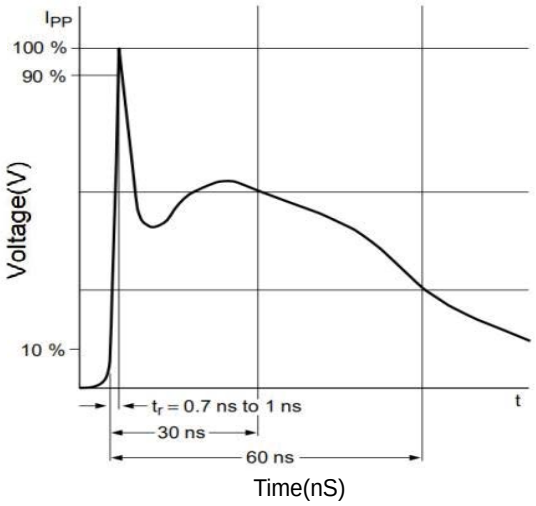
Electrical Characteristics

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	5.0	V	
Breakdown Voltage	V_{BR}	5.8	--	7.0	V	I_T=1mA
Leakage Current ILeak	I_R	--	--	100	nA	V_{RWM}=5.0V
Clamping Voltage	V_C	--	7.5	9.0	V	I_{PP}=50A,Tp=8/20μs
Clamping Voltage	V_C	--	9.0	10.5	V	I_{PP}=100A,Tp=8/20μs
Junction Capacitance	C_J	--	200	250	pF	V_R=0V, f=1MHz

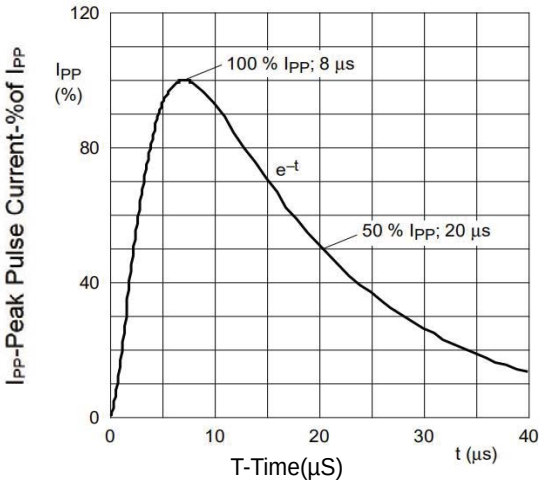
Symbol	Parameter
I_{PPM}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T



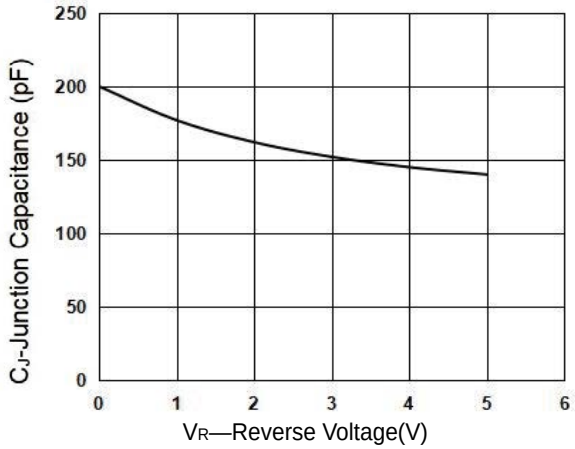
Typical Characteristics



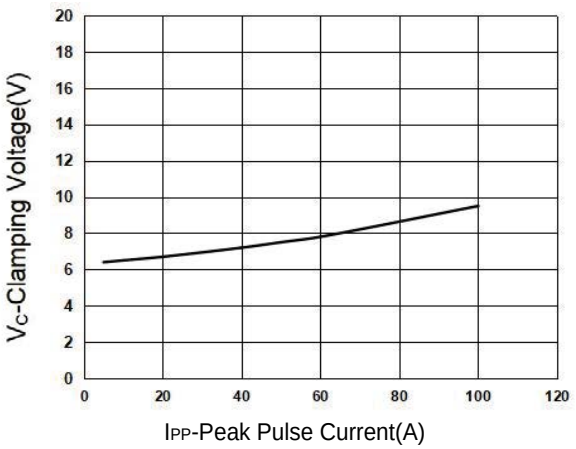
IEC61000−4−2 Pulse Waveform



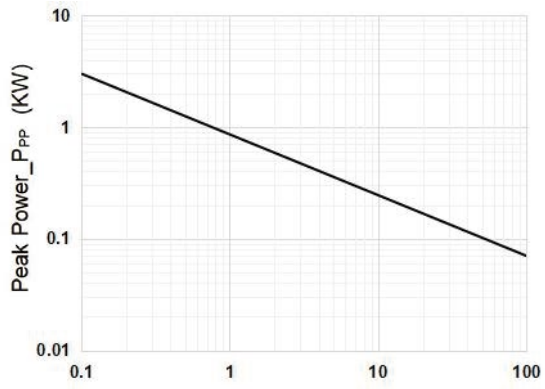
IEC61000−4−5 8X20µs Pulse Waveform



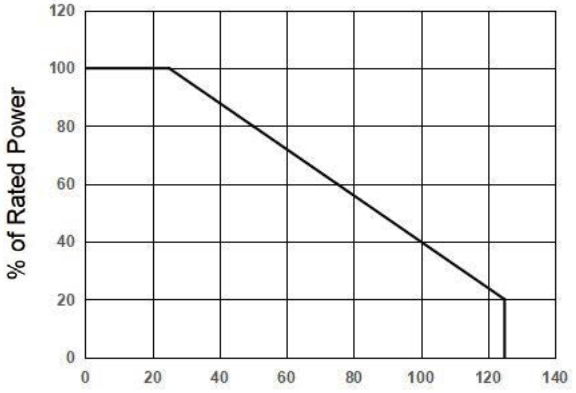
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current

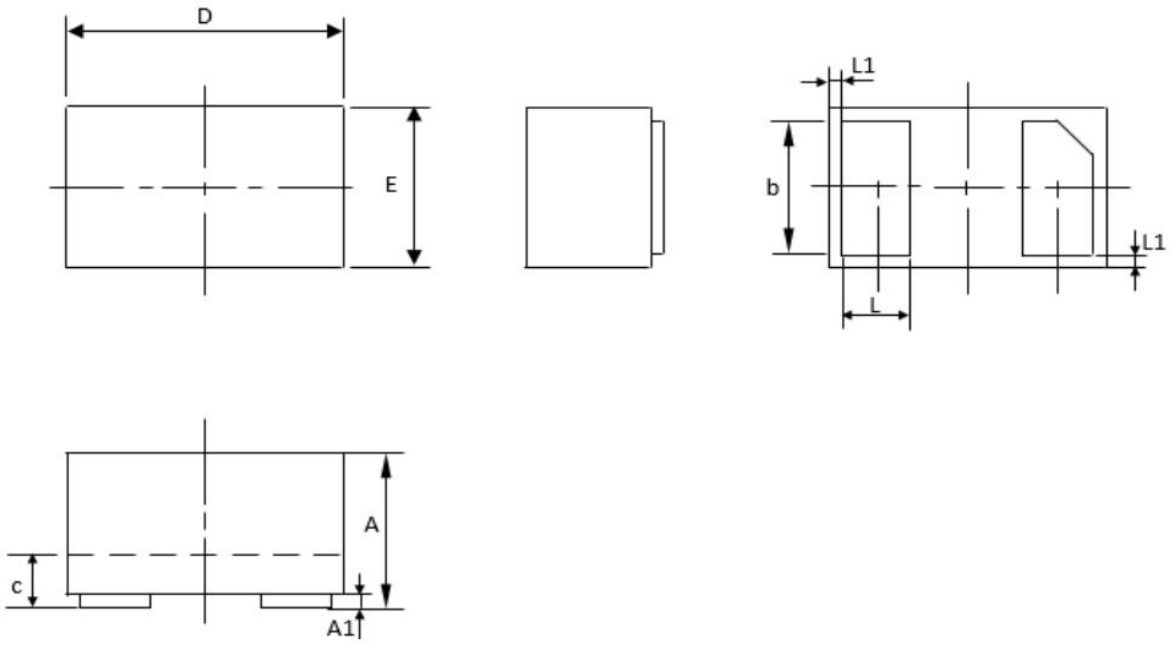


Peak Pulse Power vs. Pulse Time



Power Derating Curve

Outline And Dimensions



DFN1006-2L			
Dim	Min	Typ.	Max
A	0.46	0.48	0.50
A1	0	0.02	0.05
b	0.45	0.5	0.55
c	0.1	0.12	0.14
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
h	0.07	0.12	0.17
All Dimensions in mm			

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HXY MOSFET:

IRLML6246PBF DTC143ZE HT7540-1 HXY2101EI SQJA04EP-T1_BE3 HOPA2340UA SD15C BZT52C13 SS10100 SS1045 MAX487ESA TPSMB100CA-VR HAD8542ARZ HC4D20120A MMBT3904T P6SMB33CA SS510C SS5150B HESDNC5VB1AF-B HT7150 HXY2300MI PESD5V0S1BB TPSMB28A-VR BZT52C3V3S HC3D10170A HMCP602-I/SN P6SMB200A P6SMB36CA US2M HXY8205ES