

ESD5V0D8BH

Features

- Ultra small package: 1.0x0.6x0.5mm
- Ultra low leakage: nA level
- Low operating voltage: 5V
- Low clamping voltage
- 2-pin leadless package
- Complies with following standards:
 - IEC 61000-4-2 (ESD) immunity test
 - Air discharge: $\pm 30\text{kV}$
 - Contact discharge: $\pm 30\text{kV}$
 - IEC61000-4-5 (Lightning) 18A (8/20 μs)
- RoHS Compliant

Description

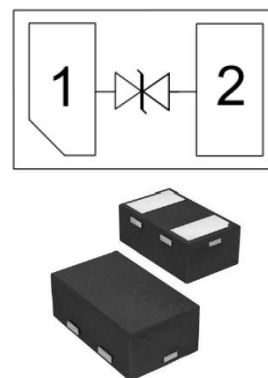
The ESD5V0D8B in a DFN1006-2 package and will protect bidirectional line. These devices are designed to replace multilayer varistors (MLVs) in portable applications such as cell phones, notebook computers, and PDA's. They offer superior electrical characteristics such as lower clamping voltage and no device degradation when compared to MLVs, The ESD5V0D8B are designed to protect sensitive

semiconductor components from damage or upset due to electrostatic discharge (ESD), and other voltage induced transient events.

Applications

- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Circuit Diagram



Absolute Maximum Ratings

Tamb=25°C unless otherwise specified

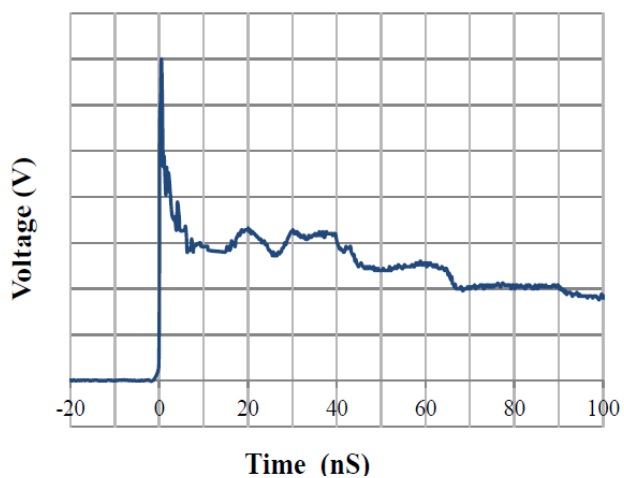
Parameter	Symbol	Value	Unit
Peak Pulse Power (8/20 μs)	Ppp	200	W
Maximum Reverse Peak Pulse Current	I _{PP} *1	18	A
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 30	KV
ESD per IEC 61000-4-2 (Contact)		± 30	
Storage Temperature Range	T _{STJ}	-55 to +150	°C
Operating Temperature Range	T _J	-55 to +125	°C

Electrical Characteristics

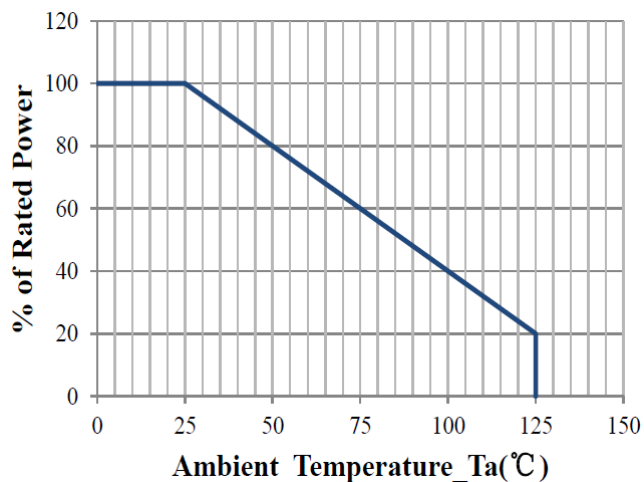
TA=25°C unless otherwise specified

Symbol	Parameter	Conditions	Min	Typ	Max	Units
V _{RWM}	Reverse Working Peak Voltage	-			5.0	V
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA	6.0	6.8	8.5	V
I _R	Reverse Current	V _{RWM} = 5V			0.5	μA
V _C	Clamping Voltage	I _{PP} =1A, t _P =8/20 μs			9	V
V _C	Clamping Voltage	I _{PP} =18A, t _P =8/20 μs			12	V
C _D	Diode Capacitance	V _R = 0V, f = 1MHz		30		pF

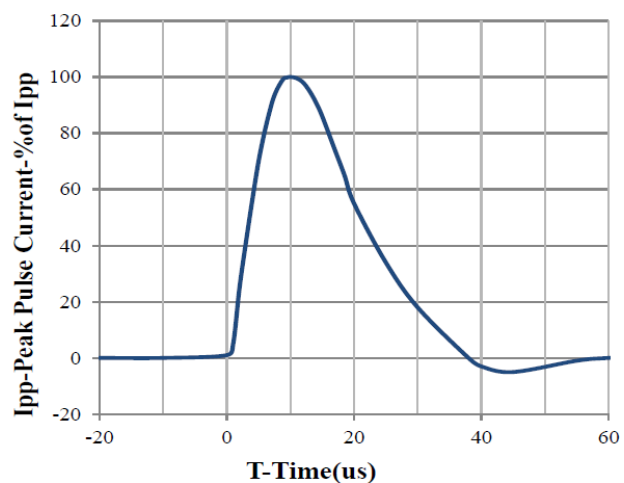
Characteristic Curves



IEC61000-4-2 Pulse Waveform

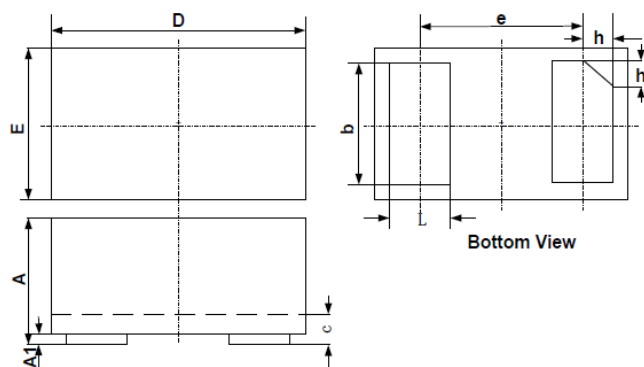


Power Derating Curve



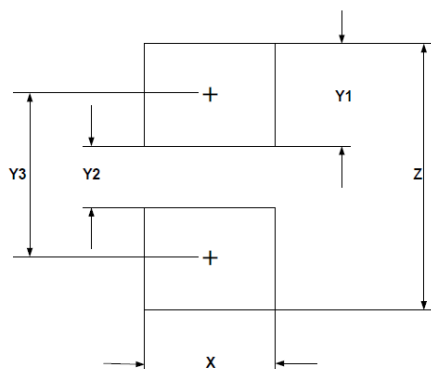
8/20 μ s Pulse Waveform

DFN1006-2 Package Outline & Dimensions



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
L1	0.05REF			0.002REF		
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