

GSES5VD1006-2U ESD Protection Diode

Features

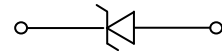
- 130 Watts peak pulse power ($t_p=8/20\mu s$)
- DFN1006 package
- Unidirectional configurations
- Solid-state silicon-avalanche technology
- Low clamping voltage
- Low leakage current
- Protection one data/power line to:
IEC 61000-4-2 $\pm 30kV$ contact $\pm 30kV$ air
IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 8.7A (8/20 μs)
- RoHS compliant



DFN1006

Applications

- Audio line, speaker, headset, microphone protection
- Human interface devices (keyboard, touchpad, buttons)
- DC power line protection



Schematic Diagram

Absolute Maximum Ratings ($T_A=25^\circ C$ unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power ($T_P=8/20\mu s$)	P_{PP}	130	W
Peak Pulse Current ($T_P=8/20\mu s$)	I_{PP}	8.7	A
ESD per IEC 61000-4-2 (Air)	V_{ESD}	± 30	kV
ESD per IEC 61000-4-2 (Contact)		± 30	
Operating Temperature Range	T_J	-55 to +125	$^\circ C$
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ C$

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

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Reverse Stand-Off Voltage	V_{RWM}	-	-	-	5.0	V
Reverse Breakdown Voltage	V_{BR}	$I_T=1mA$	6.0	6.8	8.5	V
Reverse Leakage Current	I_R	$V_R=5.0V$	-	-	1	μA
Clamping Voltage (IEC 61000-4-5)	V_C	$I_{PP}=8.7A$	-	12.3	15	V
Trigger Voltage (IEC 61000-4-2)	V_T	$V_{ESD}=8kV$	-	90	-	V
Clamping Voltage (IEC 61000-4-2)	V_C	$V_{ESD}=8kV$	-	15	-	V
Junction Capacitance	C_J	$V_R=0V, F=1MHz$	-	53	-	pF

Typical Characteristic Curves

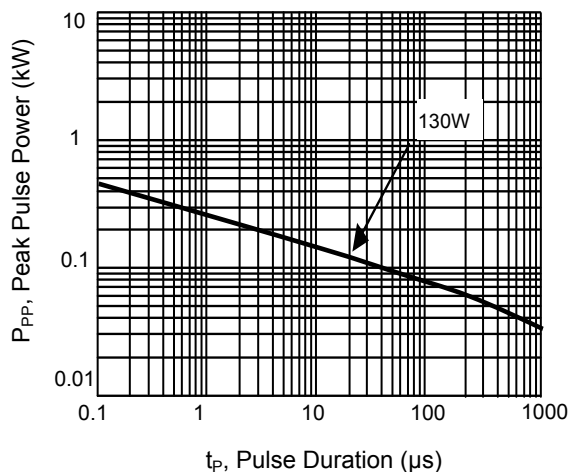


Figure 1. Peak Pulse Power Rating Curve

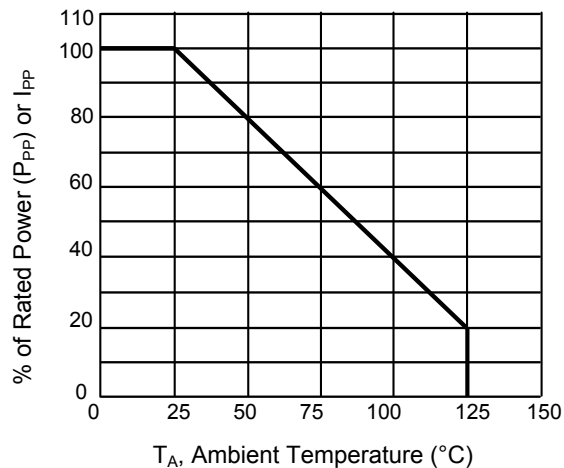


Figure 2. Pulse Derating Curve

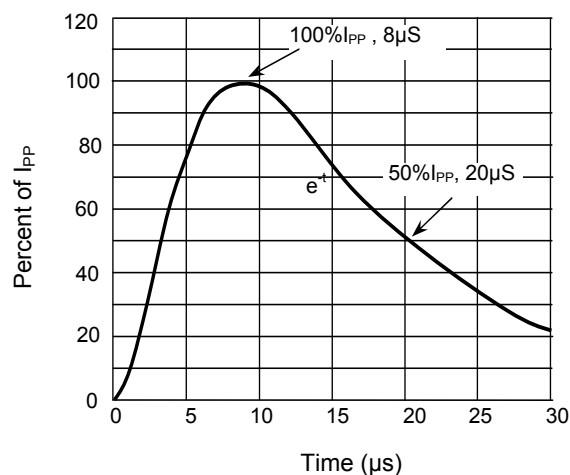


Figure 3. Pulse Waveform-8/20 μs

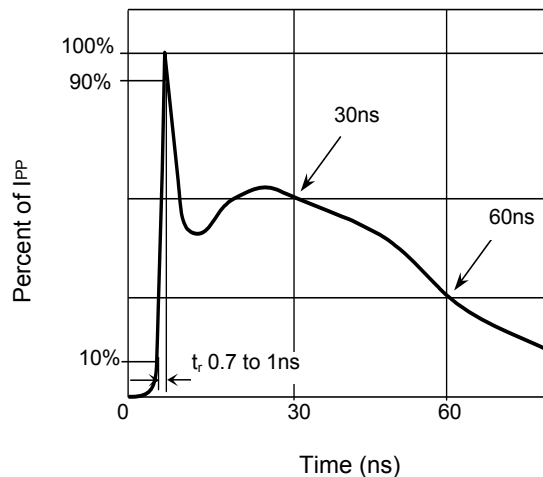
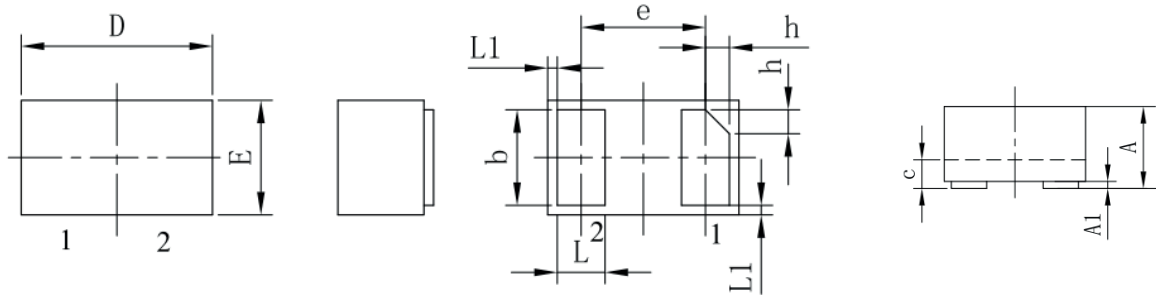


Figure 4. Pulse Waveform-ESD (IEC61000-4-2)

GSES5VD1006-2U

ESD Protection Diode

Package Outline Dimensions (DFN1006)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	0.45	0.55	0.018	0.022
A1	0.00	0.05	0.000	0.002
b	0.45	0.55	0.018	0.022
c	0.12	0.18	0.005	0.007
D	0.95	1.05	0.037	0.041
e	0.65 BSC		0.026 BSC	
E	0.55	0.65	0.022	0.026
L	0.20	0.30	0.008	0.012
L1	0.05 REF		0.002 REF	
h	0.07	0.17	0.003	0.007

Order Information

Device	Package	Marking	Carrier	Quantity
GSES5VD1006-2U	DFN1006	5U	Tape & Reel	10,000pcs / Reel