GSE033LD4DNF

ESD Protection Diode

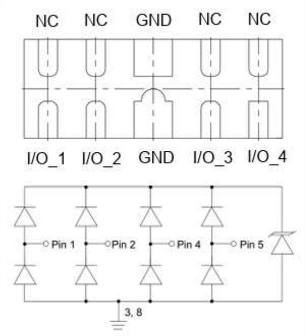
Product Description

It is designed to protect sensitive electronics from damage or latch up due to ESD, lightning, and other voltage induced transient events.

Features

- Up to 4 I/O Lines Protection
- Peak Pulse Power : 40W (8/20µs)
- Operating Voltage : 3.3V
- Low Leakage Current: nA Level
- Low Capacitance: 0.34pF Max.
- IEC61000-4-2(ESD) ±25kV (air)
- IEC61000-4-2(ESD) ±20kV (contact)
- IEC61000-4-5(Lighting) 3A (8/20µs)
- RoHS Compliant

Package & Device Schematic



DFN2510-10

Applications

- High Speed Line: USB1.0/2.0, VGA, DVI, SDI
- Serial and Parallel Ports
- Notebooks, Desktops, Servers
- Cellular handsets and accessories
- Portable instrumentation
- Peripherals

Ordering Information & Marking Code

Part Number	Package	Quantity	Marking Code
GSE033LD4DNF	DFN2510-10	3KPCS	332P

332P = Product Code
Dot denotes Pin1

Absolute Maximum Ratings

(T_A=25ºC unless otherwise specified)

Symbol	Parameter	Typical	Unit
P_{PP}	Peak Pulse Power (t_P=8/20μs)	40	W
I_{PP}	Peak Pulse Current (t_P=8/20μs)	3	A
V_{ESD}	ESD Per IEC61000-4-2 (Air)	±25	KV
	ESD Per IEC61000-4-2 (Contact)	±20	KV
T_J	Operating Junction Temperature Range	-55 to +125	ºC
T_{STG}	Storage Temperature Range	-55 to +150	ºC

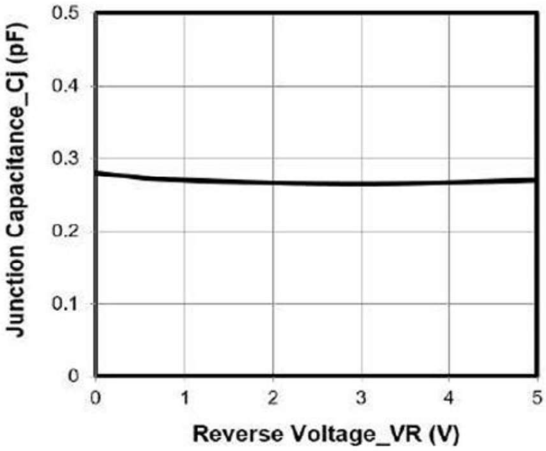
Note : Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

Electrical Characteristics

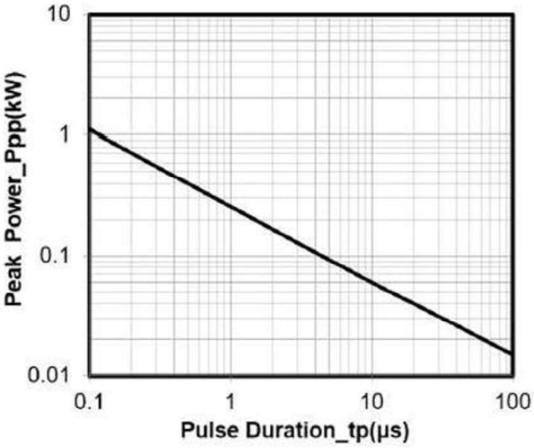
(T_A=25ºC, for any I/O pin to ground unless otherwise specified)

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
V_{RWM}	Reverse Working Voltage	-			3.3	V
V_{BR}	Reverse Breakdown Voltage	I_R=1mA	5.5		7.5	V
I_R	Reverse Leakage Current	V_{RWM}=3.3V			0.5	μA
V_C	Clamping Voltage	I_{PP}=1A (8/20μs)			9	V
		I_{PP}=3A (8/20μs)			13	V
C_J	Junction Capacitance	V_R=1.5V, f=1MHz			0.34	pF

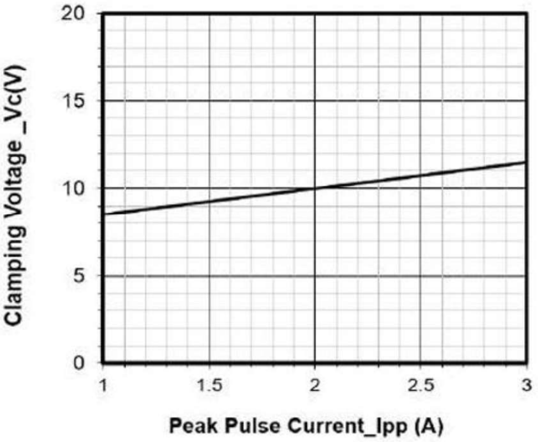
Typical Characteristics (TA=25℃ unless otherwise specified)



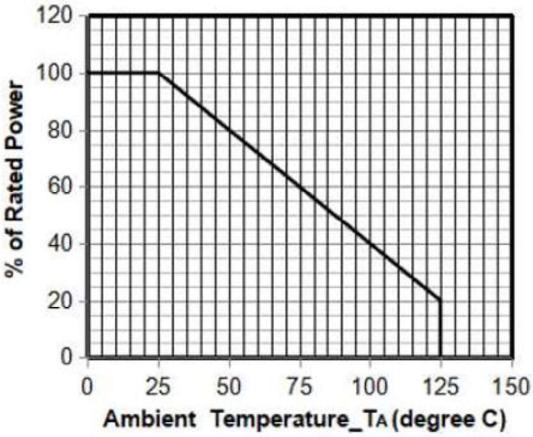
Junction Capacitance vs. Reverse Voltage



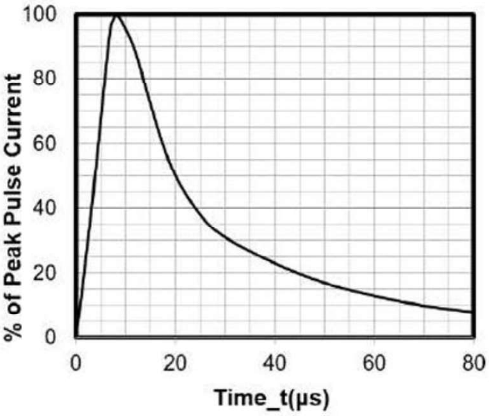
Peak Pulse Power vs. Pulse Time



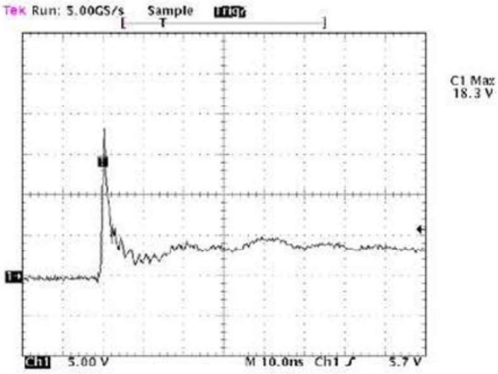
Clamping Voltage vs. Peak Pulse Current



Power Derating Curve



8 X 20μs Pulse Waveform



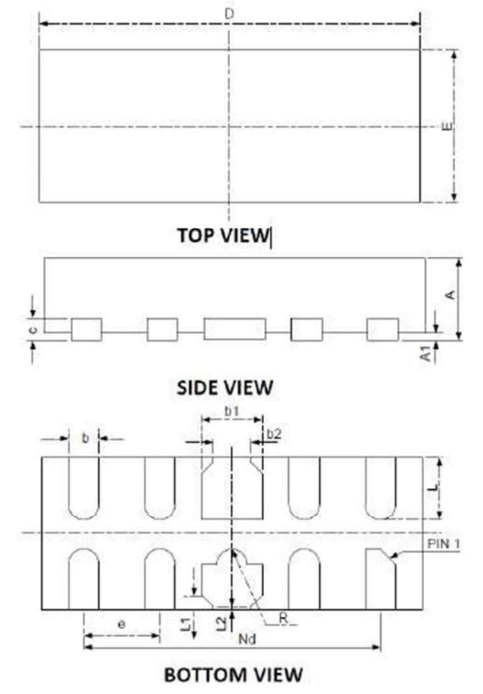
Note：Data is taken with a 10x attenuator

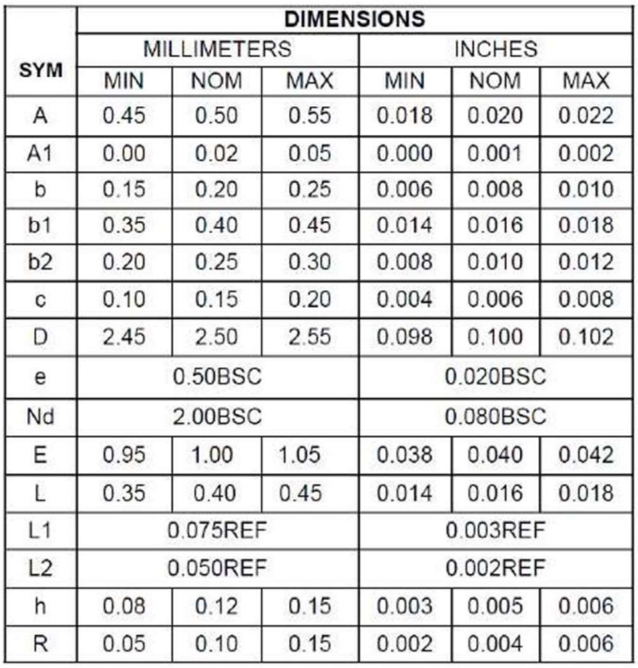
ESD Clamping Voltage

8 kV Contact per IEC61000−4−2

Package Dimension

DFN2510-10





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	0.15	0.20	0.25	0.006	0.008	0.010
b1	0.35	0.40	0.45	0.014	0.016	0.018
b2	0.20	0.25	0.30	0.008	0.010	0.012
c	0.10	0.15	0.20	0.004	0.006	0.008
D	2.45	2.50	2.55	0.098	0.100	0.102
e	0.50BSC			0.020BSC		
Nd	2.00BSC			0.080BSC		
E	0.95	1.00	1.05	0.038	0.040	0.042
L	0.35	0.40	0.45	0.014	0.016	0.018
L1	0.075REF			0.003REF		
L2	0.050REF			0.002REF		
h	0.08	0.12	0.15	0.003	0.005	0.006
R	0.05	0.10	0.15	0.002	0.004	0.006

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