

DESCRIPTION

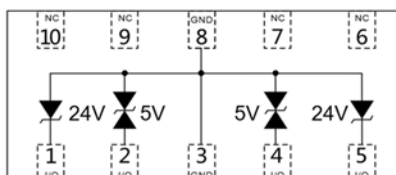
GESD5B244JDO is a four channels low capacitance ESD protection array, GESD5B244JDO is designed for asymmetrical (5V and 24V) protection in multi-point data transmission standard PD (Power Delivery) applications. It complies with IEC 61000-4-2 (ESD) Level 4 ($\pm 15\text{KV}$ air, $\pm 8\text{KV}$ contact discharge), IEC61000-4-4 (electrical fast transient-EFT) (40A,5/50ns), very fast charged device model (CDM) ESD and cable discharge event (CDE) etc.

GESD5B244JDO uses ultra-small DFN2510 package. Each GESD5B244JDO device can protect four high-speed data lines. The combined features of low capacitance, ultra-small size and high ESD robustness make GESD5B244JDO ideal for high-speed data ports and high-frequency line applications. The low clamping voltage of the GESD5B244JDO guarantees a minimum stress on the protected IC.

ORDERING INFORMATION

- ◇ Device: GESD5B244JDO
- ◇ Package: DFN2510
- ◇ Marking: 5B240
- ◇ Material: Halogen free & RoHS compliant
- ◇ Packing: Tape & Reel
- ◇ Quantity per reel: 3,000pcs

PIN CONFIGURATION



FEATURES

- ◇ Transient protection for high-speed data lines
 - IEC 61000-4-2(ESD) $\pm 20\text{KV}$ (Contact)
 - IEC 61000-4-2(ESD) $\pm 30\text{KV}$ (Air)
 - IEC 61000-4-4(EFT) 40A (5/50ns)
 - Cable Discharge Event (CDE)
- ◇ Package optimized for high-speed lines
- ◇ Ultra-small package(2.5mm*1.0mm*0.5mm)
- ◇ Protects two 5V and two 24V data lines
- ◇ Low leakage current
- ◇ Low clamping voltage

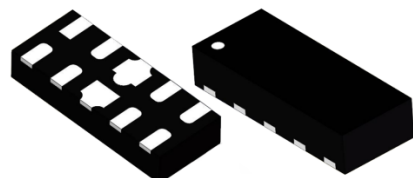
MACHANICAL DATA

- ◇ DFN2510 package
- ◇ Flammability Rating: UL 94V-0
- ◇ High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{s}$
- ◇ Reel size: 7 inch

APPLICATIONS

- ◇ PD Charger or Adapter
- ◇ USB Type-C
- ◇ High-speed data lines

PACKAGE OUTLINE



ABSOLUTE MAXIMUM RATING			
Symbol	Parameter	Value	Unit
P _{PP}	Peak Pulse Power (8/20μs) Pin1 or Pin5 to Pin3&8	140	W
	Peak Pulse Power (8/20μs) Pin2 or Pin4 to Pin3&8	90	W
V _{ESD}	ESD per IEC 61000-4-2 (Contact) Pin1 or Pin5 to Pin3&8	±20	kV
	ESD per IEC 61000-4-2 (Air) Pin1 or Pin5 to Pin3&8	±30	
	ESD per IEC 61000-4-2 (Contact) Pin2 or Pin4 to Pin3&8	±30	kV
	ESD per IEC 61000-4-2 (Air) Pin2 or Pin4 to Pin3&8	±30	
T _{OPT}	Operating Temperature	-55/+125	°C
T _{STG}	Storage Temperature	-55/+150	°C

ELECTRICAL CHARACTERISTICS (T _{amb} =25°C)						
Symbol	Parameter	Test Condition	Min	Typ	Max	Unit
V _{RWM}	Reverse Working Voltage	Pin1 or Pin5 to Pin3&8			24	V
		Pin2 or Pin4 to Pin3&8			5	
V _{BR}	Reverse Breakdown Voltage	I _T = 1mA Pin1 or Pin5 to Pin3&8	26			V
		I _T = 1mA Pin2 or Pin4 to Pin3&8	5.6			
I _R	Reverse Leakage Current	V _{RWM} = 24V Pin1 or Pin5 to Pin3&8			0.5	μA
		V _{RWM} = 5V Pin2 or Pin4 to Pin3&8			0.5	μA
V _C	Clamping Voltage	I _{PP} = 2.8A, t _p = 8/20μs Pin1 or Pin5 to Pin3&8			50	V
		I _{PP} = 6A, t _p = 8/20μs Pin2 or Pin4 to Pin3&8			15	V
C _{ESD}	Parasitic Capacitance	V _R = 0V, f = 1MHz Pin1 or Pin5 to Pin3&8			25	pF
		V _R = 0V, f = 1MHz Pin2 or Pin4 to Pin3&8			15	pF

Note: I/O are pin 1/2/4/5; GND are pin 3/8; pin 6/7/9/10 are NC and can be connected with any pin.

ELECTRICAL CHARACTERISTICS CURVE

Fig 1 8/20 μ s Waveform per IEC61000-4-5

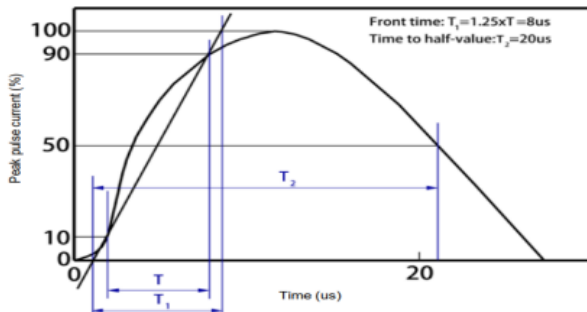


Fig 2 Contact Discharge Current Waveform per IEC 61000-4-2)

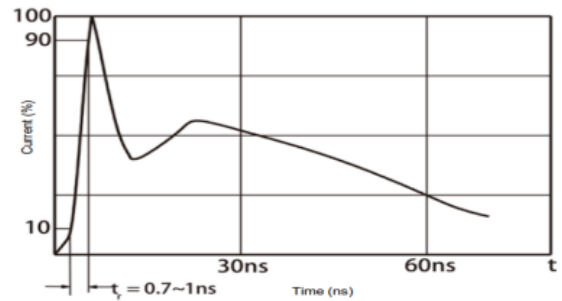


Fig 3 Voltage vs Capacitance Pin1 or Pin5 to Pin3&8

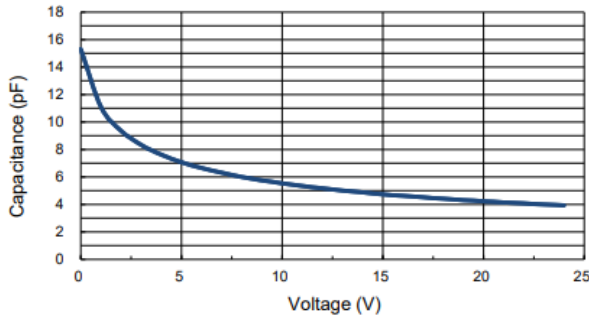


Fig 4 Voltage vs Capacitance Pin2 or Pin4 to Pin3&8

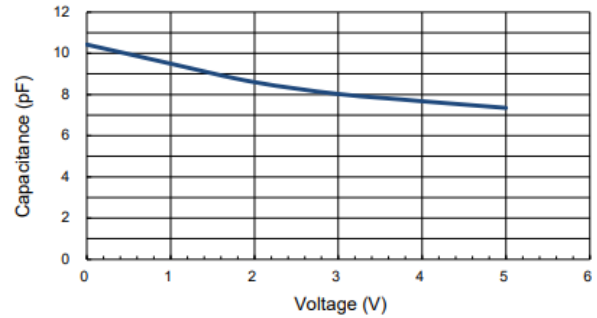


Fig 5 Clamping Voltage vs Peak Pulse Current Pin1 or Pin5 to Pin3&8

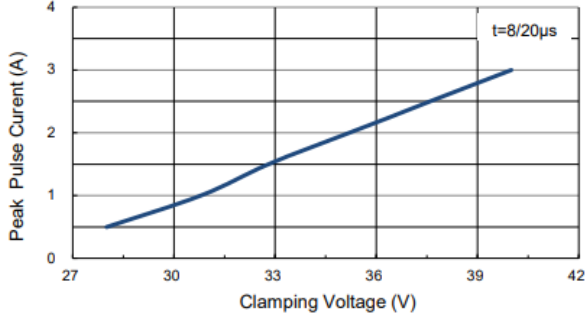
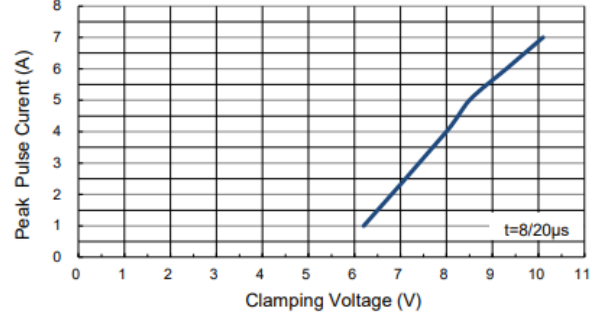
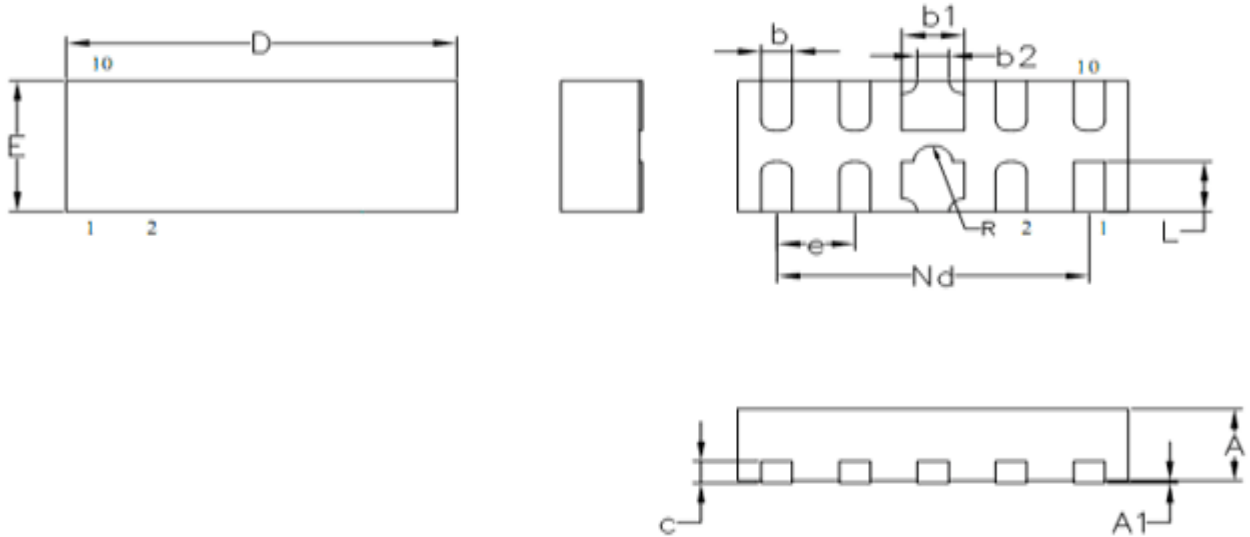


Fig 6 Clamping Voltage vs Peak Pulse Current Pin2 or Pin4 to Pin3&8



DFN2510 PACKAGE OUTLINE DIMENSIONS



Symbol	Dimensions (mm)		
	Min.	Nom.	Max.
D	2.45	2.50	2.55
E	0.95	1.00	1.05
b1	0.35	0.40	0.45
b2	0.20REF		
b	0.15	0.20	0.25
L	0.33	0.38	0.43
Nd	2.00BSC		
e	0.50BSC		
R	0.10	0.125	0.15
A	0.45	0.50	0.55
c	0.15REF		
A1	0.00	-	0.05