ElecSuper

SuperESD - GBLCxxCI

1. Description

The GBLCxxCI Series are ultra low capacitance transient voltage suppressor arrays, designed to protect applications such as portable electronics and SMART phones. This series is available bidirectional configurations and is rated at 350 Watts for an 8/20 μs waveshape. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This series offers a ultra low capacitance and low leakage current in a miniature SOD-323 package.

2. Features

- IEC 61000-4-2 Level 4 ESD Protection
  - ±25kV Contact Discharge
  - ±25kV Air Discharge
- IEC 61000-4-4 EFT Protection
  - 40A (5/50ns)
- 200W Peak pulse Power (8/20us)

- RoHS compliance
- Bidirectional configuration
- IO Capacitance: 0.8pF (Typical)
- Low clamping voltage

3. Applications

- Interfaces
  - USB 2.0/1.1
  - GPIO
  - Ethernet 10/100/1000 Mbps
  - Audio

- End Equipment
  - Industrial and Serve Robots
  - Laptops and Desktops
  - TV and Monitors
  - Wearables

4. Ordering Information

Part Number	Package	Material	Packing	Quantity per reel	Flammability Rating	Reel Size
GBLCxxCI	SOD323	Halogen free	Tape & Reel	3,000 PCS	UL 94V-0	7 inches
Marking for the GBLCxxCI series						
V_{RWM}	3V			5V		
Marking	CC			3B/LC		

Table-1　Ordering information

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5. Pin Configuration and Functions
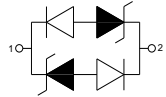
Pin	Name	Description	Outline	Circuit Diagram
1	IO	Connect to IO		
2	IO	Connect to IO		

Table-2   Pin configuration

6. Specification

6.1. Absolute Maximum rating

Over operating free-air temperature range (unless otherwise noted)

Parameters	Symbol	Min.	Max.	Unit
Peak pulse power (tp=8/20us)@25℃	P_{pk}	-	200	W
Peak pulse current (tp=8/20us)@25℃	I_{PP}		Refer to Table-5	A
ESD (IEC61000-4-2 air discharge) @25℃	V_{ESD}	-	±25	kV
ESD (IEC61000-4-2 contact discharge) @25℃	V_{ESD}	-	±25	kV
Junction temperature	T_J	-	150	℃
Operating temperature	T_{OP}	-40	125	℃
Storage temperature	T_{STG}	-55	150	℃
Lead temperature	T_L	-	260	℃

Table-3   Absolute Maximum rating

6.2. Electrical Characteristics

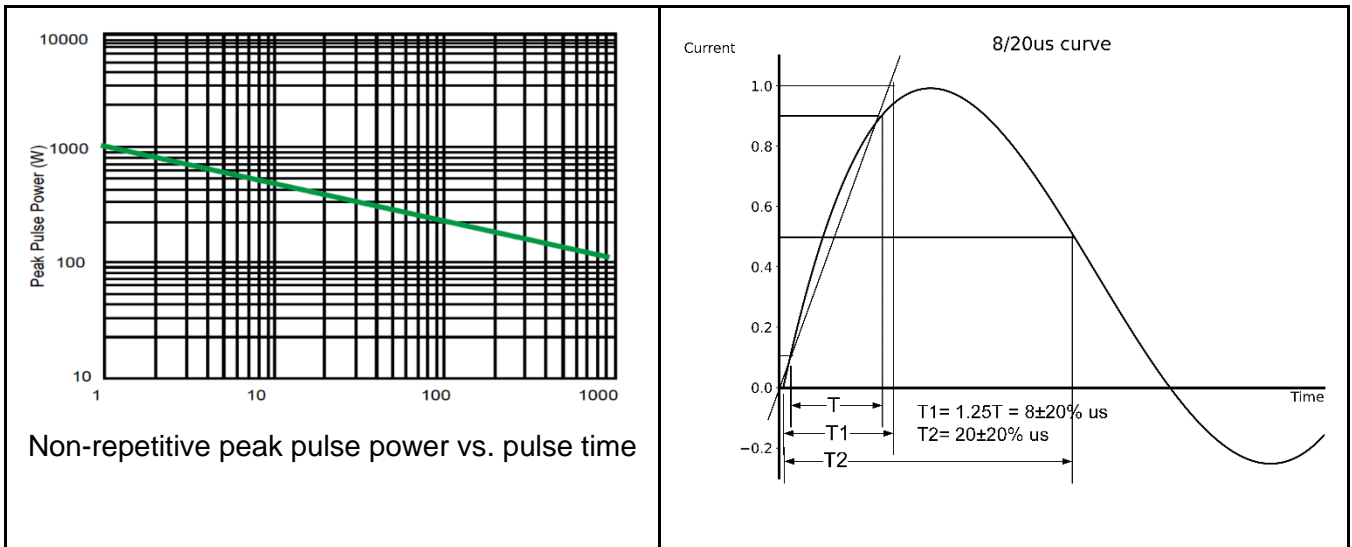| Symbol	Description
V_{RWM}	Rated reverse stand-off voltage
V_{BR}	Minimum breakdown voltage @I_T = 1mA
V_{CL}	Clamping voltage
I_{PP}	Maximum peak pulse current
I_R	Reverse leakage current @V_{RWM}
C_O	Typical line capacitance (V_{IO}=0V, V_{P-P} = 30mV, f = 1MHz)

Table-4   Parameters Description

At TA = 25℃ unless otherwise noted

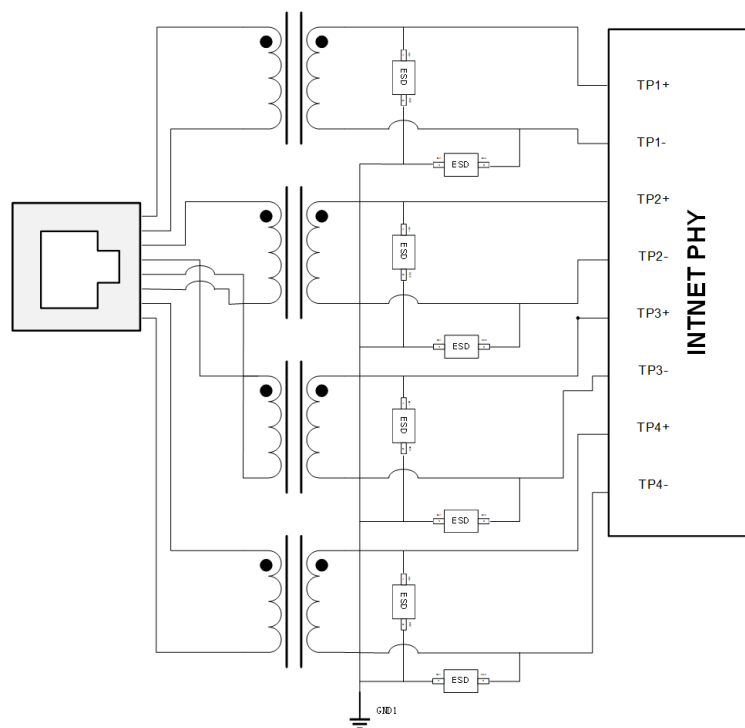| Part Number	V_{RWM}	V_{BR}	V_{CL}@I=1A	I_{PP}	V_{CL}@I=I_{PP}	I_R	C_O
	(V)	(V)	(V)	(A)	(V)	(uA)	(pF)
GBLC03CI	3.0	3.8	8.5	10.0	20.0	1.0	0.8
GBLC05CI	5.0	6.5	9.5	8.0	21.0	1.0	0.8

Table-5   Electrical Characteristics for All Series

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7. Typical Characteristic

Non-repetitive peak pulse power vs. pulse time

8/20us curve

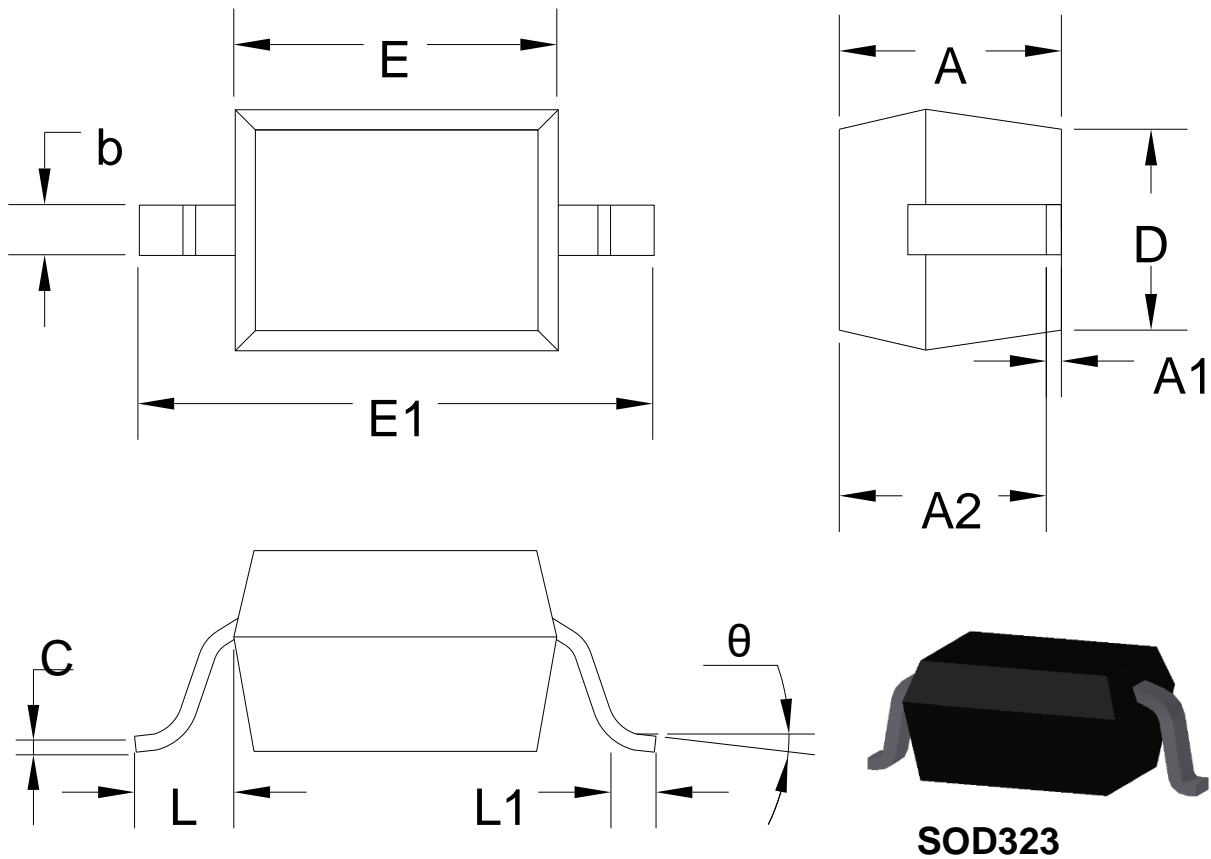T1= 1.25T = 8±20% us
T2= 20±20% us

8. Typical Application

Pic-3   Typical Internet 1G Interface Application

9. Dimension

SOD323

Symbol	Dimensions in Millimeters		Dimensions in Inches	
	Min.	Max.	Min.	Max.
A		1.000		0.039
A1	0.000	0.100	0.000	0.004
A2	0.800	0.900	0.031	0.035
b	0.250	0.350	0.010	0.014
C	0.080	0.150	0.003	0.006
D	1.200	1.400	0.047	0.055
E	1.600	1.800	0.063	0.071
E1	2.550	2.750	0.100	0.108
L	0.475REF		0.019REF	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

Table-6   product dimensions

10. Recommended Land Pattern
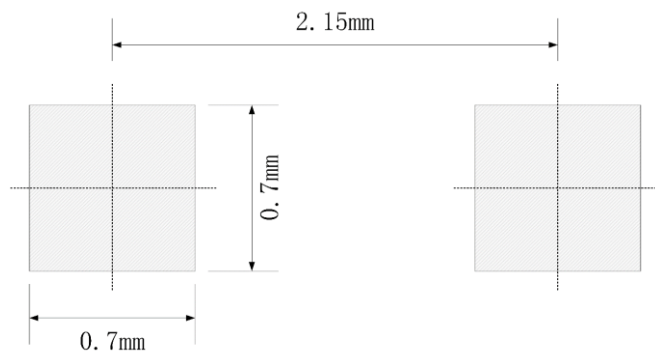
Note:
1. Controlling dimension: in millimeters
2. General tolerance: ±0.05mm
3. The pad layout is for reference only
4. Unit: mm

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