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SuperESD - GBLCxxC

1. Description

The GBLCxxC 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 300 Watts for an 8/20us 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
 - ±15kV Contact Discharge
 - ±15kV Air Discharge
- IEC 61000-4-4 EFT Protection
 - 40A (5/50ns)
- 300W Peak pulse Power (8/20us)

- RoHS compliance
- Bidirectional configuration
- Ultra-low Capacitance: 0.8pF (Typical)
- Low clamping voltage
- Protects one power or I/O

- 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	l Pac	king	Quantity per reel	Flammability Rating	Reel Size
GBLCxxC	SOD-323	Halogen fr	ee Tape a	& Reel	3000 PCS	UL 94V-0	7 inches
Marking for the GBLCxxC series							
V _{RWM}	3.3V	5V	8V	12V	V 15V 24V		-
Marking	CC	AC	BC	DC	EC	HC	-

Table-1 Ordering information



5. Pin Configuration and Functions

Pin	Name	Description	Outline	Circuit Diagram		
1	Ю	Connect to IO	1 Marking 2			
2	IO	Connect to IO	Marking Marking			
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°C	P_{pk}	-	300	W
Peak pulse current (tp=8/20us)@25°C	I _{PP}		Refer to Table-5	A
ESD (IEC61000-4-2 air discharge) @25°C	V_{ESD}	-	±15	kV
ESD (IEC61000-4-2 contact discharge) @25°C	V_{ESD}	-	±15	kV
Junction temperature	T_J	-	150	°C
Operating temperature	T _{OP}	-40	125	°C
Storage temperature	T_{STG}	-55	150	°C
Lead temperature	T_L	-	260	°C

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}	Typical Clamping voltage			
I _{PP}	Maximum peak pulse current			
I _R	Reverse leakage current @V _{RWM}			
Co	Typical line capacitance ($V_{IO}=0V$, $V_{P-P}=30mV$, f = 1MHz)			

Table-4 Parameters Description

At TA = 25° C unless otherwise noted

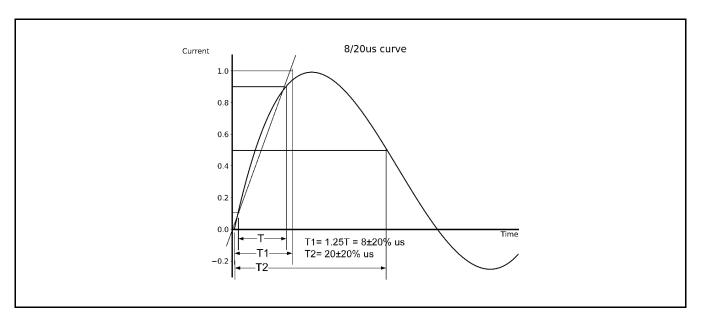
Part Number	V _{RWM}	V_{BR}	V _{CL} @I=1A	I _{PP}	V _{CL} @I=I _{PP}	I _R	Co
Part Number	(V)	(V)	(V)	(A)	(V)	(uA)	(pF)
GBLC03C	3.3	4.5	8.5	14.0	20.0	1.0	0.8
GBLC05C	5.0	6.5	9.5	12.0	21.0	1.0	0.8
GBLC08C	8.0	8.5	12.0	10.0	25.0	1.0	0.8
GBLC12C	12.0	13.3	19.0	7.0	35	1.0	0.8
GBLC15C	15.0	16.5	24	5.0	45	1.0	0.8
GBLC24C	24.0	26.0	34	3.0	55	1.0	0.8

Table-5 Electrical Characteristics for All Series

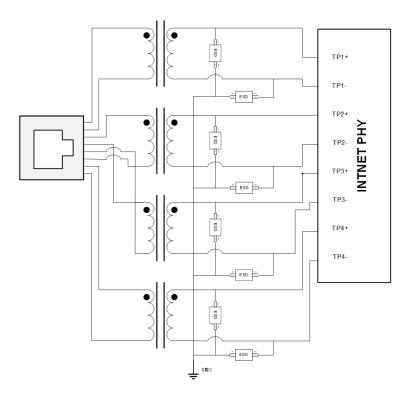


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7. Typical Characteristic



8. Typical Application

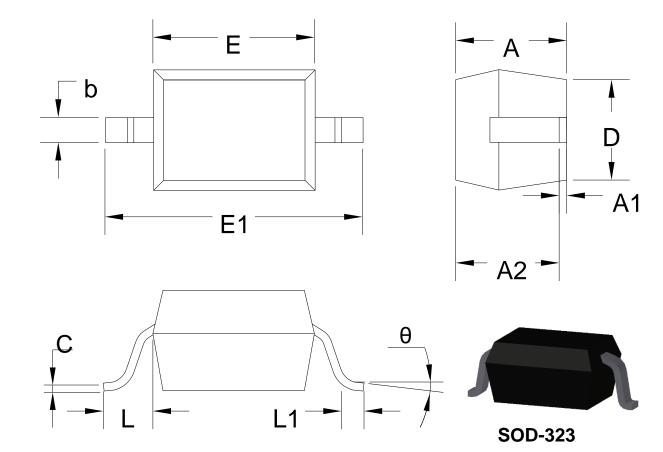


Pic-3 Typical Internet 1G Interface Application



GBLCxxC

9. Dimension

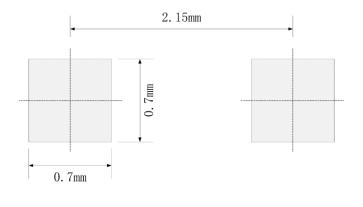


Symbol	Dimensions in Millimeters		Dimensions in Inches		
	Min.	Max.	Min.	Max.	
А		1.000		0.039	
A1	0.000	0.100	0.000	0.004	
A2	0.800	0.900	0.031	0.035	
b	0.250	0.350	0.010	0.014	
С	0.080	0.150	0.003	0.006	
D	1.200	1.400	0.047	0.055	
E	1.600	1.800	0.063	0.071	
E1	2.550	2.750	0.100	0.108	
L	0.475REF		0.019REF		
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: ± 0.05 mm
- 3. The pad layout is for reference only

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