



Bi-directional Ultra Low Capacitance TVS Array SOD-323 Plastic-Encapsulate ESD Protection Diodes

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 in both unidirectional and bidirectional configurations and is rated at 350 Watts for an 8/20 μ s wave shape. The GBLCxxCI and Series meets IEC 61000-4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. 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.

Features

- Peak Power Dissipation 350 W (8/20 μ s)
- IEC61000-4-2 (ESD) \pm 15kV (air), \pm 8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)
- IEC61000-4-5 (Lightning) 12A (8/20 μ s)
- Protects one I/O line (bidirectional)
- Low clamping voltage
- Working voltages : 3V, 5V, 8V, 12V, 15V, 18V, 20V, 24V
- Response Time is < 1 ns
- Meets MSL 1 Requirements

Mechanical Characteristics

- Package: SOD-323
- Flammability Rating: UL 94V-0
- High temperature soldering guaranteed:
260 C/10s
- Packaging: Tape and Reel

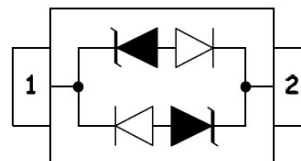
Applications

- Cell Phone Handsets and Accessories
- Microprocessor based equipment
- Personal Digital Assistants (PDA's)
- Notebooks, Desktops, and Servers
- Portable Instrumentation
- Peripherals
- USB Interface

Pin Configuration



Circuit Diagram





GBLC03CI ~ GBLC24CI

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

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air) ESD per IEC 61000-4-2 (Contact)	V _{ESD}	± 15 ± 8	kV
Peak Pulse Power($t_p=8/20\mu\text{s}$ waveform)	P _{PPP}	350	W
Operating Temperature	T _{OPT}	-55 to +150	$^{\circ}\text{C}$
Storage Temperature	T _{STG}	-55 to +150	$^{\circ}\text{C}$
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260	$^{\circ}\text{C}$

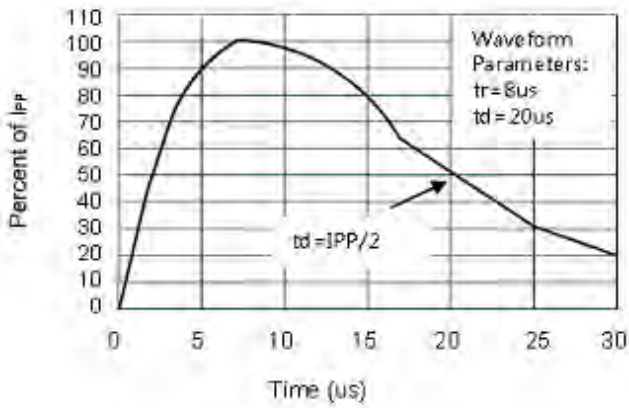
Electrical Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

PART NUMBER	DEVICE MARKING	V _{RWM} (V)	V _{B@1mA} (V)	V _{C@1A} (V)	V _{C@Ipp} (V)		V _{C@Ipp} (V)		I _R (μA)	C _T (pF)
		Max	Min	Max	Max	I _{pp} (A)	Max	I _{pp} (A)	Max	Typ.
GBLC03CI	CC	3.0	4.0	7.0	13.9	8	20.0	20	5	0.8
GBLC05CI	AC	5.0	6.0	9.8	18.3	8	20.0	18	1	0.8
GBLC08CI	BC	8.0	8.5	13.4	18.5	8	24.0	18	1	0.8
GBLC12CI	DC	12.0	13.3	19.0	24.0	6	28.6	12	1	0.8
GBLC15CI	EC	15.0	16.7	24.0	29.0	5	31.8	10	1	0.8
GBLC18CI	FC	18.0	20.0	35.0	45.0	5	53.0	7	1	0.8
GBLC20CI	GC	20.0	22.0	38.0	45.0	4	55.0	7	1	0.8
GBLC24CI	HC	24.0	26.7	43.0	45.0	3	56.0	6	1	0.8

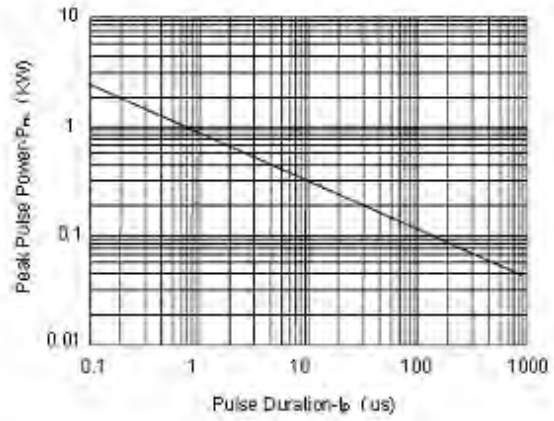


GBLC03CI ~ GBLC24CI

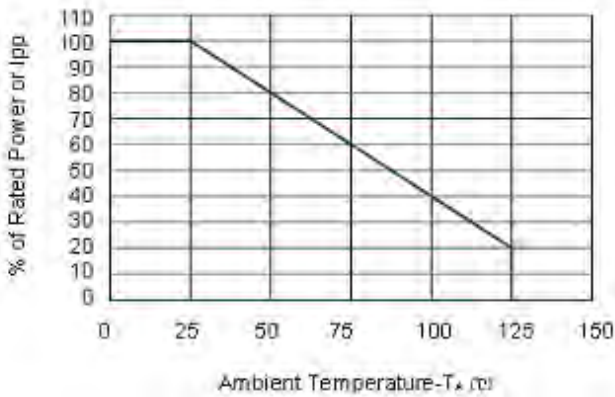
ELECTRICAL CHARACTERISTICS CURVE



Pulse Waveform

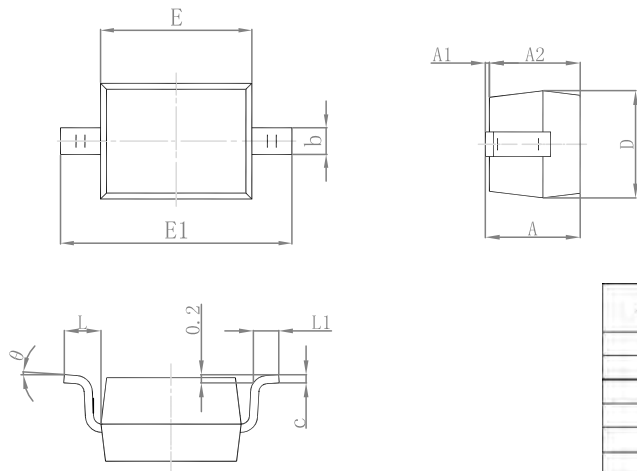


Non-Repetitive Peak Pulse Power vs. Pulse Time



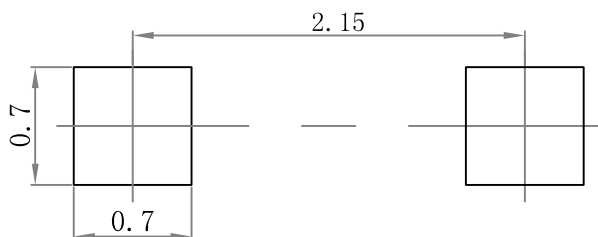
Outline Drawing

SOD-323 Package Outline Dimensions



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	0.475 REF.		0.019 REF.	
L1	0.250	0.400	0.010	0.016
θ	0°	8°	0°	8°

Suggested Pad Layout



Note:

1. Controlling dimension: in/millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

PACKAGE SPECIFICATIONS

Package	Reel Size	Reel DIA. (mm)	Q'TY/Reel (pcs)	Box Size (mm)	QTY/Box (pcs)	Carton Size (mm)	Q'TY/Carton (pcs)
SOD-323	7'	178	3000	183×188×80	18,000	386×265×215	108,000