



GBLCxxC Series

Bi-directional Ultra Low Capacitance TVS Array

SOD-323 Plastic-Encapsulate ESD Protection Diodes

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 in both unidirectional and bidirectional configurations and is rated at 300 Watts for an 8/20µs wave shape.

The GBLCxxC 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.

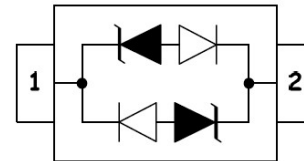
Features

- ◆ Peak Power Dissipation 300W (8/20µs)
- ◆ IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ IEC61000-4-5 (Lightning) 12A (8/20µs)
- ◆ Protects one I/O line (bidirectional)
- ◆ Low clamping voltage
- ◆ Working voltages : 3V, 5V, 8V, 12V, 15V, 24V
- ◆ Response Time is < 1 ns
- ◆ Meets MSL 1 Requirements

Pin Configuration



Circuit Diagram



Applications

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

Mechanical Characteristics

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

Absolute Maximum Ratings (T_A=25°C unless otherwise specified)

Parameter	Symbol	Value	Unit
ESD per IEC 61000-4-2 (Air)	V _{ESD}	± 15	kV
ESD per IEC 61000-4-2 (Contact)		± 8	
Peak Pulse Power(tp=8/20us waveform)	P _{PP}	300	W
Operating Temperature	T _{OPT}	-55 to +150	°C
Storage Temperature	T _{STG}	-55 to +150	°C
Lead Solder Temperature – Maximum (10 Second Duration)	T _L	260(10 sec.)	°C

The above data are for reference only.



GBLCxxC Series

Bi-directional Ultra Low Capacitance TVS Array

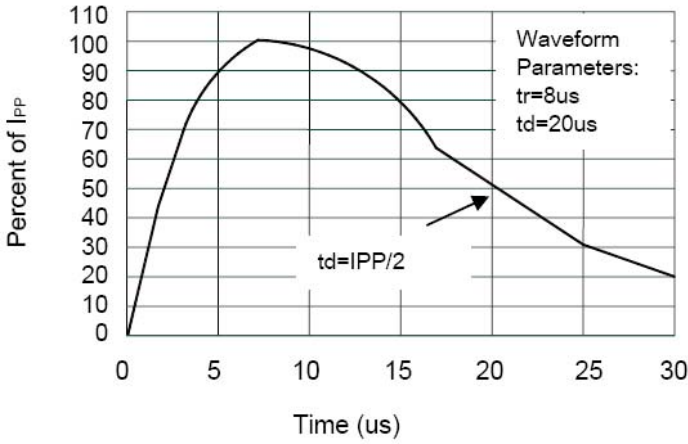
Electrical Characteristics (T_A=25°C unless otherwise specified)

PART NUMBER	DEVICE MARKING	V _{RWM}	V _B	I _T	V _{C@1A}	V _C		I _R	C _T
		(V) (max.)	(V) (min.)	(mA)	(V) (max.)	(V) (max.)	(@A)	(μA) (max.)	(pF) (typ.)
GBLC03C	CC	3.0	4.0	1	7.0	13.9	8	2	0.8
GBLC05C	AC	5.0	6.0	1	9.8	18.3	8	1	0.8
GBLC08C	BC	8.0	8.5	1	13.4	18.5	8	1	0.8
GBLC12C	DC	12.0	13.3	1	19.0	28.6	6	1	0.8
GBLC15C	EC	15.0	16.7	1	24.0	31.8	5	1	0.8
GBLC24C	HC	24.0	26.7	1	43.0	56.0	3	1	0.8

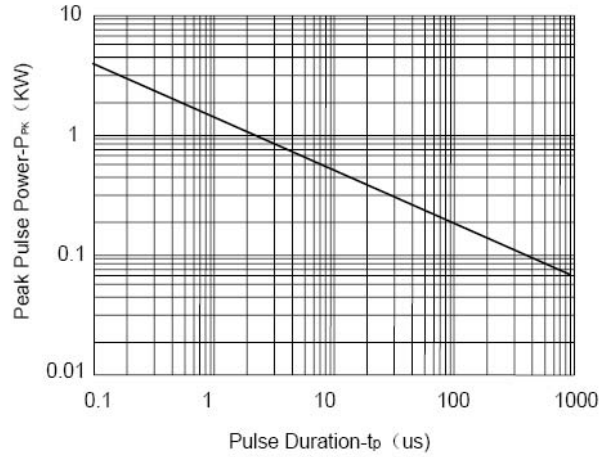
The above data are for reference only.



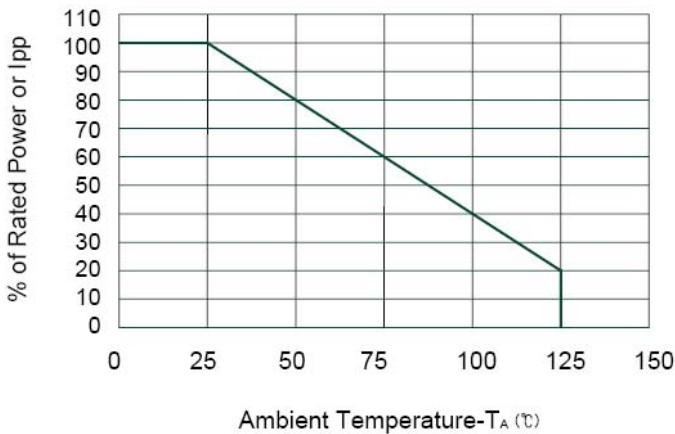
ELECTRICAL CHARACTERISTICS CURVE



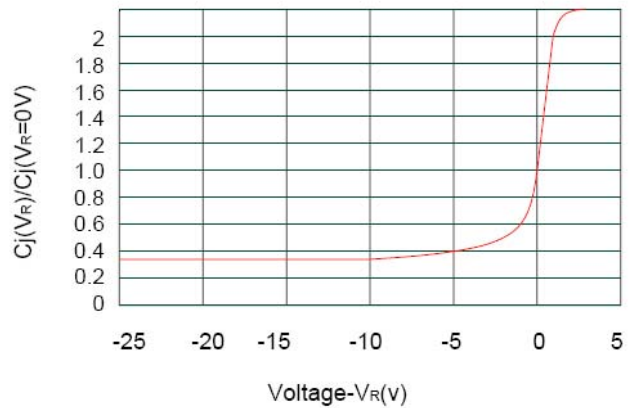
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



Power Derating Curve



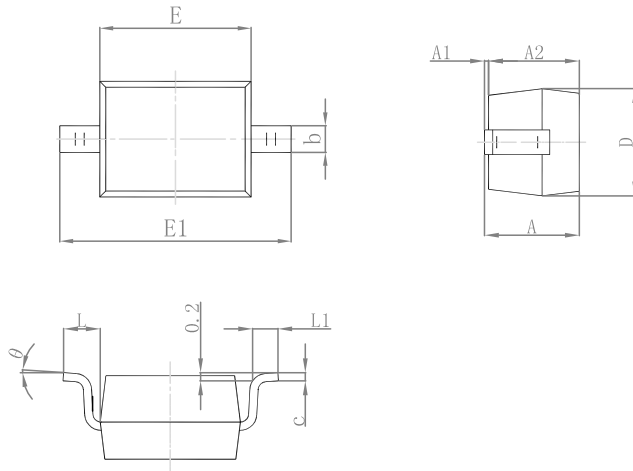
Junction Capacitance vs. Reverse Voltage

The above data are for reference only.



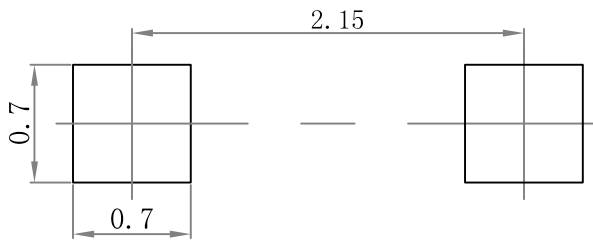
Outline Drawing

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°	

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	45,000	386×265×215	180,000

Important Notice and Disclaimer

Microdiode Electronics (Jiangsu) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

Microdiode Electronics (Jiangsu) makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, not does Microdiode Electronics (Jiangsu) assume any liability for application assistance or customer product design. Microdiode Electronics (Jiangsu) does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Microdiode Electronics (Jiangsu).

Microdiode Electronics (Jiangsu) products are not authorized for use as critical components in life support devices or systems without express written approval of Microdiode Electronics (Jiangsu).

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:

Click to view products by [Microdiode Electronics](#) manufacturer:

Other Similar products are found below :

[NTE4902](#) [P4SMAJ15A](#) [P4SMAJ26A](#) [SMAJ400CA-TP](#) [TGL34-47CA](#) [ESDAULC45-1BF4](#) [SM1605E3/TR13](#) [SMF20A-TP](#) [P4SMAJ12A](#)
[CPDUR24V-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#) [MPLAD30KP45CAE3](#) [MMBZ27VCLQ-7-F](#) [MMAD1108/TR13](#) [MPLAD30KP24A](#)
[ACPDQC5V0R-HF](#) [DFLT170A-7](#) [NTE4900](#) [NTE4926](#) [NTE4938](#) [SMF22A-TP](#) [SMF12A-TP](#) [SLVU2.8-TP](#) [SMLJ6.5CA-TP](#) [SMAJ6.5CA-](#)
[TP](#) [MMAD1108E3/TR13](#) [D5V0M1U2LP3-7](#) [SMAJ400A-TP](#) [AOZ8811DT-03](#) [AOZ8831DI-05](#) [AOZ8831DT-03](#) [SMAJ188CA](#) [3SMC33CA](#)
[BK](#) [CPDQC3V3C-HF](#) [CPDQC12VE-HF](#) [MPLAD30KP170CA](#) [82357120100](#) [5.0SMLJ15CA-TP](#) [5KP18A-TP](#) [P6KE8.2A-TP](#)
[MPLAD30KP43CAE3](#) [SMAJ43A-TP](#) [D5V0F6U8LP33-7](#) [TVS5501V10MUT5G](#) [5.0SMLJ24CA-TP](#) [SMAJ110CA-TP](#) [MPLAD15KP75CAE3](#)
[MMAD1103e3/TR13](#) [DFLT40AQ-7](#)