

Bidirectional TVS 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 350 Watts for an 8/20us wave shape. The GBLCxxC Series meets IEC 61000-4-2(ESD) and IEC 6100-4-4(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

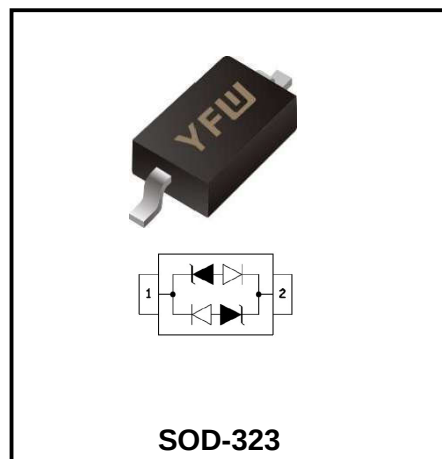
- ♦IEC61000-4-2(ESD) $\pm 15\text{kV}$ (air), $\pm 8\text{kV}$ (contact)
- ♦IEC61000-4-4(EFT) 40A(5/50ns)
- ♦IEC61000-4-5(Lightning) 12A(8/20us)
- ♦Protects one I/O line(unidirectional)
- ♦Low clamping voltage
- ♦Working voltages: 3V, 5V, 8V, 12V, 15V, 24V
- ♦Low leakage current
- ♦Response Time is $<1\text{ns}$

Mechanical Data

- ♦SOD-323 Package
- ♦Flammability Rating: UL 94V-0
- ♦High temperature soldering guaranteed: $260^{\circ}\text{C}/10\text{s}$

Applications

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



ABSOLUTE MAXIMUM RATING

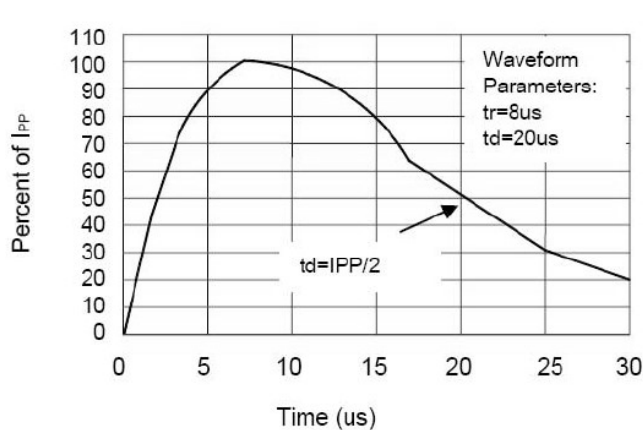
Parameters	Symbol	Value	Unit
ESD per IEC61000-4-2(Air)	V_{ESD}	± 15	kV
ESD per IEC61000-4-2(Contact)		± 8	
Peak Pulse Power (8/20us)	P_{PP}	350	W
Operating temperature	T_{OPT}	$-55-+150$	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	$-55-+150$	$^{\circ}\text{C}$
Lead Soldering temperature	T_{L}	260(10 sec.)	$^{\circ}\text{C}$

Electrical Characteristics

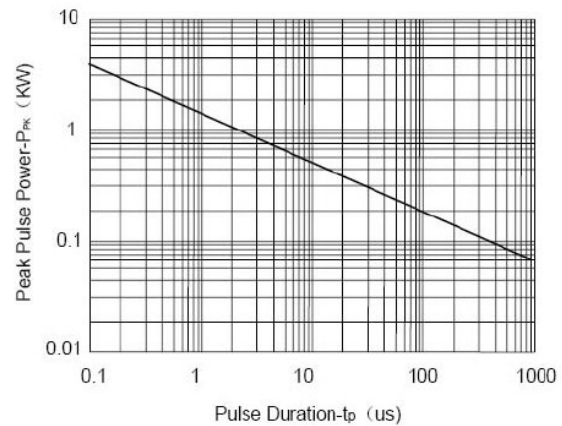
Ratings at 25°C ambient temperature unless otherwise specified

PART NUMBER	DEVICE MARKING	VRWM (V) (max.)	VB (V) (min.)	IT (mA)	Vc@1A (V) (max.)	Vc (V) (max.) (@A)		IR (uA) (max.)	CT (pF) (max.)
GBLC03C	CC	3.3	4	1	7.5	13.9	8	20	0.8
GBLC05C	AC	5	6	1	9.8	18.3	8	5	0.8
GBLC08C	BC	8	8.5	1	13.4	18.5	8	2	0.8
GBLC12C	DC	12	13.3	1	19	28.6	6	1	0.8
GBLC15C	EC	15	16.7	1	24	31.8	5	1	0.8
GBLC18C	FC	18	20	1	35	45.0	5	1	0.8
GBLC20C	GC	20	22	1	38	45.0	4	1	0.8
GBLC24C	HC	24	26.7	1	43	56	3	1	0.8

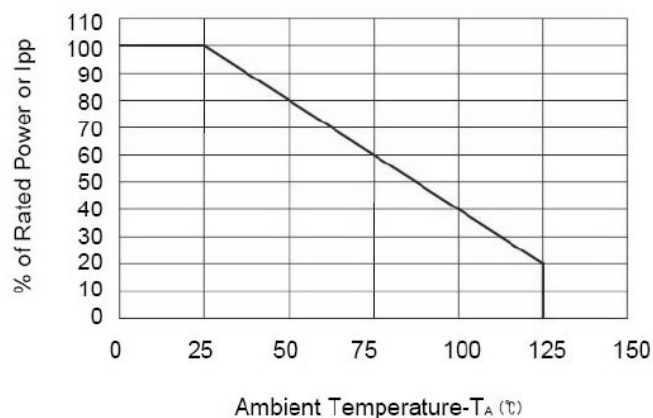
ELECTRICAL CHARACTERISTICS CURVE



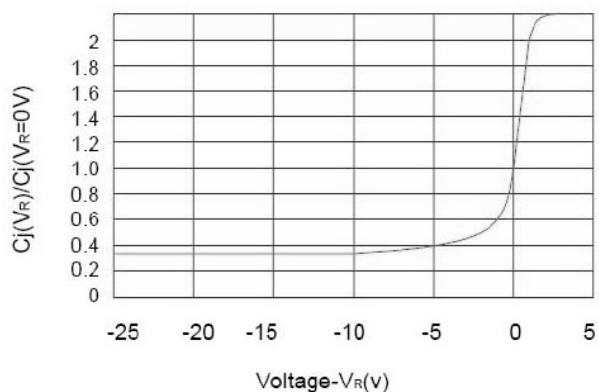
Pulse Waveform



Non-Repetitive Peak Pulse Power vs. Pulse Time



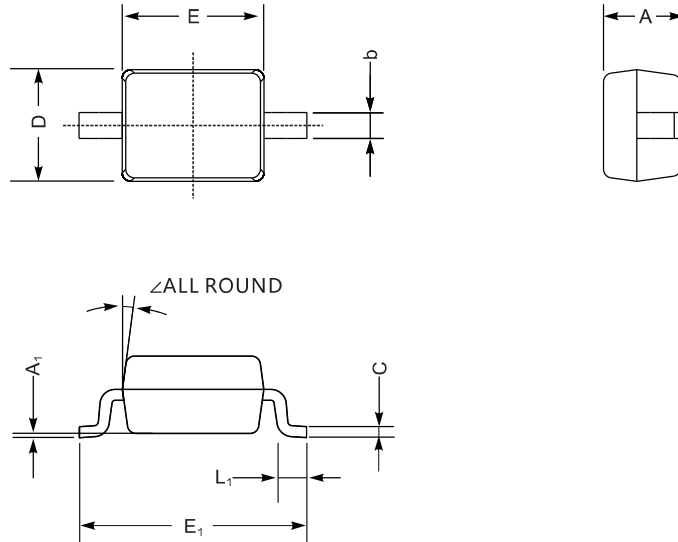
Power Derating Curve



Junction Capacitance vs. Reverse Voltage

Package Outline

SOD-323



UNIT		A	C	D	E	E ₁	b	L ₁	A ₁	∠
mm	max	1.1	0.15	1.4	1.8	2.75	0.4	0.45	0.2	9°
	min	0.8	0.08	1.2	1.4	2.55	0.25	0.2	—	
mil	max	43	5.9	55	70	108	16	16	8	
	min	32	3.1	47	63	100	9.8	7.9	—	

Summary of Packing Options

Package	Packing Description	Packing Quantity	Industry Standard
SOD-323	Tape/Reel, 7" reel	3000	EIA-481-1