
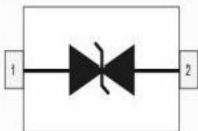




1-Line Low Capacitance Bi-directional TVS Diode

SOD323

Schematic & Pin configuration

Simplified outline	Graphic symbol
	

General description

GBLC05CS a 5.0V bi-directional TVS diode,utilizing leading monolithic silicon technology to provide fast response time and low ESD clamping voltage,making his device an ideal solution for protecting voltage sensitive high-speed data lines.The GBLC05CS has a low capacitance with a typical value at 0.6pF,and complies with the IEC61000-4-2(ESD) standard with $\pm 30\text{KV}$ air and $\pm 30\text{KV}$ contact discharge.It is assembled into a leadfree SOD-323 package.The small size,low capacitance and high ESD surge protection make GBLC05CS an idea choice to protect cell phone,wireless systems,and communication equipment.

Features and benefits

- Ultra Low Capacitance 0.6 pF(Typ)
- 300W peak pulse power (8/20 μs)
- Working Voltage 5V
- Low leakage current:nA Level
- Complies with following standards:
 - IEC 61000-4-2 (ESD)immunity test
 - Air discharge: $\pm 30\text{KV}$
 - Contact discharge: $\pm 30\text{KV}$
 - IEC61000-4-5(Lightning)10A (8/20 μs)
- RoHS compliant

Application information

- High-speed data lines
- Smart phones
- USB Ports
- Wireless Systems
- Ethernet 10/100/1000 Base T

Ordering information

Device	Packag	Packaging	Reel Size
GBLC05CS	SOD323	3000/Tape &Reel	7 inch

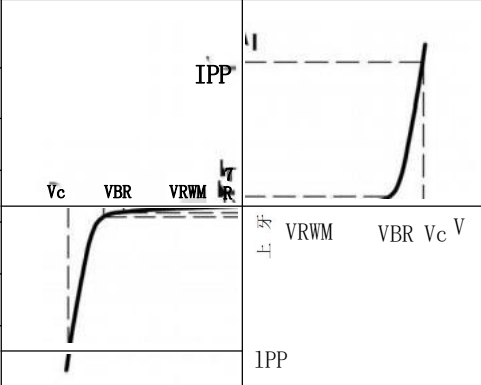
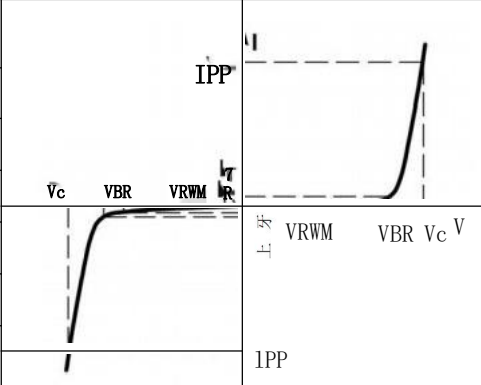
Maximum Ratings (TA=25°C, unless otherwise specified)

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20 μs)	Ppk	160	W
Peak Pulse Current (tp=8/20 μs)	Ipp	10	A
ESD voltage IEC 61000-4-2 (air discharge)	VESD	30	KV
ESD voltage IEC 61000-4-2 (contact discharge)	VESD	30	KV
Storage Temperature Range	Tstg	-55 to +150	°C
Operating Temperature Range	Top	-40 to +125	°C

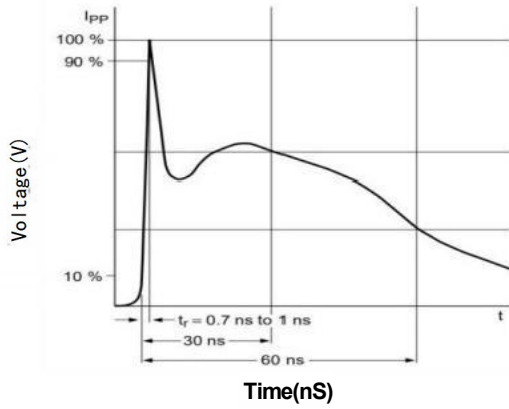
Electrical Characteristics (TA=25 °C, unless otherwise specified)

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	VRWM			5.0	V	
Breakdown Voltage	VBR	6.1	6.8	8.0	V	Ir=1mA
Leakage Current ILeak	IR			100	nA	VRWM=5.0V
Clamping Voltage	Vc		8.0	10.0	V	Ipp=1A, Tp=8/20 μs
Clamping Voltage	Vc		14.0	16.0	V	Ipp=10A, Tp=8/20 μs
Junction Capacitance	Cj		0.6	0.9	pF	Vr=0V, f=1MHz

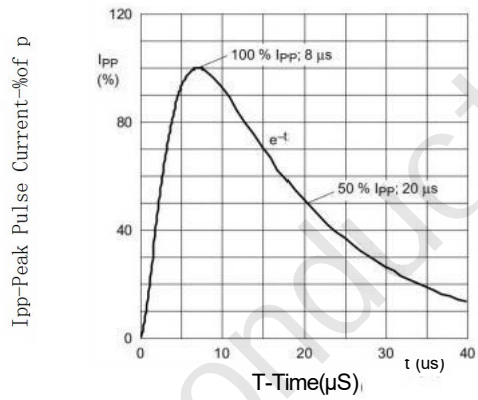
Portion Electronics Parameter

Symbol	Parameter	Figure	
Ipp	Reverse Peak Pulse Current		
Vc	Clamping Voltage @Ipp		
VRWM	Working Peak Reverse Voltage		
Ir	Reverse Leakage Current @Vgwm		
VBR	Breakdown Voltage @Ir		
π	VBR Test Current		

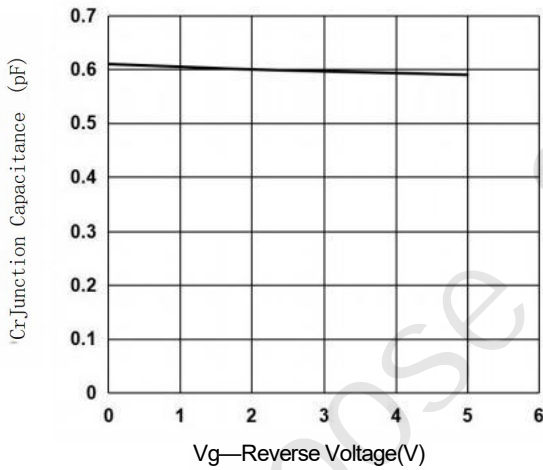
Typical Performance Characteristics (TA=25C unless otherwise Specified)



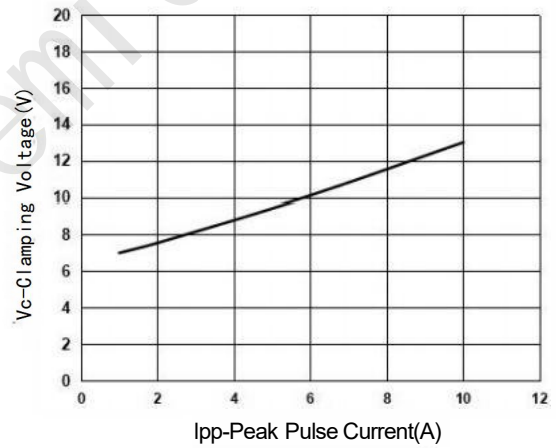
IEC61000-4-2 Pulse Waveform



IEC61000-4-58X20µs Pulse Waveform



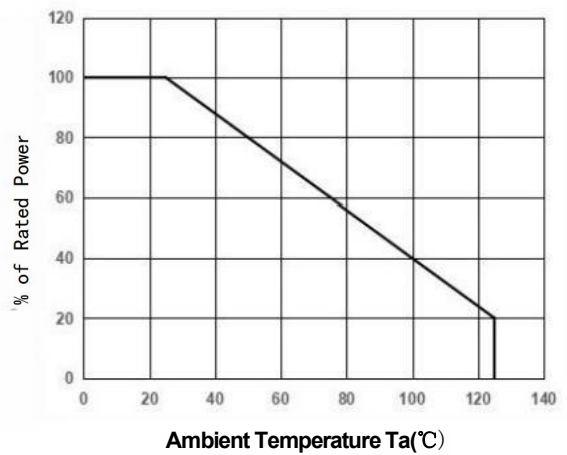
Junction Capacitance vs. Reverse Voltage



Clamping Voltage vs. Peak Pulse Current



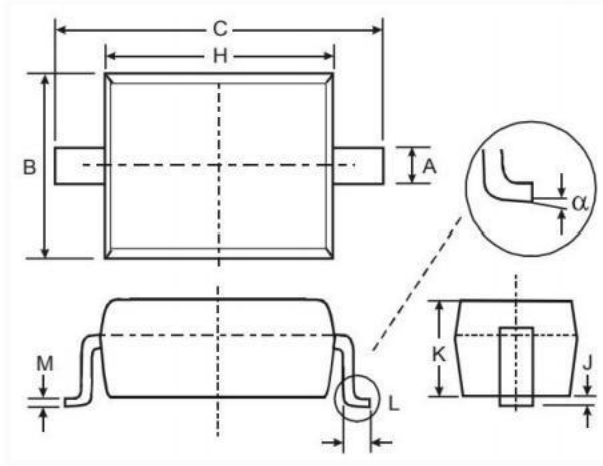
Peak Pulse Power vs. Pulse Time



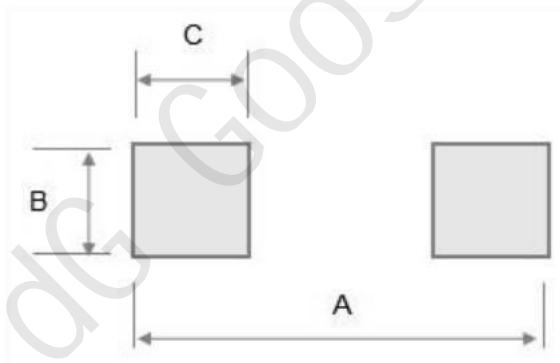
Power Derating Curve

Package Outline Dimensions (mm)

SOD323



SYMBOL	DIMENSIONS	
	MIN	MAX
A	0.25	0.40
B	1.20	1.40
C	2.35	2.75
H	1.50	1.80
J	0.01	0.15
K	0.75	1.05
L	0.20	0.40
M	0.08	0.25
a	0°	8°

Soldering Footprint (mm)


SYMBOL	DIMENSIONS
A	0.32
B	0.80
C	0.80