
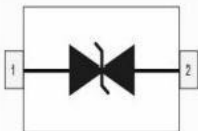




1-Line Low Capacitance Bi-directional TVS Diode

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

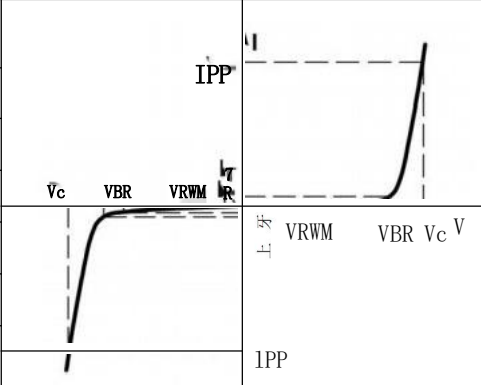
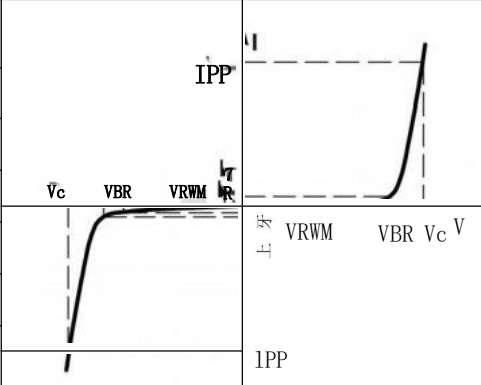
Maximum Ratings (TA=25°C, unless otherwise specified)

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

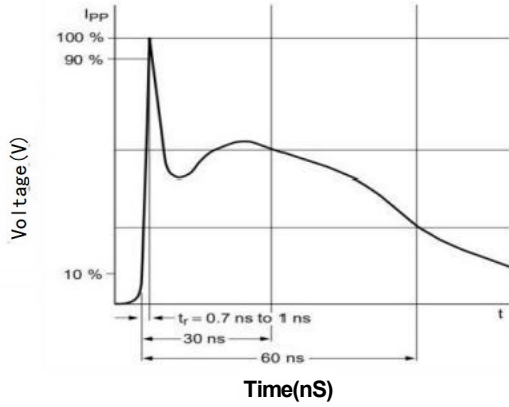
Electrical Characteristics (TA=25 °C, unless otherwise specified)

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

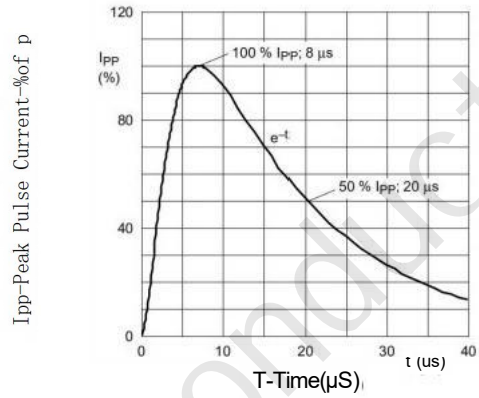
Portion Electronics Parameter

Symbol	Parameter	Graph	
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		

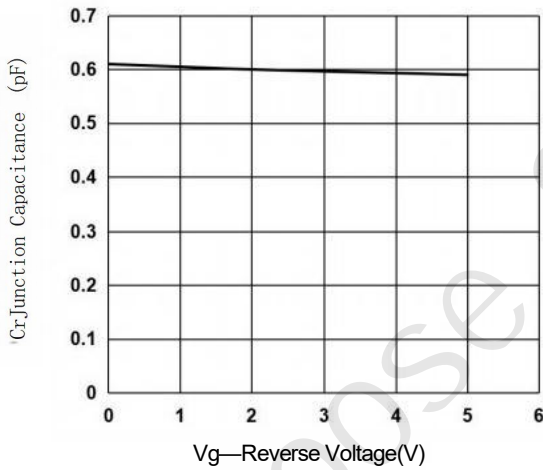
Typical Performance Characteristics (TA=25C unless otherwise Specified)



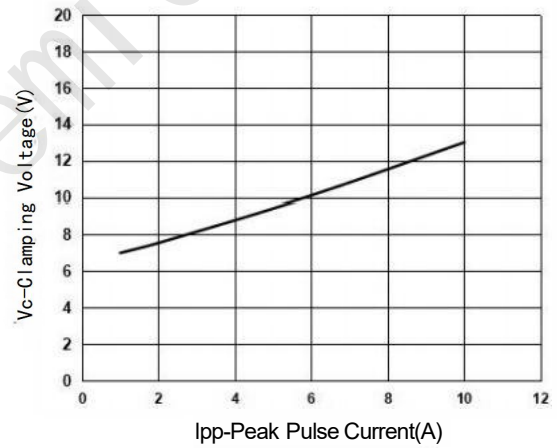
IEC61000-4-2 Pulse Waveform



IEC61000-4-58X20µs Pulse Waveform



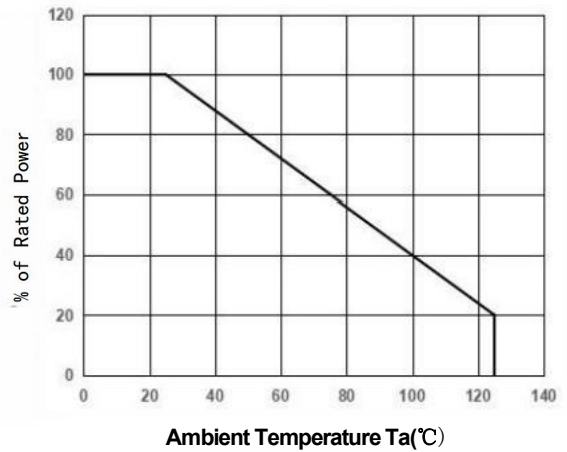
Junction Capacitance vs.Reverse Voltage



Clamping Voltage vs.Peak Pulse Current



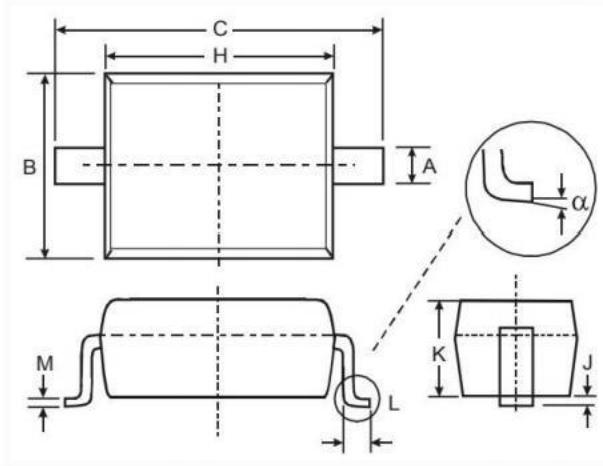
Peak Pulse Power vs.Pulse Time



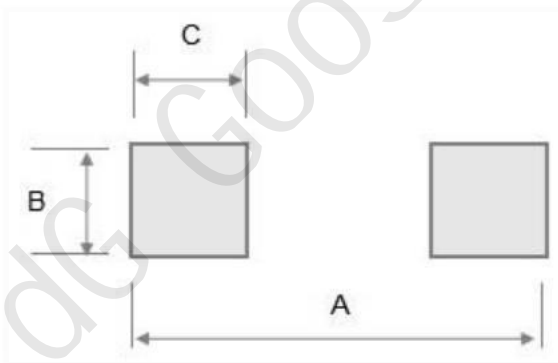
Power Derating Curve

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

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