





## 1-Line Low Capacitance Bi-directional TVS Diode

SOD323

### Schematic & Pin configuration

Simplified outline	Graphic symbol
	

### General description

GBLC15C a 15V 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 GBLC15C has a low capacitance with a typical value at 1.0pF,and complies with the IEC61000-4-2(ESD) standard with  $\pm 30KV$  air and  $\pm 30KV$  contact discharge.It is assembled into a leadfree SOD-323 package.The small size,low capacitance and high ESD surge protection make GBLC15C an idea choice to protect cell phone,wireless systems,and communication equipment.

### Features and benefits

- Ultra Low Capacitance 0.6 pF(Typ)
- 350W peak pulse power (8/20 $\mu$ S)
- Working Voltage 15V
- Low leakage current:nA Level
- Complies with following standards:
  - IEC 61000-4-2 (ESD)immunity test  
Air discharge: $\pm 30KV$   
Contact discharge: $\pm 30KV$
  - IEC61000-4-5(Lightning)13A (8/20 $\mu$ S)
  - IEC61000-4-4 (EFT)40A (5/50nS)
- RoHS compliant

### Application information

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

### Ordering information

Par Number	Package	Packaging	Reel Size
GBLC15C	SOD323	3000/Tape &Reel	7 inch

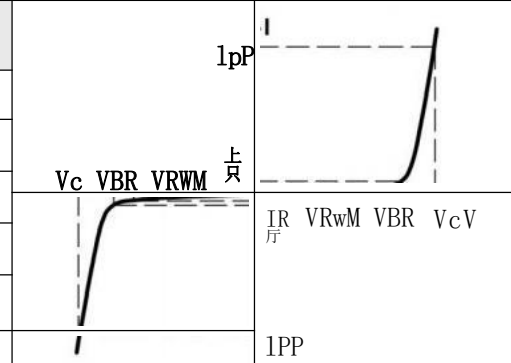
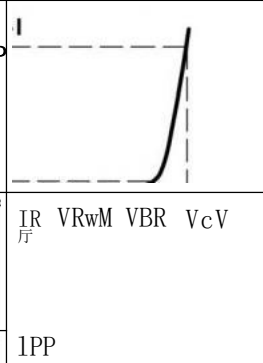
**Maximum Ratings (TA=25°C, unless otherwise specified)**

Parameter	Symbol	Value	Unit
Peak Pulse Power (tp=8/20 μ S)	PPk	350	W
Peak Pulse Current (tp =8/20 μ S)	Ipp	13	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 +85	°C

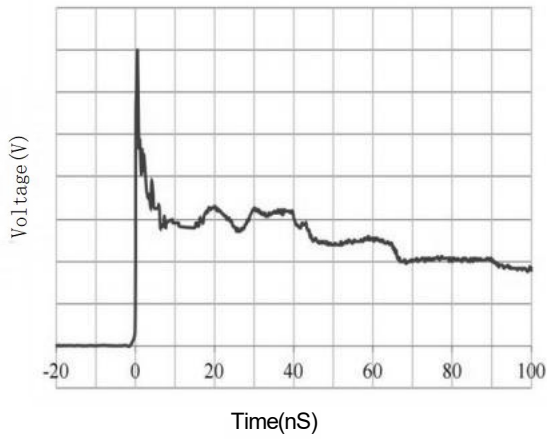
**Electrical Characteristics (TA=25°C, unless otherwise specified)**

Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	VRWN			15	V	
Breakdown Voltage	VBR	16.5	17.5	19.5	V	Ir=1mA
Leakage Current ILeak	IR	-		0.2	μA	VRWM=15V
Clamping Voltage	Vc		20	23	V	Ipp=1A, Tp=8/20 μ s
Clamping Voltage	Vc		30	35	V	Ipp=13A, Tp=8/20 μ s
Junction Capacitance	Cj		0.6	1.0	pF	Vr=0V, f=1MHz

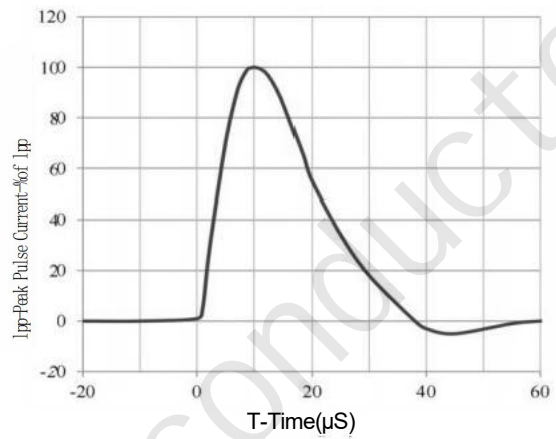
**Portion Electronics Parameter**

Symbol	Parameter	Diagram	
Ipp	Reverse Peak Pulse Current		
Vc	Clamping Voltage @IPP		
VRWM	Working Peak Reverse Voltage		
IR	Reverse Leakage Current @VRWM		
VBR	Breakdown Voltage @IT		
Ir	VBR Test Current		

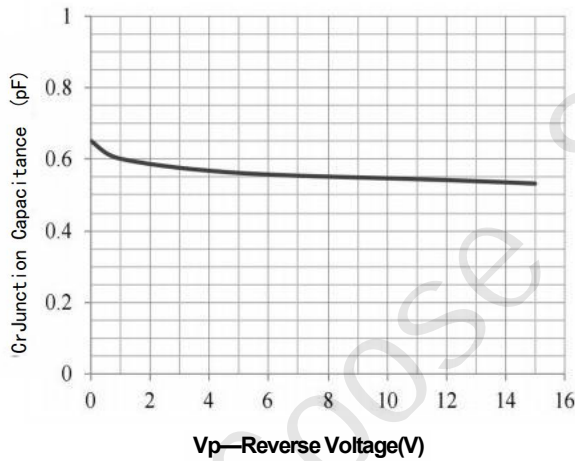
**Typical Performance Characteristics (TA=25°C unless otherwise Specified)**



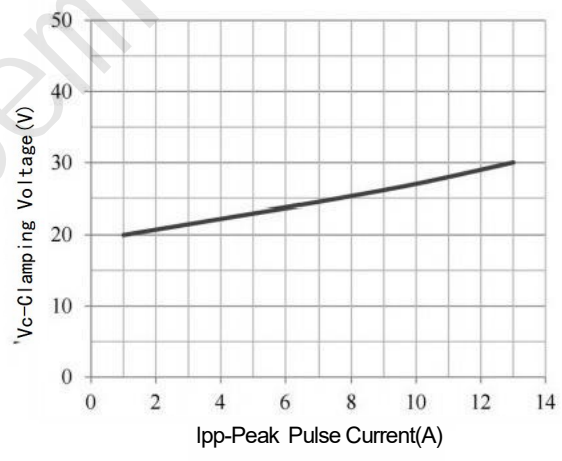
**IEC61000-4-2 Pulse Waveform**



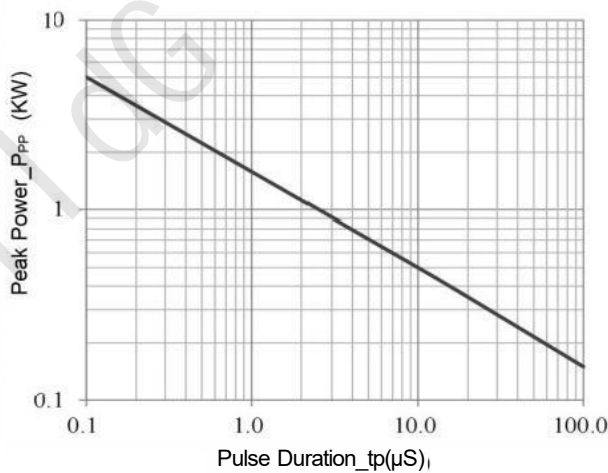
**IEC61000-4-58X20µs Pulse Waveform**



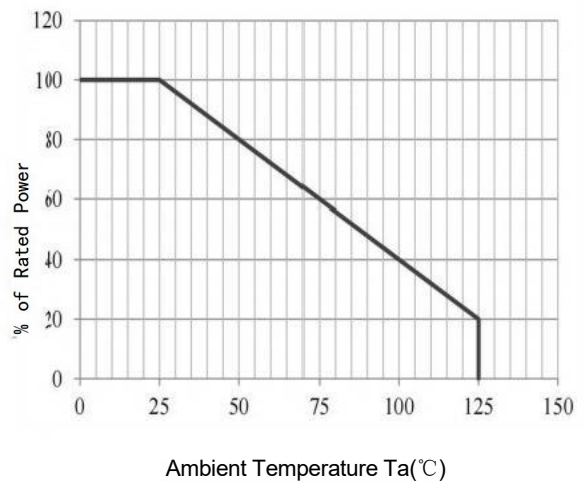
**Junction Capacitance vs.Reverse Voltage**



**Clamping Voltage vs.Peak Pulse Current**



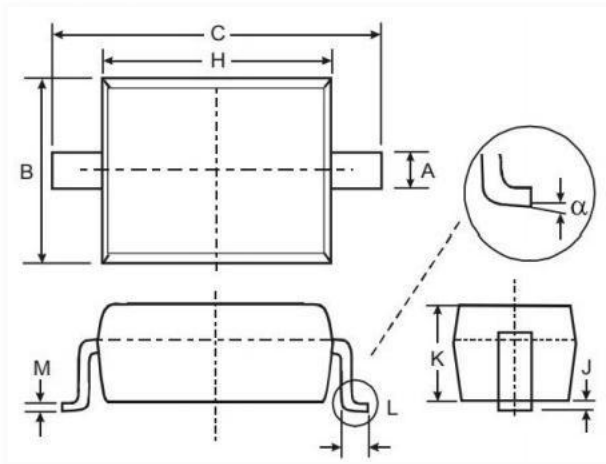
**Peak Pulse Power vs.Pulse Time**



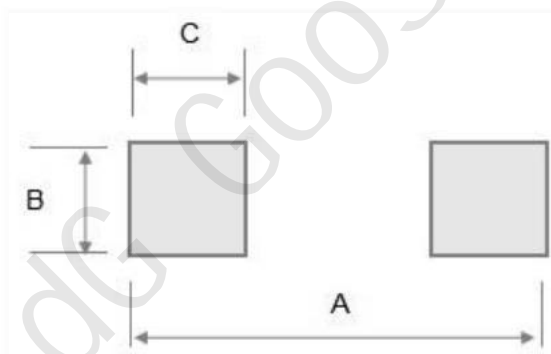
**Power Derating Curve**

**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
$\alpha$	0°	8°

**Soldering Footprint(mm)**


SYMBOL	DIMENSIONS
A	3.20
B	0.80
C	0.80