



General description

GBLC08CB a 8V 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 GBLC08CB 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 GBLC08CB 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 μs)
- Working Voltage 8.0V
- 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) 20A (8/20 μs)
 - 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
GBLC08CB	SOD323	3000/Tape & Reel	7 inch

Schematic & Pin configuration

Simplified outline	Graphic symbol

Maximum Ratings ($T_A = 25^\circ\text{C}$, unless otherwise specified)

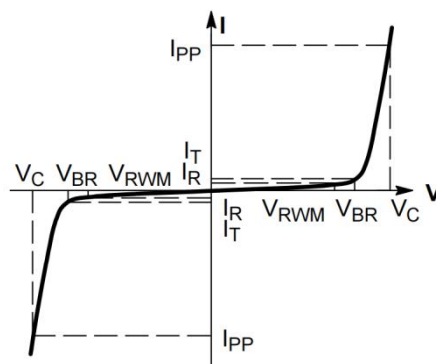
Parameter	Symbol	Value	Unit
Peak Pulse Power ($t_p = 8/20\mu\text{s}$)	P_{pk}	500	W
Peak Pulse Current ($t_p = 8/20\mu\text{s}$)	I_{pp}	20	A
ESD voltage IEC 61000-4-2 (air discharge)	V_{ESD}	30	KV
ESD voltage IEC 61000-4-2 (contact discharge)	V_{ESD}	30	KV
Storage Temperature Range	T_{stg}	-55 to +150	$^\circ\text{C}$
Operating Temperature Range	T_{OP}	-40 to +85	$^\circ\text{C}$

Electrical Characteristics ($T_A = 25^\circ\text{C}$, unless otherwise specified)

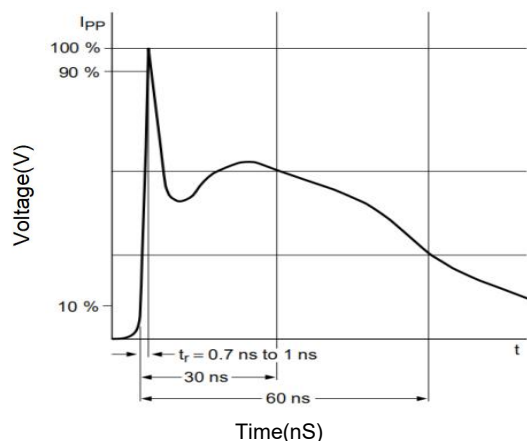
Parameter	Symbol	Min	Typ	Max	Unit	Condition
Reverse Working Voltage	V_{RWM}	--	--	8.0	V	
Breakdown Voltage	V_{BR}	9.5	11.0	12.5	V	$I_T = 1\text{mA}$
Leakage Current I_{Leak}	I_R	--	--	0.1	μA	$V_{RWM} = 8\text{V}$
Clamping Voltage	V_C	--	12	14	V	$I_{pp} = 1\text{A}, t_p = 8/20\mu\text{s}$
Clamping Voltage	V_C	--	23	25	V	$I_{pp} = 20\text{A}, t_p = 8/20\mu\text{s}$
Junction Capacitance	C_J	--	0.6	0.8	pF	$V_R = 0\text{V}, f = 1\text{MHz}$

Portion Electronics Parameter

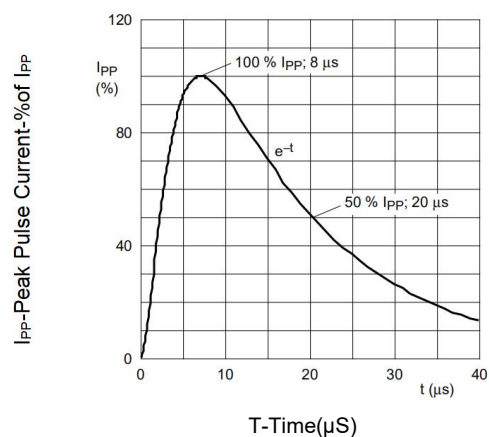
Symbol	Parameter
I_{pp}	Reverse Peak Pulse Current
V_C	Clamping Voltage @ IPP
V_{RWM}	Working Peak Reverse Voltage
I_R	Reverse Leakage Current @ VRWM
V_{BR}	Breakdown Voltage @ I_T
I_T	VBR Test Current



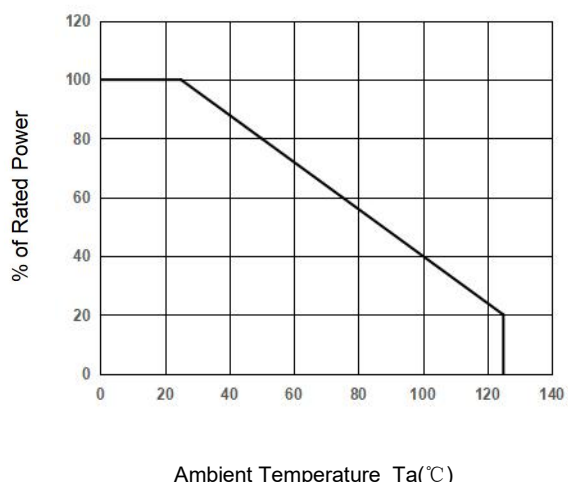
Typical Performance Characteristics ($T_A=25^{\circ}\text{C}$ unless otherwise Specified)



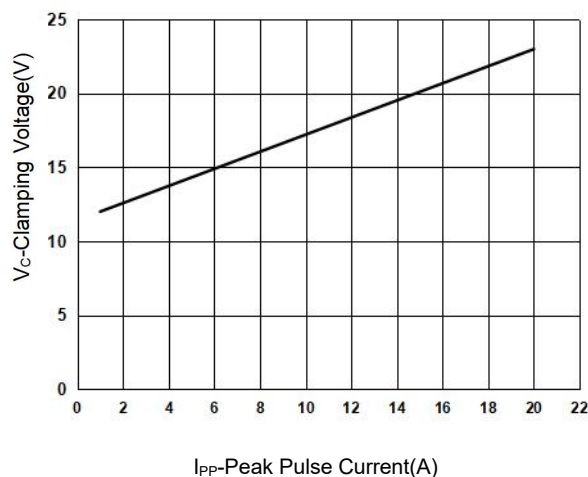
IEC61000-4-2 Pulse Waveform



IEC61000-4-5 8X20 μs Pulse Waveform



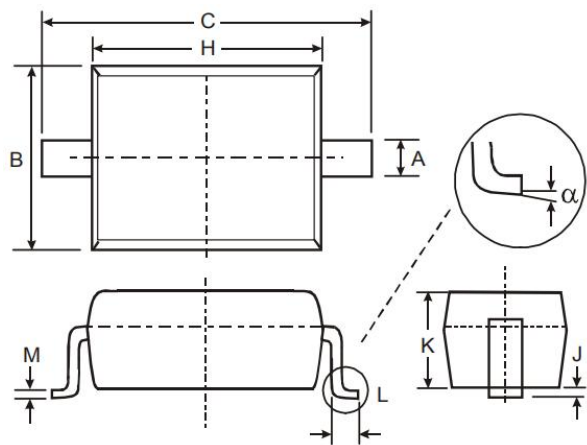
Power Derating Curve



Clamping Voltage vs. Peak Pulse Current

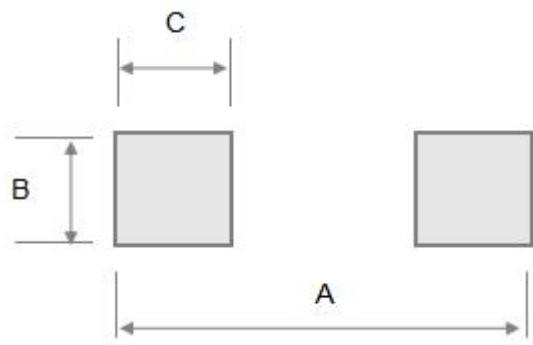
Package Outline Dimensions (mm)

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
α	0°	8°

Soldering Footprint (mm)



SYMBOL	DIMENSIONS
A	3.20
B	0.80
C	0.80