

The GBLCxxC Series is 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  $8/20\mu s$  waveform.

The GBLCxxC Series meets IEC 61000 -4-2 (ESD) and IEC 61000-4-4 (EFT) requirements. At higher operating frequencies or faster edge rates, insertion loss and signal integrity are a major concern. This series offers an ultra low capacitance and low leakage current in a miniature SOD-323 package.

### **Features**

- 350 Watts Peak Pulse Power per Line (8 x 20 us Waveform)
- Replacement for MLV (0805)
- Protects One Power or I/O Port
- Low Clamping Voltage
- Available in Multiple Voltages Ranging From 3V to 24V
- Ultra Low Capacitance: 1.5pF (Typical)
- Response Time is < 1 ns
- Meets MSL 1 Requirements
- Solid-state silicon avalanche technology
- ROHS compliant

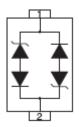
### Main applications

- Hand–Held Portable Applications
- Networking and Telecom(Ethernet 10/100/1000 Base T)
- USB Interface
- Automotive Electronics
- Serial and Parallel Ports
- Notebooks, Desktops, Servers

#### **Protection solution to meet**

- IEC61000-4-2 (ESD) ±15kV (air), ±8kV (contact)
- IEC61000-4-4 (EFT) 40A (5/50ns)





SOD323

TVS Array

Maximum ratings (Tamb=25℃ Unless Otherwise Specified)						
Parameter	Symbol	Value	Unit			
Peak Pulse Power (tp=8/20μs waveform)	P <sub>PPP</sub>	350	Watts			
ESD Rating per IEC61000-4-2: Contact		8	LV.			
Air		15	KV			
Lead Soldering Temperature	TL	260 (10 sec.)	$^{\circ}$			
Operating Temperature Range	Τı	-55 ~ 150	$^{\circ}$			
Storage Temperature Range	Tstg	-55 ~ 150	$^{\circ}$			
Lead Solder Temperature – Maximum (10 Second Duration)	TL	260	$^{\circ}$			

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

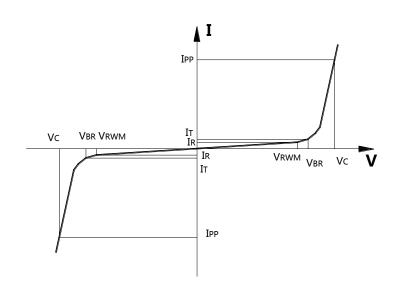
Other voltages may be available upon request.

1. Non-repetitive current pulse, per Figure 1.

Electrical characteristics ( Tamb=25°C Unless Otherwise Specified)								
Device Marking		$V_{ m RWM}$	I <sub>R</sub> @ V <sub>RWM</sub>	V <sub>BR</sub> @ 1 mA	$\mathbf{v}_{\mathbf{c}}$		Capacitance	
	Marking			(Volts) @ 1 A	Мах Ірр	$@V_R = 0V, 1$ $MHz (pF)$	Ррк	
	( <b>V</b> )	(uA)	Min	( <b>V</b> )	(A)	Тур	( <b>W</b> )	
GBLC03C	CC	3	5	4.00	7.50	22	1.5	350
GBLC05C	AC	5	2	6.00	9.80	20	1.5	350
GBLC08C	BC	8	1	8.50	13.6	13	1.5	350
GBLC12C	DC	12	1	13.3	19.0	10	1.5	350
GBLC15C	EC	15	1	16.7	24.0	8.0	1.5	350
GBLC24C	НС	24	1	26.7	43.0	6.0	1.5	350

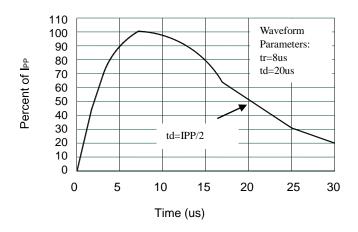
Junction capacitance is measured in VR=0V,F=1MHz

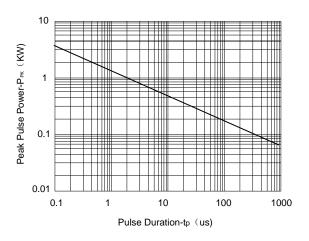
Symbol	Parameter		
V <sub>RWM</sub>	Working Peak Reverse Voltage		
V <sub>BR</sub>	Breakdown Voltage @ IT		
$V_{\rm C}$	Clamping Voltage @ IPP		
$I_{\mathrm{T}}$	Test Current		
Irm	Leakage current at VRWM		
Ірр	Peak pulse current		
Co	Off-state Capacitance		
$C_{\mathrm{J}}$	Junction Capacitance		





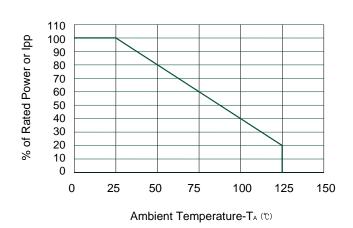
# Typical electrical characterist applications





**Pulse Waveform** 

Non-Repetitive Peak Pulse Power vs. Pulse Time



**Power Derating Curve** 

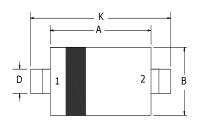


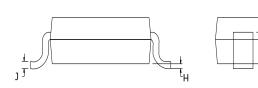
# **Package Information**

## **Mechanical Data**

Case: SOD-323

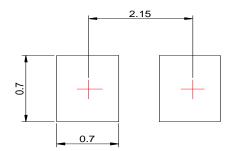
Case Material: Molded Plastic. UL Flammability



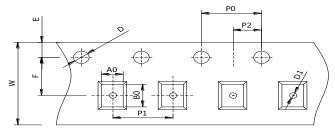


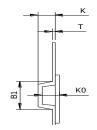
Dim	Millir	neters	Inches		
	Min	Max	Min	Max	
A	1.60	1.80	0.063	0.071	
В	1.2	1.40	0.047	0.055	
C	0.80	0.90	0.031	0.035	
D	0.25	0.35	0.010	0.014	
E	0.15	REF	0.006REF		
Н	0	0.10	0	0.004	
J	0.08	0.15	0.003	0.006	
K	2.50	2.70	0.098	0.106	

## **Recommended Pad outline**



# SOD-323 Reel Dim





Package	Chip Size	Pocket Size B0×A0×K0(mm)	Tape Width	Reel Diameter		P0	P1
SOD-323	2.60×1.40×1.05	3.30×1.50×1.25	8mm	178mm(7")	3000	4mm	4mm
D0	D1	Е	F	K	Т	W	
1.5mm	0.5mm	1.75mm	3.5mm	0.95mm	0.2mm	8mm	