

## APPLICATIONS

- ✓ Ethernet - 10/100/1000 Base T
- ✓ Cellular Phones
- ✓ Handheld - Wireless Systems
- ✓ Personal Digital Assistant (PDA)
- ✓ USB Interface

## IEC COMPATIBILITY (EN61000-4)

- ✓ 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- ✓ 61000-4-4 (EFT): 40A - 5/50ns
- ✓ 61000-4-5 (Surge): 24A, 8/20 $\mu$ s - Level 2(Line-Gnd) & Level 3(Line-Line)

## FEATURES

- ✓ 350 Watts Peak Pulse Power per Line (tp=8/20 $\mu$ s)
- ✓ Unidirectional & Bidirectional Configurations
- ✓ Replacement for MLV (0805)
- ✓ Protects One Power or I/O Port
- ✓ ESD Protection > 40 kilovolts
- ✓ Low Clamping Voltage
- ✓ Available in Multiple Voltage Types Ranging From 3V to 24V
- ✓ Ultra Low Capacitance: 0.6pF Typical
- ✓ RoHS Compliant

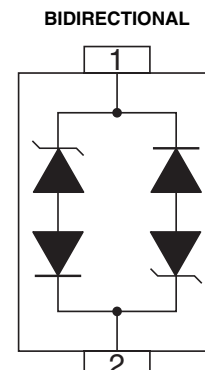
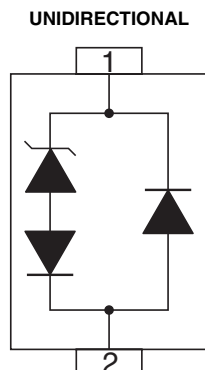
## MECHANICAL CHARACTERISTICS

- ✓ Molded JEDEC SOD-323 Package
- ✓ Weight 5 milligrams (Approximate)
- ✓ Available in Lead-Free Pure-Tin Plating(Annealed)
- ✓ Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- ✓ Consult Factory for Leaded Device Availability
- ✓ Flammability Rating UL 94V-0
- ✓ 8mm Tape and Reel Per EIA Standard 481
- ✓ Device Marking: Marking Code & Polarity Band (*Unidirectional Only*)


**SOD-323**

\*PATENT PENDING

## PIN CONFIGURATIONS



# GBLC03I\* thru GBLC24CI\*

## DEVICE CHARACTERISTICS

### MAXIMUM RATINGS @ 25°C Unless Otherwise Specified

PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Figure 1	$P_{PP}$	350	Watts
Operating Temperature	$T_A$	-55°C to 150°C	°C
Storage Temperature	$T_{STG}$	-55°C to 150°C	°C

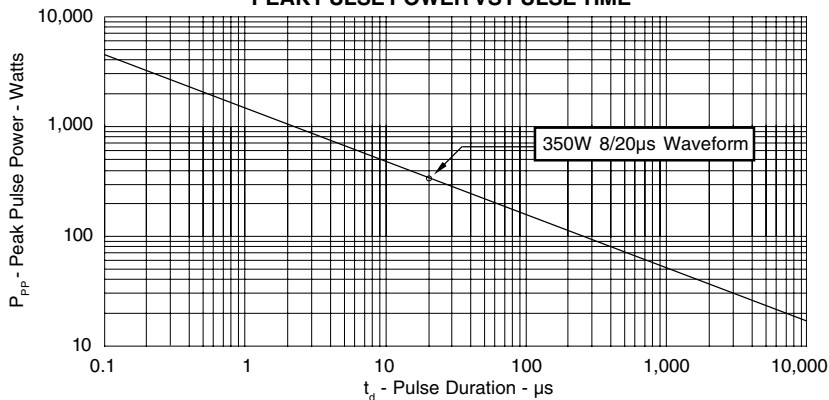
### ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified

PART NUMBER (See Notes 1-2)	DEVICE MARKING	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA $V_{(BR)}$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ $I_p = 1A$ $V_C$ VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ 8/20 $\mu s$ $V_C @ I_{pp}$	MAXIMUM LEAKAGE CURRENT  @ $V_{WM}$ $I_b$ $\mu A$	TYPICAL CAPACITANCE  0V @ 1 MHz C pF
GBLC03I	C	3.0	4.0	5.15	13.9V @ 15.0A	5	0.6
GBLC03CI	CC	3.0	4.0	5.15	13.9V @ 15.0A	5	0.6
GBLC05I	A	5.0	6.0	9.8	18.3V @ 17.0A	5	0.6
GBLC05CI	AC	5.0	6.0	9.8	18.3V @ 17.0A	5	0.6
GBLC08I	B	8.0	8.5	13.4	18.5V @ 17.0A	2	0.6
GBLC08CI	BC	8.0	8.5	13.4	18.5V @ 17.0A	2	0.6
GBLC12I	D	12.0	13.3	19.0	28.6V @ 11.0A	1	0.6
GBLC12CI	DC	12.0	13.3	19.0	28.6V @ 11.0A	1	0.6
GBLC15I	E	15.0	16.7	24.0	31.8V @ 10.0A	1	0.6
GBLC15CI	EC	15.0	16.7	24.0	31.8V @ 10.0A	1	0.6
GBLC18I	F	18.0	20.0	29.0	45.0V @ 8.0A	1	0.6
GBLC18CI	FC	18.0	20.0	29.0	45.0V @ 8.0A	1	0.6
GBLC24I	H	24.0	26.7	43.0	56.0V @ 6.0A	1	0.6
GBLC24CI	HC	24.0	26.7	43.0	56.0V @ 6.0A	1	0.6

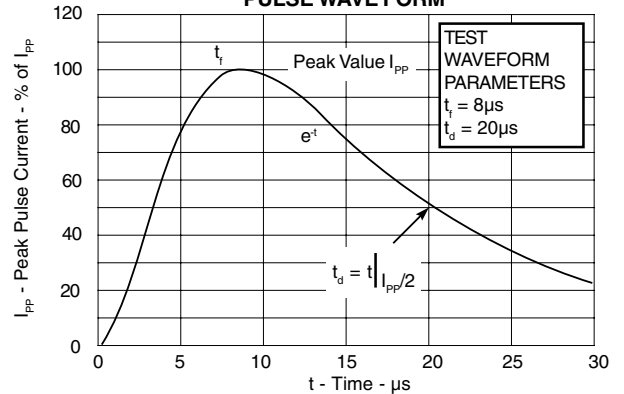
**Note 1:** Part numbers with an additional "C" suffix are bidirectional devices, i.e., GBLC05CI.

**Note 2:** *Unidirectional Only:* Positive potential is applied from pin 1 to 2.

**FIGURE 1  
PEAK PULSE POWER VS PULSE TIME**



**FIGURE 2  
PULSE WAVE FORM**



# GBLC031\* thru GBLC24CI\*

## SOD-323 PACKAGE OUTLINE & DIMENSIONS

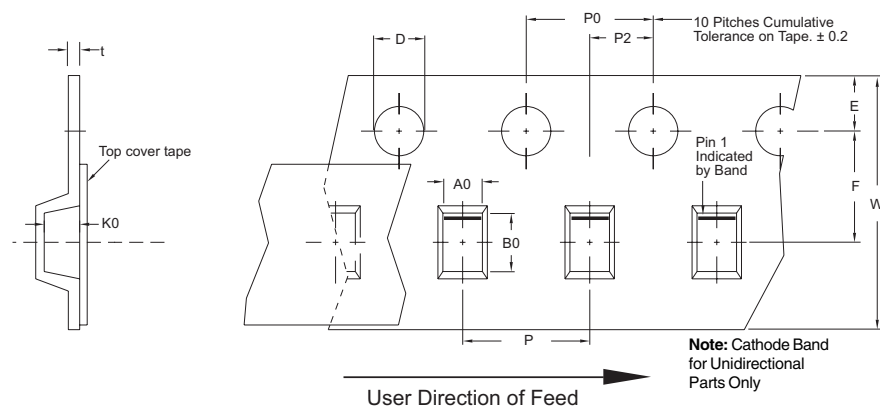
PACKAGE OUTLINE		SOD-323 PACKAGE			
<b>PACKAGE DIMENSIONS</b>					
DIM	MILLIMETERS		INCHES		
	MIN	MAX	MIN	MAX	
A	1.60	1.90	0.063	0.075	
B	1.15	1.45	0.045	0.057	
C	2.39	2.70	0.094	0.106	
D	0.80	1.10	0.031	0.043	
E	0.25	0.40	0.010	0.016	
F	0.10	0.20	0.004	0.008	
H	-	0.10	-	0.004	
L	0.20	-	0.008	-	

MOUNTING PAD		NOTES	
		<ol style="list-style-type: none"> <li>Controlling Dimensions in Millimeters.</li> <li>Dimensions are exclusive of mold flash and metal burrs.</li> </ol>	
		<b>TAPE &amp; REEL ORDERING NOMENCLATURE</b> <ol style="list-style-type: none"> <li>Surface mount product is taped and reeled in accordance with EIA-481.</li> <li>Suffix -T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, i.e., <i>GBLC05CI-T7</i>.</li> <li>Suffix -LF = Lead-Free, Pure-Tin Plating, i.e., <i>GBLC05CI-LF-T7</i>.</li> </ol>	
<b>Outline &amp; Dimensions: Rev 3 - 4/07, 06010</b>			

Tape & Reel Specifications (Dimensions in millimeters)

Reel Dia.	Tape Width	A0	B0	K0	D	E	F	W	P0	P2	P	tmax
178mm (7")	8mm	1.55 ± 0.10	2.90 ± 0.10	1.35 ± 0.10	1.50 ± 0.10	1.75 ± 0.10	3.50 ± 0.05	8.00 ± 0.30	4.00 ± 0.10	2.00 ± 0.05	4.00 ± 0.10	0.25



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**ProTek Devices**  
 2929 South Fair Lane, Tempe, AZ 85282  
 Tel: 602-431-8101 Fax: 602-431-2288  
 E-Mail: [sales@protekdevices.com](mailto:sales@protekdevices.com)  
 Web Site: [www.protekdevices.com](http://www.protekdevices.com)