



# GBLCSC03 thru GBLCSC05C

## ULTRA LOW CAPACITANCE TVS ARRAY

### 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

### FEATURES

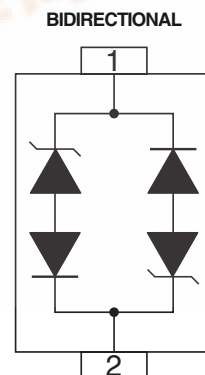
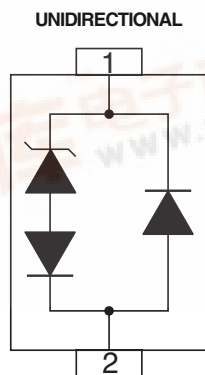
- ✓ 200 Watts Peak Pulse Power per Line (tp=8/20µs)
- ✓ Unidirectional & Bidirectional Configurations
- ✓ Replacement for MLV (0603)
- ✓ Protects One Power or I/O Port
- ✓ ESD Protection > 40 kilovolts
- ✓ Low Clamping Voltage
- ✓ Available from 3V to 5V
- ✓ ULTRA LOW CAPACITANCE: 1pF Typical
- ✓ RoHS Compliant

### MECHANICAL CHARACTERISTICS

- ✓ Molded EIAJ SC-79 Package
- ✓ Weight 2 milligrams (Approximate)
- ✓ Available 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)



### PIN CONFIGURATIONS



# GBLCSC03 thru GBLCSC05C

## DEVICE CHARACTERISTICS

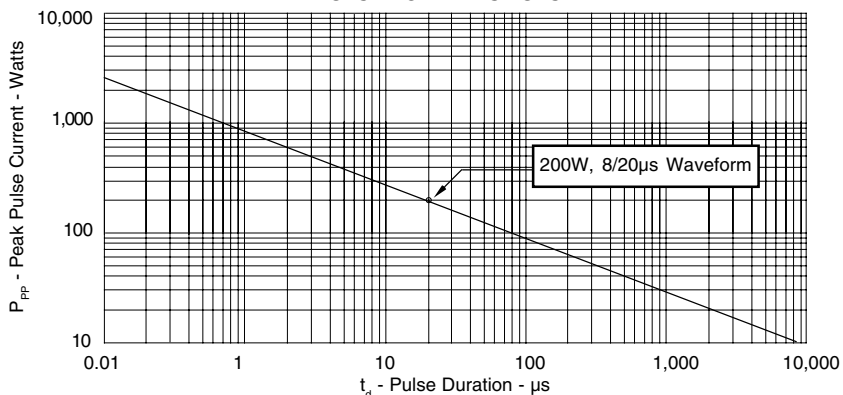
MAXIMUM RATINGS @ 25°C Unless Otherwise Specified			
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power (tp = 8/20µs) - See Figure 1	P <sub>PP</sub>	200	Watts
Storage Temperature	T <sub>STG</sub>	-55°C to 150°C	°C
Operating Temperature	T <sub>J</sub>	-55°C to 150°C	°C

ELECTRICAL CHARACTERISTICS PER LINE @ 25°C Unless Otherwise Specified						
PART NUMBER (See Note 1 & Note 2)	DEVICE MARKING	RATED STAND-OFF VOLTAGE  V <sub>WM</sub> VOLTS	MINIMUM BREAKDOWN VOLTAGE  @ 1mA V <sub>(BR)</sub> VOLTS	MAXIMUM CLAMPING VOLTAGE (See Fig. 2)  @ 8/20µs V <sub>C</sub> @ I <sub>PP</sub>	MAXIMUM LEAKAGE CURRENT  @ V <sub>WM</sub> I <sub>D</sub> µA	TYPICAL CAPACITANCE  @ 0V, 1 MHz C pF
GBLCSC03	3	3.3	4.0	13.0V @ 10.0A	5	1
GBLCSC03C	H	3.3	4.0	13.0V @ 10.0A	5	1
GBLCSC05	5	5.0	6.0	16.0V @ 10.0A	5	1
GBLCSC05C	O	5.0	6.0	16.0V @ 10.0A	5	1

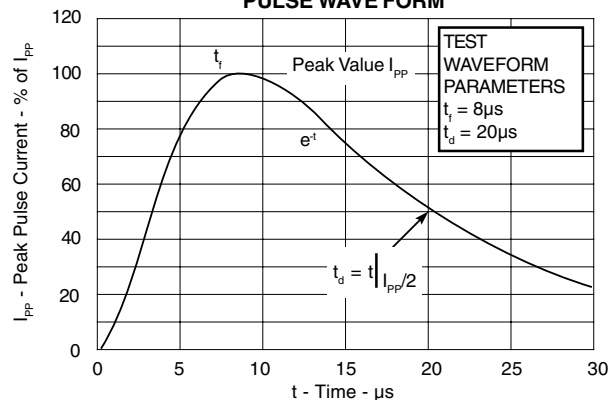
**Note 1:** Part numbers with an additional "C" suffix are bidirectional devices, i.e., GBLCS05C. For other voltages contact factory.

**Note 2:** For Bidirectional Devices Only: Electrical characteristics apply in both directions.

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



**FIGURE 2  
PULSE WAVEFORM**



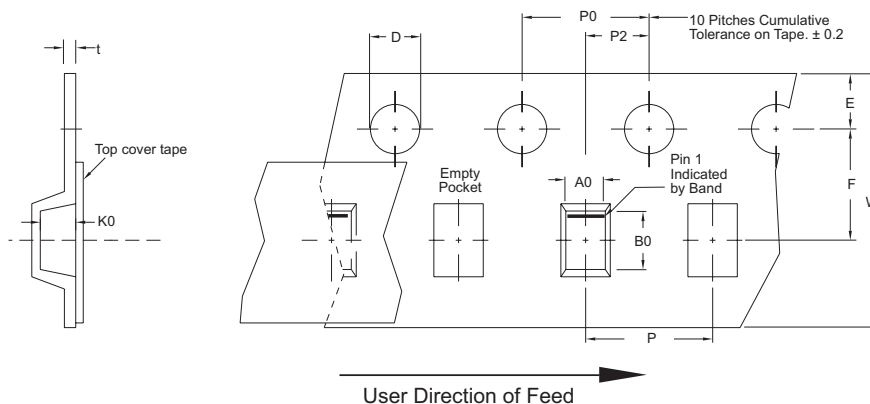
# GBLCSC03 thru GBLCSC05C

## SC-79 PACKAGE OUTLINE & DIMENSIONS

PACKAGE OUTLINE		SC79 PACKAGE			
<b>PACKAGE DIMENSIONS</b>					
DIM	INCHES		MILLIMETERS		
	MIN	MAX	MIN	MAX	
A	0.043	0.049	1.10	1.30	
B	0.028	0.035	0.70	0.90	
C	0.059	0.066	1.50	1.70	
D	0.020	0.028	0.50	0.70	
E	0.003	0.008	0.08	0.20	
F	0.012 BSE		0.30 BSE		
<b>MOUNTING PAD</b> 		<b>NOTES</b> 1. Controlling Dimensions in Millimeters. 2. Dimensions are exclusive of mold flash and metal burrs.  <b>TAPE &amp; REEL ORDERING NOMENCLATURE</b> 1. Surface mount product is taped and reeled in accordance with EIA-481. 2. Suffix-T7 = 7 Inch Reel - 3,000 pieces per 8mm tape, <i>i.e.</i> , GBLCS05-LF-T7. 3. Suffix-T13 = 13 Inch Reel - 10,000 pieces per 8mm tape, <i>i.e.</i> , GBLCS05-LF-T13. 4. Suffix-LF = Lead-Free, Pure Tin Plating, <i>i.e.</i> , GBLCS05C-LF. <b>Outline &amp; Dimensions: Rev 2 - 9/05, 06037</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	1.00 ± 0.10	1.95 ± 0.05	0.75 ± 0.05	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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