

## ULTRA LOW CAPACITANCE TVS ARRAY



**SC-79 PACKAGE**

### DESCRIPTION

The GBLCS Series is an ultra low capacitance transient voltage suppressor array, designed to protect applications such as portable electronics and SMART phones. This series is available in both unidirectional and bidirectional configurations. This series is rated for 200 Watts peak pulse power (8/20 $\mu$ s).

The GBLCS 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 a ultra low capacitance and low leakage current in a miniature SC-79 package.

### FEATURES

- Compatible with IEC 61000-4-2 (ESD): Air - 15kV, Contact - 8kV
- Compatible with IEC 61000-4-4 (EFT): 40A - 5/50ns
- 200 Watts Peak Pulse Power per Line (tp = 8/20 $\mu$ s)
- Replacement for MLV (0803)
- Unidirectional and Bidirectional Configurations
- Protects One Power or I/O Port
- Low Clamping Voltage
- Available Multiple Voltages
- Ultra Low Capacitance: 1.5pF (Typical)
- RoHS Compliant
- REACH Compliant

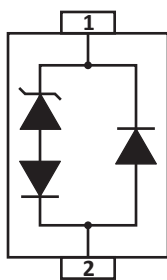
### APPLICATIONS

- Ethernet 10/100/1000 Base T
- SMART Phones
- Portable Electronics
- USB

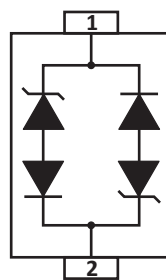
### MECHANICAL CHARACTERISTICS

- Molded JEDEC SC-79 Package
- Approximate Weight: 2 milligrams
- Lead-Free Pure-Tin Plating (Annealed)
- Solder Reflow Temperature:  
Pure-Tin - Sn, 100: 260-270°C
- 8mm Tape and Reel Per EIA Standard 481
- Flammability Rating UL 94V-0

### PIN CONFIGURATIONS



**UNIDIRECTIONAL**



**BIDIRECTIONAL**

**TYPICAL DEVICE CHARACTERISTICS**
**MAXIMUM RATINGS @ 25°C Unless Otherwise Specified**

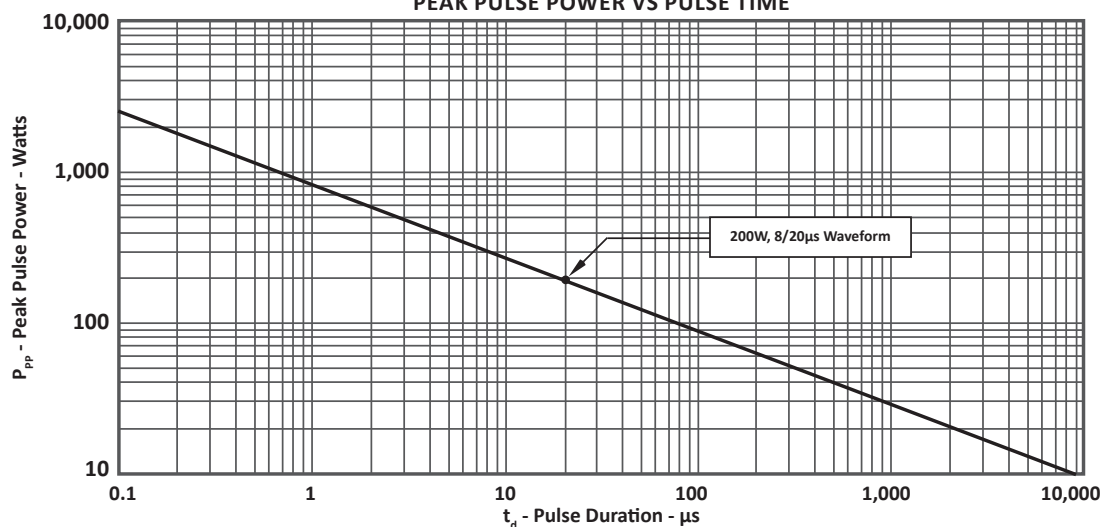
PARAMETER	SYMBOL	VALUE	UNITS
Peak Pulse Power ( $t_p = 8/20\mu s$ ) - See Figure 1	$P_{PP}$	200	Watts
Operating Temperature	$T_A$	-55 to 150	°C
Storage Temperature	$T_{STG}$	-55 to 150	°C

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

PART NUMBER (Notes 1 - 2)	DEVICE MARKING	RATED STAND-OFF VOLTAGE  $V_{WM}$ VOLTS	MINIMUM BREAKDOWN VOLTAGE	MAXIMUM CLAMPING VOLTAGE (Fig. 2)	MAXIMUM LEAKAGE CURRENT	TYPICAL CAPACITANCE
			@ 1mA $V_{(BR)}$ VOLTS	@ 8/20 $\mu s$ $V_C @ I_{PP}$	@ $V_{WM}$ $I_D$ $\mu A$	@ 0V, 1MHz $C_T$ pF
GBLCSC03	3	3.3	4.0	13.0V @ 10.0A	1.0	1.5
GBLCSC03C	H	3.3	4.0	13.0V @ 10.0A	1.0	1.5
GBLCSC05	5	5.0	6.0	16.0V @ 10.0A	1.0	1.5
GBLCSC05C	O	5.0	6.0	16.0V @ 10.0A	1.0	1.5
GBLCSC08	I	8.0	8.5	-	1.0	1.5
GBLCSC08C	K	8.0	8.5	-	1.0	1.5
GBLCSC12	L	12.0	13.3	-	1.0	1.5
GBLCSC12C	M	12.0	13.3	-	1.0	1.5

**NOTE**

- Part numbers with an additional "C" suffix are bidirectional devices, i.e., GBLSC05C. For other voltages, please consult the factory.
- For Bidirectional Devices Only: Electrical characteristics apply in both directions.

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


## TYPICAL DEVICE CHARACTERISTICS

FIGURE 2  
PULSE WAVE FORM

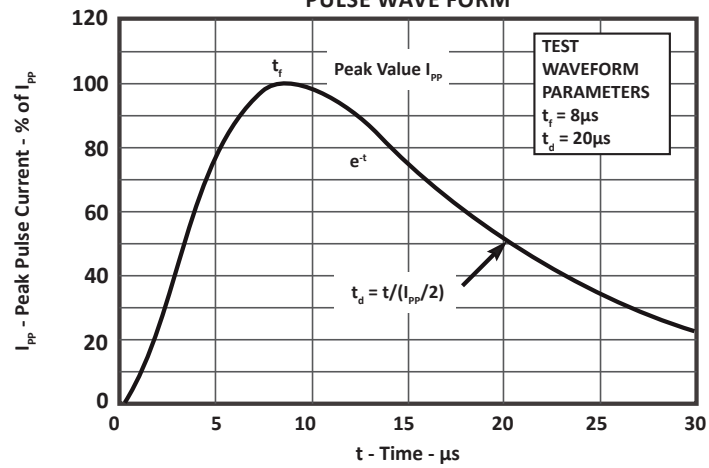
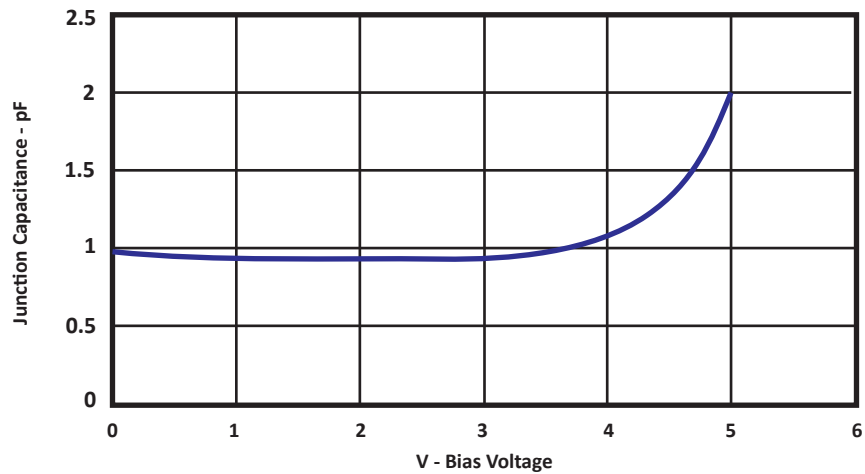


FIGURE 3  
TYPICAL JUNCTION CAPACITANCE - BIAS VOLTAGE



## SC-79 PACKAGE INFORMATION

## OUTLINE DIMENSIONS

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.10	1.30	0.043	0.049
B	0.70	0.90	0.028	0.035
C	1.50	1.70	0.059	0.066
D	0.50	0.70	0.020	0.028
E	0.08	0.20	0.003	0.008
F	0.30 BSE		0.012 BSE	

## NOTES

1. Dimensioning and tolerances per ANSI Y14.M, 1985.
2. Controlling dimension: millimeters.
3. Dimensions are exclusive of mold flash and metal burrs.

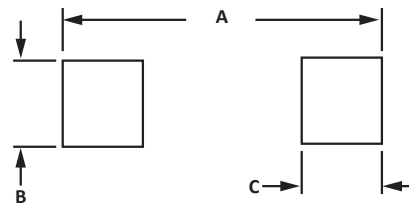


## PAD LAYOUT DIMENSIONS

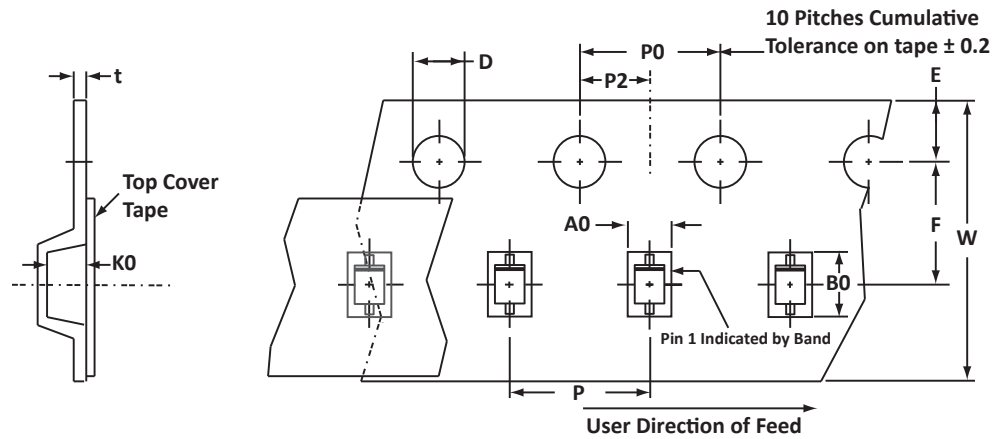
DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	1.85	2.03	0.070	0.080
B	0.38	0.64	0.015	0.025
C	0.25	0.51	0.010	0.020

## NOTES

1. Controlling dimension: millimeters



## TAPE AND REEL



## SPECIFICATIONS

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	0.075 ± 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

## NOTES

- Dimensions are in millimeters.
- Surface mount product is taped and reeled in accordance with EIA-481.
- Empty pocket between sprocket holes.
- Suffix - T74 = 7" Reel - 4,000 pieces per 8mm tape.
- Marking on Part - marking code (see page 2), polarity band and date code.

## ORDERING INFORMATION

BASE PART NUMBER (xx = Voltage)	LEADFREE SUFFIX	TAPE SUFFIX	QTY/REEL	REEL SIZE	TUBE QTY
GBLCSCxx/GBLCSCxxC	-LF	-T74	4,000	7"	n/a

This device is only available in a Lead-Free configuration.

## COMPANY INFORMATION

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### COMPANY PROFILE

In business more than 25 years, ProTek Devices™ is a privately held semiconductor company. The company offers a product line of overvoltage protection and overcurrent protection components. These include transient voltage suppressor array (TVS arrays) avalanche breakdown diode, steering diode TVS array and electronics SMD chip fuses. These components deliver circuit protection in electronic systems from numerous overvoltage and overcurrent events. They include lightning; electrostatic discharge (ESD); nuclear electromagnetic pulses (NEMP); inductive switching; and electromagnetic interference (EMI) / radio frequency interference (RFI). ProTek Devices also offers LED wafer die for ESD protection and related high frequency products. ProTek Devices is ISO 9001:2015 certified.

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