

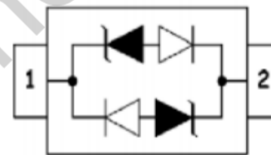
## DESCRIPTION

The GBLC12C are 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 waveshape.

The GBLC12C meets IEC61000-4-2 (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 SOD-323 package.



SOD-323



## FEATURES

- ◆ IEC61000-4-2 (ESD)  $\pm 15$  kV (air),  $\pm 8$  kV (contact)
- ◆ IEC61000-4-4 (EFT) 40A (5/50ns)
- ◆ Protects one I/O line (bidirectional)
- ◆ Low clamping voltage
- ◆ Working voltages: 3V, 5V, 8V, 12V, 15V, 24V
- ◆ Low leakage current
- ◆ Response Time is  $< 1$  ns

## MACHANICAL DATA

- ◆ SOD-323 package
- ◆ Flammability Rating: UL94V-0
- ◆ Packaging: Tape and Reel
- ◆ High temperature soldering guaranteed: 260 $^{\circ}$ C/10s
- ◆ Reel size: 7 inch

## APPLICATIONS

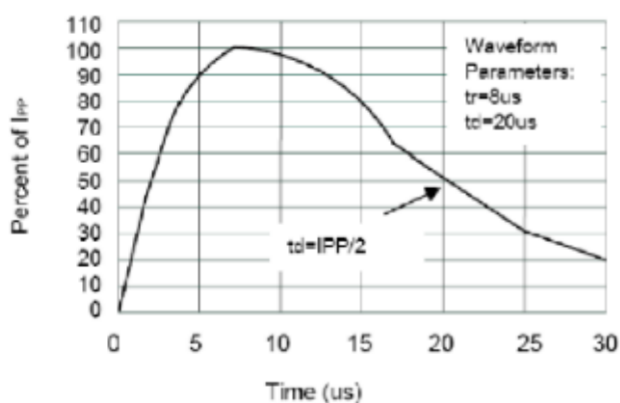
- ◆ Cell Phone Handsets and Accessories
- ◆ Microprocessor based equipment
- ◆ Personal Digital Assistants (PDAs)
- ◆ Notebooks, Desktops, and Servers
- ◆ Portable Instrumentation
- ◆ Peripherals
- ◆ USB Interface

## ABSOLUTE MAXIMUM RATING

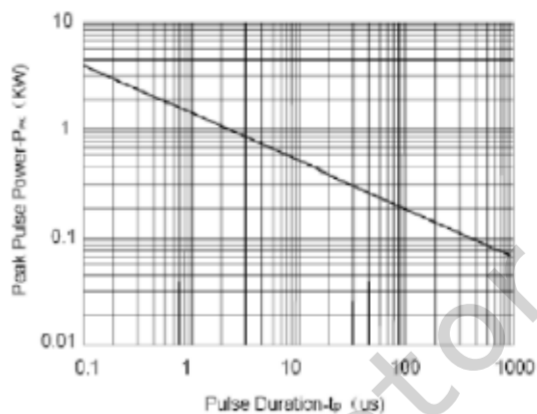
| Symbol           | Parameter                                                    | Value     | Units |
|------------------|--------------------------------------------------------------|-----------|-------|
| V <sub>ESD</sub> | ESD per IEC 61000-4-2(Air)<br>ESD per IEC 61000-4-2(Contact) | ±15<br>±8 | kV    |
| P <sub>pp</sub>  | Peak Pulse Power (8/20μs)                                    | 300       | W     |
| T <sub>OPT</sub> | Operating Temperature                                        | -55/+150  | °C    |
| T <sub>STG</sub> | Storage Temperature                                          | -55/+150  | °C    |
| T <sub>L</sub>   | Lead Soldering Temperature                                   | 260       | °C    |

## ELECTRICAL CHARACTERISTICS(T<sub>amb</sub>=25°C)

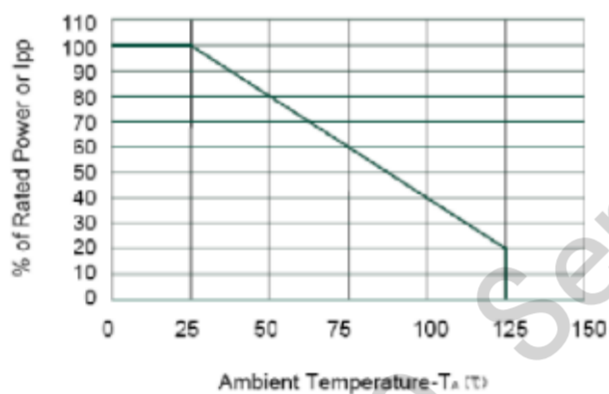
| PART<br>NUMBER | V <sub>RWM</sub><br>(V)<br>(max) | V <sub>B</sub><br>(V)<br>(min.) | I <sub>T</sub><br>(mA) | V <sub>C@1A</sub><br>(V)<br>(max.) | V <sub>C</sub><br>(V)<br>(max.)(@A) |   | I <sub>R</sub><br>(μA)<br>(max.) | C <sub>T</sub><br>(pF)<br>(typ.) |
|----------------|----------------------------------|---------------------------------|------------------------|------------------------------------|-------------------------------------|---|----------------------------------|----------------------------------|
| GBLC03C        | 3.0                              | 4.0                             | 1                      | 7.0                                | 13.9                                | 8 | 2                                | 0.8                              |
| GBLC05C        | 5.0                              | 6.0                             | 1                      | 9.8                                | 18.3                                | 8 | 1                                | 0.8                              |
| GBLC08C        | 8.0                              | 8.5                             | 1                      | 13.4                               | 18.5                                | 8 | 1                                | 0.8                              |
| GBLC12C        | 12.0                             | 13.3                            | 1                      | 19.0                               | 28.6                                | 6 | 1                                | 0.8                              |
| GBLC15C        | 15.0                             | 16.7                            | 1                      | 24.0                               | 31.8                                | 5 | 1                                | 0.8                              |
| GBLC24C        | 24.0                             | 26.7                            | 1                      | 43.0                               | 56.0                                | 3 | 1                                | 0.8                              |



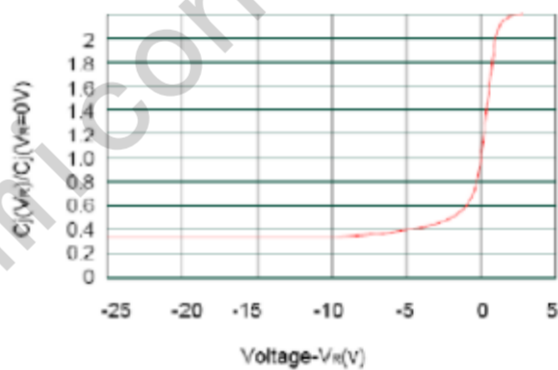
Pulse Waveform



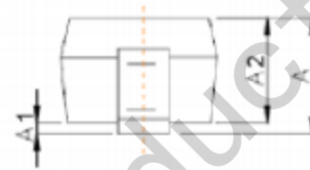
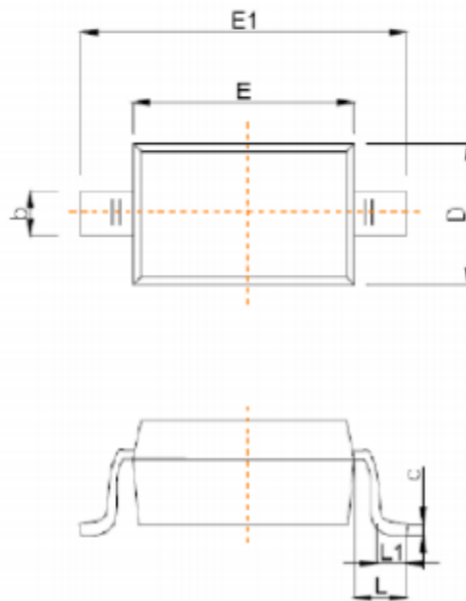
Non-Repetitive Peak Pulse Power vs. Pulse Tir



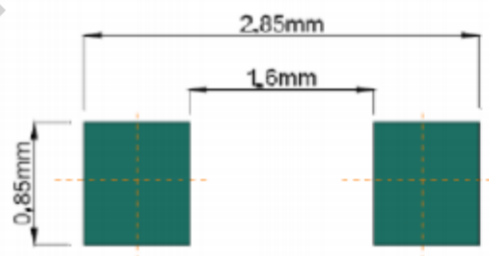
Power Derating Curve



Junction Capacitance vs. Reverse Voltage



| Symbol | Dimensions In Millimeters |       |
|--------|---------------------------|-------|
|        | Min                       | Max   |
| A      |                           | 1.00  |
| A1     | 0.000                     | 0.100 |
| A2     | 0.800                     | 0.900 |
| b      | 0.250                     | 0.350 |
| c      | 0.080                     | 0.150 |
| D      | 1.200                     | 1.400 |
| E      | 1.600                     | 1.800 |
| E1     | 2.500                     | 2.700 |
| e      | 1.800                     | 2.040 |
| L      | 0.475 REF                 |       |
| L1     | 0.250                     | 0.400 |
| θ      | 0°                        | 8°    |



**Recommended Pad outline**