

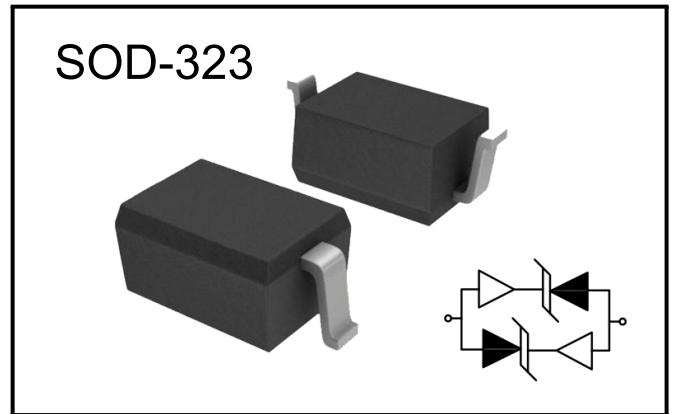
# GBLC03C-N

ESD Protection Diode

## Features

- 322Watts peak pulse power ( $t_p = 8/20\mu s$ )
- Low clamping Voltage
- Low leakage current
- Protection one data/power line
- IEC 61000-4-2  $\pm 30kV$  contact ;  $\pm 30kV$  air
- IEC 61000-4-4 (EFT) 40A (5/50ns)
- IEC 61000-4-5 (Lightning) 14A (8/20 $\mu s$ )

## Package



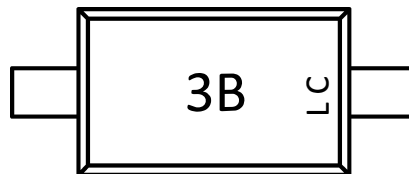
## Applications

- Ethernet - 10/100/1000M
- Cellular Phones
- Personal Digital Assistants (PDA's)
- Handheld - Wireless Systems
- USB Interface

## Mechanical Characteristics

- SOD-323 package
- Molding compound flammability rating: UL 94V-0
- Packaging: Tape and Reel
- RoHS/WEEE Compliant

## Marking



## Ordering information

| Order code | Package | Base qty | Delivery mode |
|------------|---------|----------|---------------|
| GBLC03C-N  | SOD-323 | 3k       | Tape and reel |

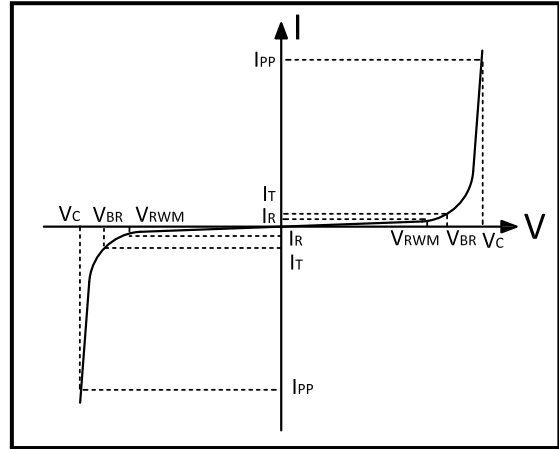


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## Electrical Parameters ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| Symbol    | Parameter                           |
|-----------|-------------------------------------|
| $I_{PP}$  | Maximum Reverse Peak Pulse Current  |
| $V_C$     | Clamping Voltage @ $I_{PP}$         |
| $V_{RWM}$ | Peak Reverse Working Voltage        |
| $I_R$     | Reverse Leakage Current @ $V_{RWM}$ |
| $V_{BR}$  | Breakdown Voltage @ $I_T$           |
| $I_T$     | Test Current                        |
|           |                                     |
|           |                                     |



Note: 8/20us pulse Waveform.

## Absolute Maximum Rating

| Rating                                         | Symer     | Value          | Units            |
|------------------------------------------------|-----------|----------------|------------------|
| Peak Pulse Power ( $t_p = 8/20\mu\text{s}$ )   | $P_{PP}$  | 322            | Watts            |
| Peak Pulse Current ( $t_p = 8/20\mu\text{s}$ ) | $I_{PP}$  | 14             | A                |
| ESD per IEC 61000-4-2 (Air)                    | $V_{ESD}$ | 30             | KV               |
| ESD per IEC 61000-4-2 (Contact)                |           | 30             |                  |
| Lead Soldering Temperature                     | $T_L$     | 260(10seconds) | $^\circ\text{C}$ |
| Junction Temperature                           | $T_J$     | -55 to + 150   | $^\circ\text{C}$ |
| Storage Temperature                            | $T_{stg}$ | -55 to + 150   | $^\circ\text{C}$ |

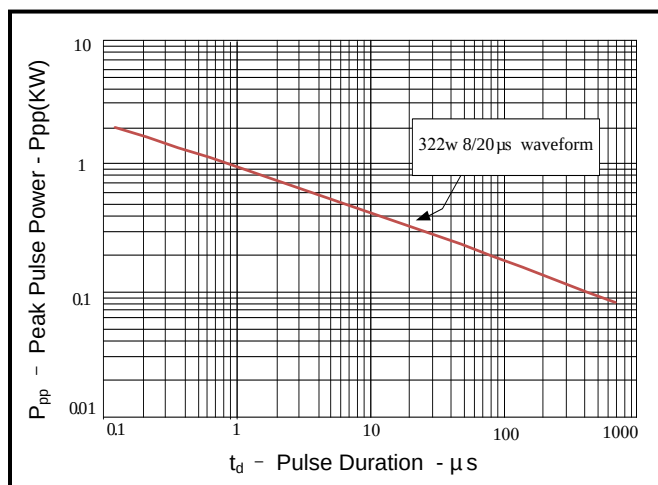
## Electrical Characteristics

| Parameter                 | Symer     | Conditions                                               | Min | Typical | Max | Units         |
|---------------------------|-----------|----------------------------------------------------------|-----|---------|-----|---------------|
| Reverse Stand-Off Voltage | $V_{RWM}$ | —                                                        | —   | —       | 3.3 | V             |
| Reverse Breakdown Voltage | $V_{BR}$  | $I_T = 1\text{mA}$                                       | 4.0 | —       | 6.5 | V             |
| Reverse Leakage Current   | $I_R$     | $V_{RWM} = 3.3\text{V}, T = 25^\circ\text{C}$            | —   | —       | 0.5 | $\mu\text{A}$ |
| Peak Pulse Current        | $I_{PP}$  | $t_p = 8/20\mu\text{s}$                                  | —   | —       | 14  | A             |
| Clamping Voltage          | $V_C$     | $I_{PP} = 14\text{A}, t_p = 8/20\mu\text{s}$             | —   | 20      | 23  | V             |
| Junction Capacitance      | $C_j$     | $V_R = 0\text{V}, T = 25^\circ\text{C}, f = 1\text{MHz}$ | —   | 1.0     | 1.5 | pF            |

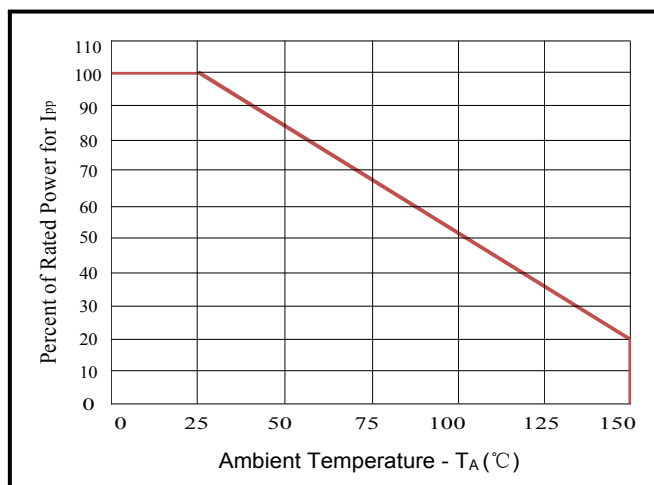


**Typical Characteristics**

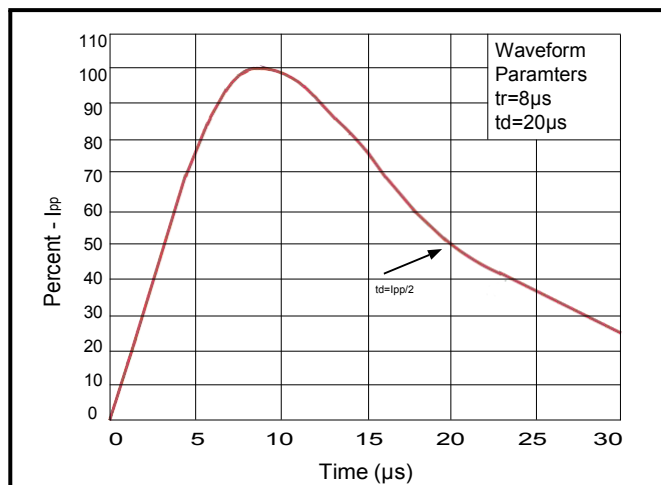
**Figure 1: Peak Pulse Power vs. Pulse Time**



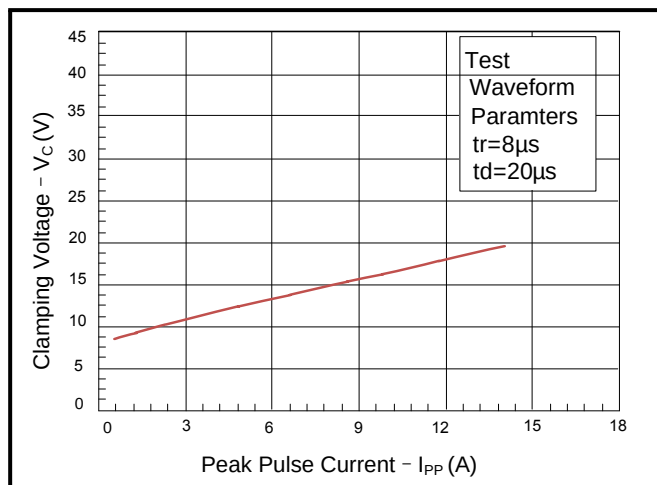
**Figure 2: Power Derating Curve**



**Figure 3: Pulse Waveform**



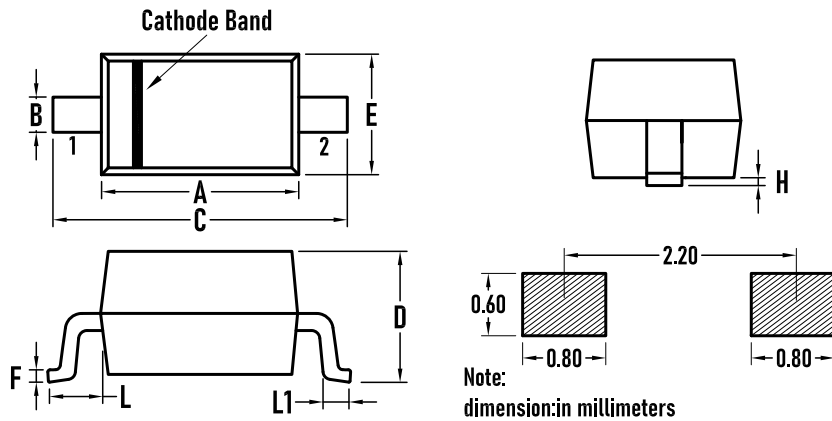
**Figure 4: Clamping Voltage vs. Ipp**



# GBLC03C-N

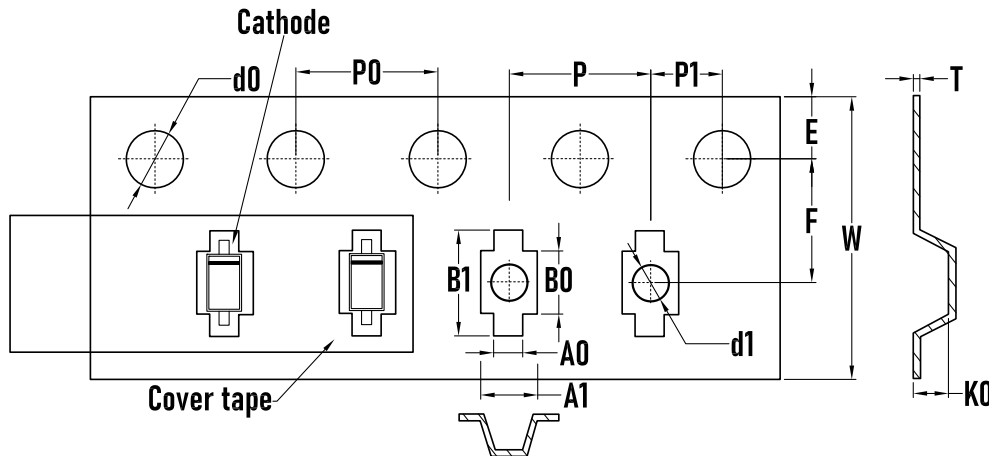
ESD Protection Diode

## Outline Drawing – SOD-323



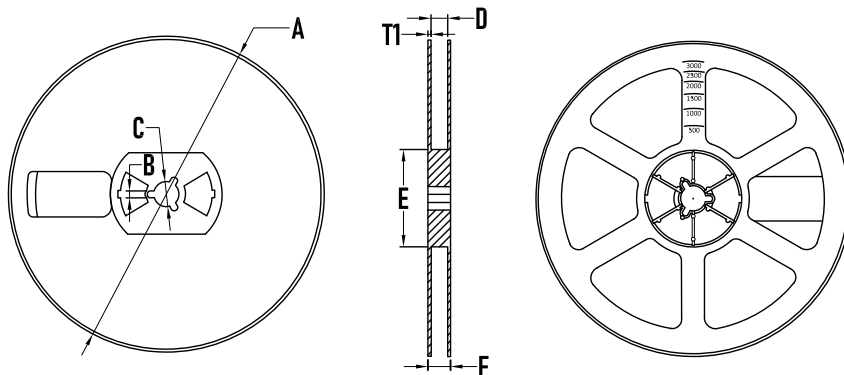
| SYMBOL | MILLIMETER |       | INCHES   |       |
|--------|------------|-------|----------|-------|
|        | MIN.       | MAX.  | MIN.     | MAX.  |
| A      | 1.600      | 1.800 | 0.063    | 0.071 |
| B      | 0.250      | 0.350 | 0.010    | 0.014 |
| C      | 2.400      | 2.800 | 0.094    | 0.110 |
| D      | –          | 1.100 | –        | 0.043 |
| E      | 1.100      | 1.500 | 0.043    | 0.059 |
| F      | 0.080      | 0.150 | 0.003    | 0.006 |
| L      | 0.475REF   |       | 0.019REF |       |
| L1     | 0.250      | 0.400 | 0.010    | 0.016 |
| H      | 0.000      | 0.100 | 0.000    | 0.004 |

## Packaging Tape - SOD-323



| SYMBOL | MILLIMETER |
|--------|------------|
| A0     | 0.80±0.10  |
| A1     | 1.48±0.10  |
| B0     | 1.80±0.10  |
| B1     | 3.00±0.10  |
| d0     | 1.55±0.10  |
| d1     | 1.00±0.05  |
| E      | 1.75±0.10  |
| F      | 3.50±0.10  |
| K0     | 1.05±0.10  |
| P      | 4.00±0.10  |
| P0     | 4.00±0.10  |
| P1     | 2.00±0.10  |
| W      | 8.00±0.30  |
| T      | 0.25 ±0.05 |

## Packaging Reel



| SYMBOL   | MILLIMETER |
|----------|------------|
| A        | 177.8±0.2  |
| B        | 2.7±0.2    |
| C        | 13.5±0.2   |
| D        | 9.6±0.3    |
| E        | 54.5±0.2   |
| F        | 12.3±0.3   |
| T1       | 1.0±0.2    |
| Quantity | 3000PCS    |

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Specifications are subject to change without notice.

Please refer to <http://www.born-tw.com> for current information.

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