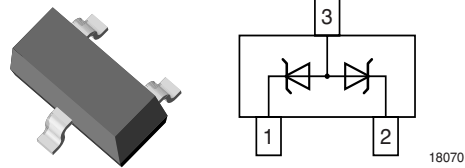


## ESD Protection Diode

### Features

- Transient protection for data lines as per IEC 61000-4-2 (ESD) 15 kV (air) 8 kV (contact) IEC 61000-4-5 (Lightning) see  $I_{PPM}$  below
- Devices have dual diodes, which can protect two unidirectional lines with pin 3 used as a common anode connection, or a single bidirectional line between pins 1 and 2.



### Mechanical Data

**Case:** SOT-23 Plastic Package

**Molding Compound Flammability Rating:** UL 94 V-0

**Terminals:** High temperature soldering guaranteed: 260 °C/10 sec. at terminals

**Weight:** 8 mg

### Absolute Maximum Ratings

Ratings at 25 °C, ambient temperature unless otherwise specified

| Parameter                            | Test condition               | Symbol    | Value | Unit |
|--------------------------------------|------------------------------|-----------|-------|------|
| Peak power dissipation <sup>1)</sup> | 8/20 $\mu$ s pulse           | $P_{PK}$  | 300   | W    |
| Forward surge current                | 8.3 ms single half sine-wave | $I_{FSM}$ | 7     | A    |

<sup>1)</sup> Non-repetitive current pulse and derated above  $T_A = 25$  °C, for GSOT03C, GSOT04C, the peak power dissipation is 270 W

### Thermal Characteristics

Ratings at 25 °C, ambient temperature unless otherwise specified

| Parameter                               | Test condition | Symbol         | Value         | Unit |
|---|----------------|----------------|---------------|------|
| Operation and storage temperature range |                | $T_{stg}, T_J$ | - 55 to + 150 | °C   |

## Electrical Characteristics

T<sub>J</sub> = 25 °C unless otherwise noted

| Part Number | Device Marking Code | Rated Stand-off Voltage | Minimum Breakdown Voltage | Maximum Clamping Voltage             |                                      | Maximum Pulse Peak Current | Maximum Leakage Current | Maximum Capacitance |
|-------------|---------------------|-------------------------|---------------------------|--------------------------------------|--------------------------------------|----------------------------|-------------------------|---------------------|
|             |                     |                         |                           | @ I <sub>P</sub> = 1 A <sup>1)</sup> | @ I <sub>P</sub> = 5 A <sup>1)</sup> |                            |                         |                     |
|             |                     | V <sub>WM</sub>         | V <sub>BR</sub>           | V <sub>C</sub>                       |                                      | I <sub>PPM</sub>           | I <sub>D</sub>          | C                   |
|             |                     | V                       | V                         | V                                    |                                      | A                          | μA                      | pF                  |
| GSOT03C     | 03C                 | 3.3                     | 4.5                       | 7.0                                  | 9.0                                  | 18                         | 125                     | 600                 |
| GSOT04C     | 04C                 | 4.0                     | 5.0                       | 8.5                                  | 10.5                                 | 17                         | 125                     | 600                 |
| GSOT05C     | 05C                 | 5.0                     | 6.0                       | 9.8                                  | 12.5                                 | 17                         | 100                     | 400                 |
| GSOT08C     | 08C                 | 8.0                     | 8.5                       | 13.4                                 | 15.0                                 | 15                         | 10                      | 350                 |
| GSOT12C     | 12C                 | 12.0                    | 13.3                      | 19.0                                 | 28.0                                 | 12                         | 2                       | 150                 |
| GSOT15C     | 15C                 | 15.0                    | 16.7                      | 24.0                                 | 35.0                                 | 10                         | 1                       | 100                 |
| GSOT24C     | 24C                 | 24.0                    | 26.7                      | 43.0                                 | 60.0                                 | 5                          | 1                       | 63                  |
| GSOT36C     | 36C                 | 36.0                    | 40                        | 60.0                                 | 75.0                                 | 2                          | 1                       | 60                  |

<sup>1)</sup> 8/20 μs waveform used (see figure 2)

## Typical Characteristics (T<sub>amb</sub> = 25 °C unless otherwise specified)

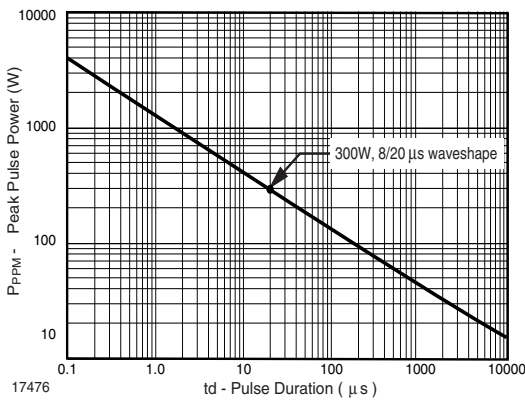


Figure 1. Non -Repetitive Peak Pulse Power vs. Pulse Time

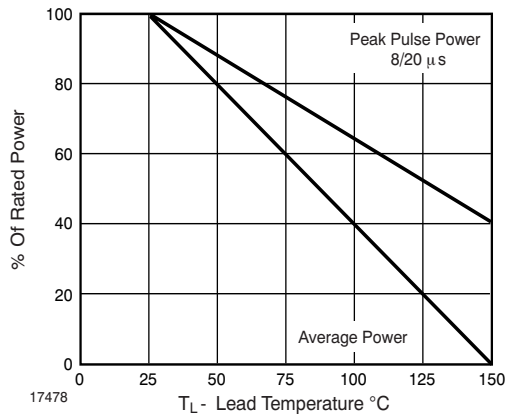


Figure 3. Power Derating

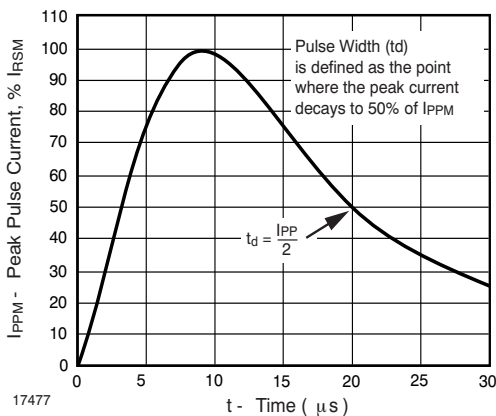
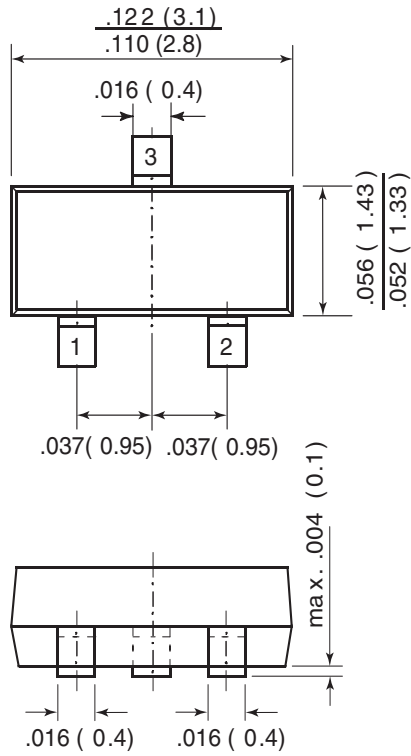


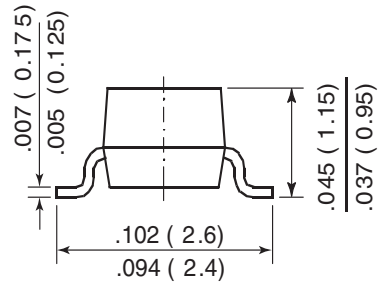
Figure 2. Pulse Waveform



## Package Dimensions in Inches (mm)



Top View



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## Ozone Depleting Substances Policy Statement

It is the policy of **Vishay Semiconductor GmbH** to

1. Meet all present and future national and international statutory requirements.
2. Regularly and continuously improve the performance of our products, processes, distribution and operating systems with respect to their impact on the health and safety of our employees and the public, as well as their impact on the environment.

It is particular concern to control or eliminate releases of those substances into the atmosphere which are known as ozone depleting substances (ODSs).

The Montreal Protocol (1987) and its London Amendments (1990) intend to severely restrict the use of ODSs and forbid their use within the next ten years. Various national and international initiatives are pressing for an earlier ban on these substances.

**Vishay Semiconductor GmbH** has been able to use its policy of continuous improvements to eliminate the use of ODSs listed in the following documents.

1. Annex A, B and list of transitional substances of the Montreal Protocol and the London Amendments respectively
2. Class I and II ozone depleting substances in the Clean Air Act Amendments of 1990 by the Environmental Protection Agency (EPA) in the USA
3. Council Decision 88/540/EEC and 91/690/EEC Annex A, B and C (transitional substances) respectively.

**Vishay Semiconductor GmbH** can certify that our semiconductors are not manufactured with ozone depleting substances and do not contain such substances.

**We reserve the right to make changes to improve technical design  
and may do so without further notice.**

Parameters can vary in different applications. All operating parameters must be validated for each customer application by the customer. Should the buyer use Vishay Semiconductors products for any unintended or unauthorized application, the buyer shall indemnify Vishay Semiconductors against all claims, costs, damages, and expenses, arising out of, directly or indirectly, any claim of personal damage, injury or death associated with such unintended or unauthorized use.

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