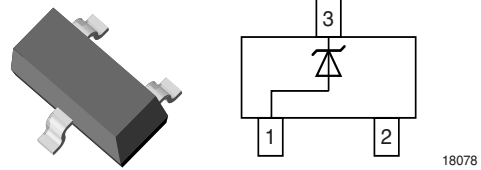


## ESD Protection Diode

### 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



### 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 μs 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 GSOT03, GSOT04, 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

Part Number	Device Marking Code	Rated Stand-off Voltage	Minimum Breakdown Voltage	Maximum Clamping Voltage		Maximum Pulse Peak Current	Maximum Leakage Current	Maximum Capacitance
				$V_C$	$V$			
		$V_{WM}$	$V_{BR}$	$V$		$t_p = 8/20 \mu s$	$I_D$	C
		V	V	$I_{PPM}$	$\mu A$			pF
			@ 1 mA	@ $I_P = 1 A^1)$	@ $I_P = 5 A^1)$	A	@ $V_{WM}$	@ 0 V, 1 MHz
GSOT03	03	3.3	4.0	6.5	7.5	18	125	800
GSOT04	04	4.0	5.0	8.5	10.5	17	125	800
GSOT05	05	5.0	6.0	9.8	12.5	17	100	550
GSOT08	08	8.0	8.5	13.4	15.0	15	10	400
GSOT12	12	12.0	13.3	19.0	28.0	12	2	185
GSOT15	15	15.0	16.7	24.0	35.0	10	1	140
GSOT24	24	24.0	26.7	43.0	60.0	5	1	83
GSOT36	36	36.0	40	60.0	75.0	2	1	80

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

## Typical Characteristics ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

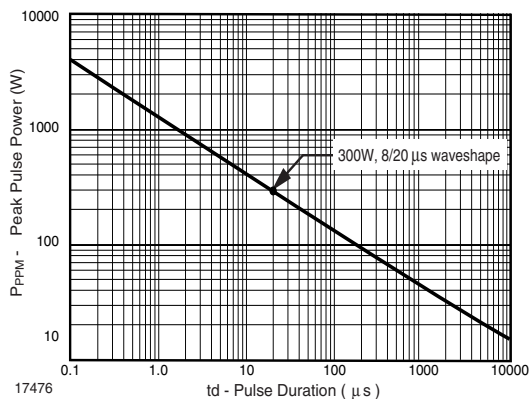


Figure 1. Non -Repetitive Peak Pulse Power vs. Pulse Time

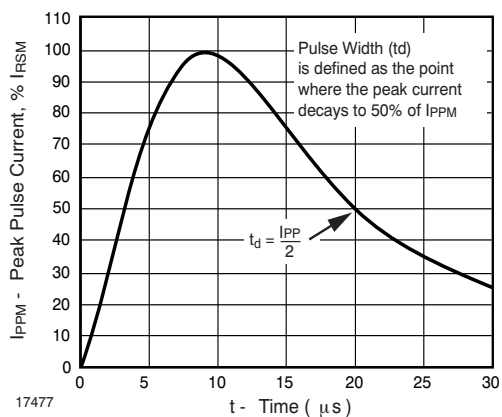


Figure 2. Pulse Waveform

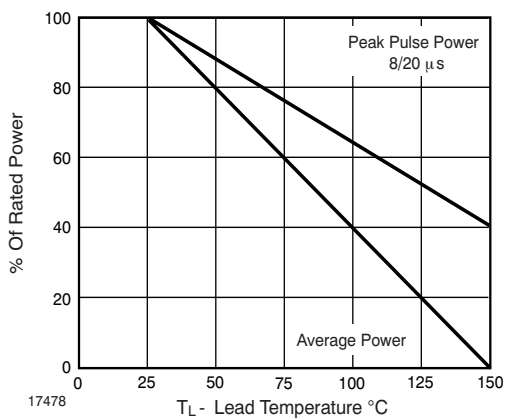
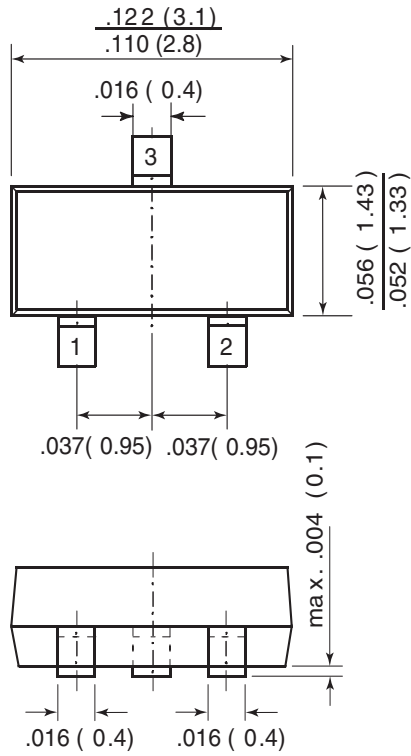


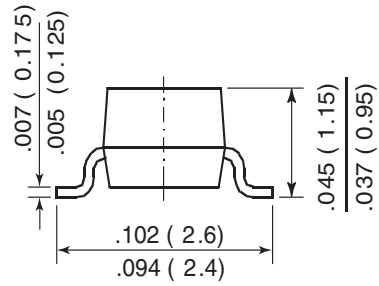
Figure 3. Power Derating



## Package Dimensions in Inches (mm)



Top View



17418

### 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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