



## Surge arrester

### 3-electrode arrester

<b>Series/Type:</b>	<b>TG30-A90XSMD</b>
<b>Ordering code:</b>	<b>B88069X9991T203</b>
<b>Date:</b>	<b>2019-07-23</b>
<b>Version:</b>	<b>06</b>

## Product description

The TG30 series has been especially designed to meet data line protection requirements. The optimized design features a high level of protection against fast rising transients usually caused by lightning disturbances. For use in high frequency data-lines, the series offers ultra low capacitances and shows only marginally signal losses up to high frequencies. The devices are extremely reliable and are able to withstand high surge currents without destruction.

### Features

- Very small size
- Fast response time
- High current handling capability
- Stable performance over service life
- Ultra low capacitance and insertion loss
- High insulation resistance
- Excellent SMD handling
- RoHS-compatible

### Applications

#### Telecommunication:

- Ethernet, PoE, xDSL
- Cable modem, splitters, line cards
- Wireless-antenna protection

#### Others:

- CCTV
- ESD protection

## Product characteristics

Physical dimensions (diameter × length)	Ø0.13 × 0.26	in
	Ø3.5 × 6.8	mm
Weight	~ 0.5	g
Operating temperature	−40 ... +125	°C
Recommended storage <sup>1)</sup> - temperature - humidity - period	+5 ... +35 45 ... 80 ≤ 2	°C % years
Climatic category (IEC 60068-1)	40/125/21	
Moisture sensitivity level <sup>2)</sup>	1	
Marking	without	

#### Notes:

<sup>1)</sup> Specified in terms of corrosion against Sn-plating

<sup>2)</sup> Tests according to JEDEC J-STD-020

**Electrical specifications and stress test methods**

Nominal DC spark-over voltage <sup>3) 4) 5)</sup>	90	V
Tolerance	±30	%
Min.	63	V
Max.	117	V
Impulse spark-over voltage <sup>5)</sup>		
at 100 V/μs - for 99% of measured values	< 450	V
- typical values of distribution	< 350	V
at 1 kV/μs - for 99% of measured values	< 650	V
- typical values of distribution	< 550	V
Service life <sup>10) 11)</sup>		
10 operations [5x (+) & 5x (-)] 50 Hz, 1 s <sup>6)</sup>	2	A
300 operations 8/20 μs <sup>7)</sup>	100	A
10 operations [5x (+) & 5x (-)] 8/20 μs <sup>6)</sup>	3	kA
10 operations [5x (+) & 5x (-)] 5/320 μs <sup>8) 9)</sup>	150	A
300 operations [150x (+) & 150x (-)] 10/1000 μs <sup>6)</sup>	20	A
Insulation resistance at 50 V <sub>DC</sub> <sup>3)</sup>	> 1	GΩ
Capacitance at 1 MHz	< 1.2 <sup>5)</sup>	< 0.6 <sup>7)</sup> pF
Arc voltage at 1 A	~ 10	V
Glow to arc transition current	< 0.5	A
Glow voltage	~ 60	V

<sup>3)</sup> At delivery AQL 0.65 level II, DIN ISO 2859

<sup>4)</sup> In ionized mode

<sup>5)</sup> Tip or ring electrode to center electrodes

<sup>6)</sup> Total current through center electrodes, half value through tip respectively ring electrode.

<sup>7)</sup> Tip to ring electrode

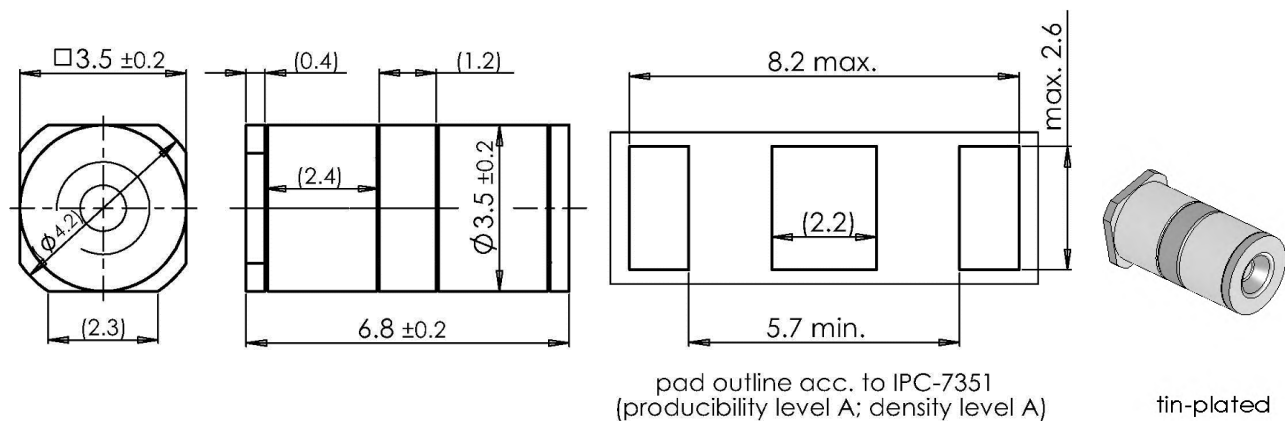
<sup>8)</sup> Tip to center electrode additional ring to center electrode

<sup>9)</sup> Test generator 6 kV, 10/700 μs, 40 Ω

<sup>10)</sup> Electrical specifications may vary after stress tests

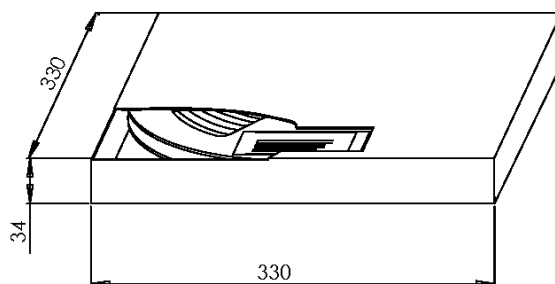
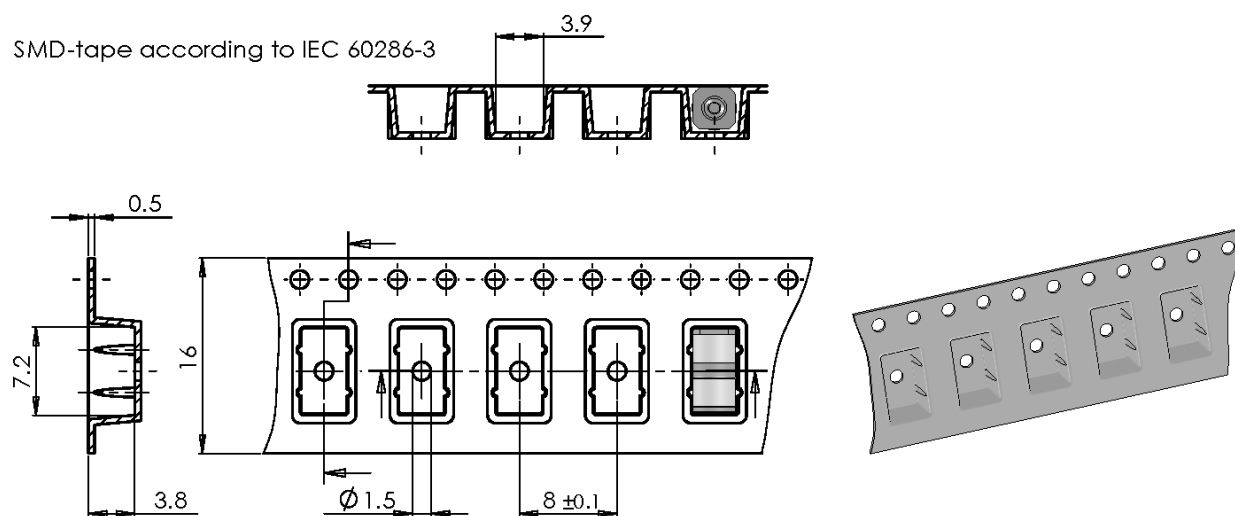
<sup>11)</sup> Tests according to ITU-T Rec. K. 12 and UL 497B

Terms and current waveforms in accordance with ITU-T Rec. K. 12; IEC 61643-21 and IEC 61643-311.

**Dimensional drawing in mm**

**Ordering code and packing advice**

**B88069X9991T203** = SMD-tape with 2000 pcs.

SMD-tape according to IEC 60286-3





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## Important notes

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#### Как с нами связаться

**Телефон:** 8 (812) 309 58 32 (многоканальный)

**Факс:** 8 (812) 320-02-42

**Электронная почта:** [org@eplast1.ru](mailto:org@eplast1.ru)

**Адрес:** 198099, г. Санкт-Петербург, ул. Калинина, дом 2, корпус 4, литера А.