

# Surge arrester

3-electrode arrester

Series/Type: EZ0-C420XSMD5 Ordering code: B88069X3843T123

Date: 2021-05-08

Version: 03

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Surge arrester B88069X3843T123

3-electrode arrester EZ0-C420XSMD5

#### **Features**

- Small size
- Fast response time
- High current rating
- Very low capacitance
- High insulation resistance
- Excellent SMD handling
- RoHS-compatible

## **Applications**

- Modem
- Data lines

## **Electrical specifications**

DC spark-over voltage 1) 2) 3)		360 560	V
Impulse spark-over voltage 3)			
at 100 V/µs - for 99% of measured values - typical values of distribution		< 850	V
		< 750	V
at 1 kV/µs - for 99% of measured	at 1 kV/µs - for 99% of measured values		V
<ul> <li>typical values of distribution</li> </ul>		< 850	V
Service life			
10 operations	50 Hz; 1 s <sup>4)</sup>	5	Α
10 operations [5x (+) & 5x (–)] 8/20 μs <sup>4)</sup>		5	kA
300 operations (+/-, alternating polarity)	10/1000 μs <sup>4)</sup>	200	Α
Insulation resistance at 100 V <sub>DC</sub> <sup>3)</sup>		> 1	$G\Omega$
Capacitance at 1 MHz 3)		< 1.5	pF
Transverse delay time 5)		< 0.2	μs
Arc voltage at 1 A		~ 6	V
Glow to arc transition current		< 0.1	Α
Glow voltage at 0.1 A		~ 50	V
Weight		~ 1.0	g
Operation and storage temperature		-40 <b>+</b> 125	°C
Climatic category (IEC 60068-1)		40/125/21	
Marking, blue negative		EPCOS EZ 420 YY O EZ - Series 420 - Nominal voltag YY - Year of produc O - Non radioactiv	ction
Certifications		UL 497B (E163070)	<i>7</i> 1°

<sup>&</sup>lt;sup>1)</sup> At delivery AQL 0.65 level II, DIN ISO 2859

Terms in accordance with ITU-T Rec. K.12 and IEC 61643-311.

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<sup>2)</sup> In ionized mode

<sup>3)</sup> Tip or ring electrode to center electrode

<sup>4)</sup> Total current through center electrode, half value through tip respectively ring electrode.

<sup>5)</sup> Test according to ITU-T Rec. K.12

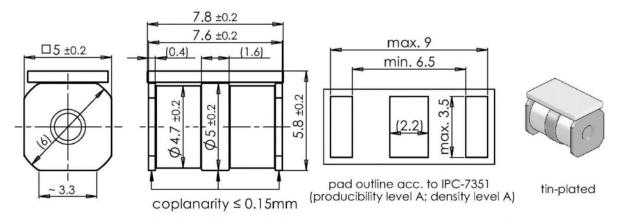


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## 3-electrode arrester

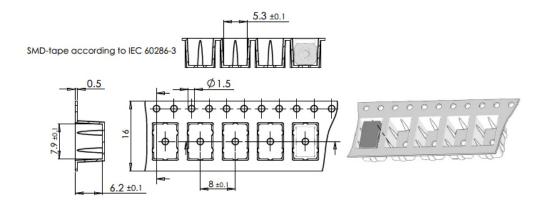
EZ0-C420XSMD5

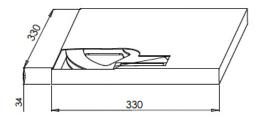
## Dimensional drawing in mm



## Ordering code and packing advice

B88069X3843**T123** = SMD-tape with 1200 pcs.







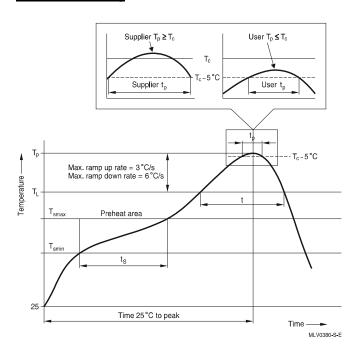
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#### 3-electrode arrester

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#### Soldering parameter

#### Reflow soldering



Reflow profile features		Sn- Pb eutectic assembly	Pb-free assembly
Preheat and soak	_	100 °C	150 °C
Temperature min     Temperature max	T <sub>smin</sub> T <sub>smax</sub>	150 °C	200 °C
- Time	t <sub>smin</sub> to t <sub>smax</sub>	60 120 s	60 180 s
Average ramp-up rate	T <sub>smax</sub> to T <sub>p</sub>	max. 3 °C/ s	max. 3 °C/ s
Liquidous temperature Time at liquidous	T <sub>L</sub>	183 °C 60 150 s	217 °C 60 150 s
Peak package body temperature *, Classification temperature **	T <sub>p</sub> , T <sub>C</sub>	220 235 °C **	245 260 °C **
Time (t <sub>p</sub> ) ** within 5 °C of the specified classification temperature (T <sub>C</sub> )		20 s ***	30 s ***
Average ramp-down rate	T <sub>p</sub> to T <sub>smax</sub>	max. 6 °C/ s	max. 6 °C/ s
Time 25 °C to peak temperature		max. 6 min	max. 8 min

Tolerance for peak profile temperature (T<sub>p</sub>) is defined as a supplier minimum and a user maximum.

Surface mounted components (SMD) may exhibit a temporary increase in the DC spark-over voltage after the solder reflow process. The components will recover within 24 hours. There is no quality defect nor change in protection levels during the temporary change in DC spark-over voltage.

## **Cautions and warnings**

- Do not operate surge arresters in power supply networks, whose maximum operating voltage exceeds the minimum spark-over voltage of the surge arresters.
- Surge arresters may become hot in the event of longer periods of current stress (burn risk). In the event of overload the connectors may fail or the component may be destroyed.
- Surge arresters must be handled with care and must not be dropped.
- Do not continue to use damaged surge arresters.
- The shown SMD pad dimensions represent a safe way to mount the arrester and are a recommendation of the manufacturer. During the reflow process it must be assured that no solder material reduces the insulation distance between the pads below the arrester.
- SMD surge arresters should be soldered within 24 month after shipment.

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<sup>\*\* =</sup> For details please refer to JEDEC J-STD-020D.

<sup>\*\*\* =</sup> Tolerance for time at peak profile temperature  $(t_p)$  is defined as a supplier minimum and a user maximum.



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