

# Surge arrester

2-electrode arrester

Series/Type: M50-C90XSMDHC Ordering code: B88069X5083T902

Date: 2018-08-28

Version: 02

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Surge arrester B88069X5083T902

# 2-electrode arrester M50-C90XSMDHC

## **Features**

- Small size
- High current rating
- Very fast response time
- Stable performance over life
- Very low capacitance
- High insulation resistance
- Excellent SMD handling
- RoHS-compatible

## **Applications**

- Modem
- XDSL-splitter
- Data lines
- Tuner
- Antenna

## **Electrical specifications**

Liectrical specifications			
DC spark-over voltage 1) 2)		90	V
Tolerance		±20	%
Min.		72	V
Max.		108	V
Impulse spark-over voltage			
•	r 99% of measured values	< 450	V
- ty	pical values of distribution	< 400	V
at 1 kV/µs - fo	r 99% of measured values	< 600	V
- ty	pical values of distribution	< 550	V
Service life			
10 operations	50 Hz, 1 s	10	Α
1 operation	50 Hz; 0.18 s (9 cycles)	10	Α
10 operations	8/20 μs	10	kA
1 operation	10/350 μs	1	kA
300 operations	10/1000 μs	100	Α
Insulation resistance at 50	> 1	$G\Omega$	
Capacitance at 1 MHz		~ 0.6	pF
Arc voltage at 1 A		~ 10	V
Glow to arc transition curre	~ 0.7	Α	
Glow voltage		~ 55	V
Weight		~ 1	g
Operation and storage tem	-40 <b>+</b> 125	°C	
Climatic category (IEC 600	068-1)	40/125/21	- 1
Marking, blue positive		EPCOS 90 YY O 90 - Nominal voltage YY - Year of production O - Non radioactive	
Certification		UL 497B (E163070)	

<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

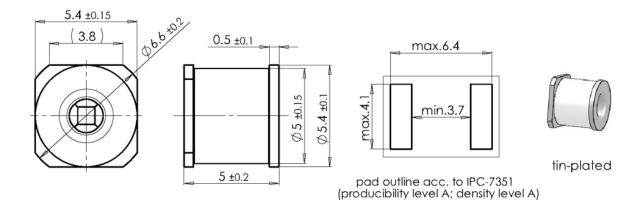


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## 2-electrode arrester

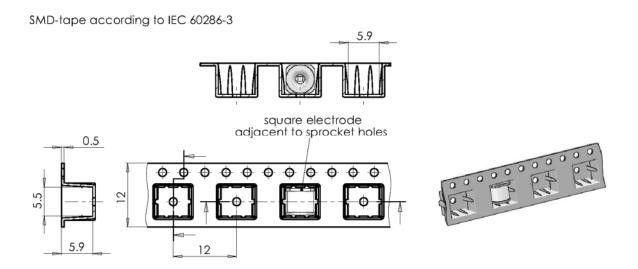
M50-C90XSMDHC

## Dimensional drawing in mm



## Ordering code and packing advice

B88069X5083**T902** = 900 pcs. on SMD-tape





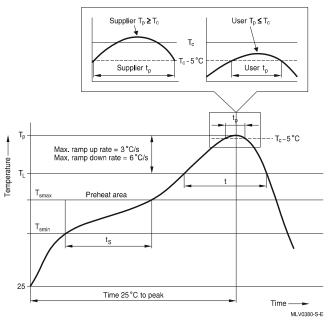
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#### 2-electrode arrester

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#### Soldering parameter

## Reflow soldering



Reflow profile features		Sn- Pb eutectic assembly	Pb-free assembly
Preheat and soak - Temperature min - Temperature max - Time Average ramp-up	T <sub>smin</sub> T <sub>smax</sub> t <sub>smin</sub> to t <sub>smax</sub>	100 °C 150 °C 60 120 s	150 °C 200 °C 60 180 s
rate	$T_{smax}$ to $T_p$	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	$T_p$ to $T_{smax}$	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 (Tp) is defined as a supplier minimum and a user maximum
- \*\* = For details please refer to JEDEC J-STD-020D.
- \*\*\* = Tolerance for time at 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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## Important notes

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Release 2018-06