

Surge arrester

2-electrode arrester

Series/Type: ES350XSMD Ordering code: B88069X4911T902

Date: 2018-10-08

Version: 06

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Surge arrester B88069X4911T902

2-electrode arrester ES350XSMD

Features

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

Applications

- Modem
- Consumer electronic
- Tuner

Electrical specifications

Elocation opcomoditions		
DC spark-over voltage 1) 2)	350	V
Tolerance	±15	%
Min.	298	V
Max.	403	V
Impulse spark-over voltage		
at 100 V/µs - for 99% of measured values	< 530	V
 typical values of distribution 	< 450	V
at 1 kV/µs - for 99% of measured values	< 600	V
 typical values of distribution 	< 530	V
Service life 3)		
10 operations [5x (+) & 5x (-)] 8/20 μs	5	kA
1 operation 8/20 µs	5	kA
Insulation resistance at 100 V _{DC}	> 1 GΩ	
Capacitance at 1 MHz	< 1	pF
Arc voltage at 1 A	~ 15	V
Glow to arc transition current	< 0.5	Α
Glow voltage	~ 130 V	
Weight	~ 1.5 g	
Operation and storage temperature	−40 +125 °C	
Climatic category (IEC 60068-1)	40/125/21	
Marking, red positive	EPCOS ES 350 YY O	
	ES - Series	
	350 - Nominal volta	
	YY - Year of produ O - Non radioacti	
Certification UL 497B (E163070)		
Ociunoanon	OL 497D (L 103070	<u> </u>

¹⁾ 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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²⁾ In ionized mode

³⁾ According to IEC 61000-4-5

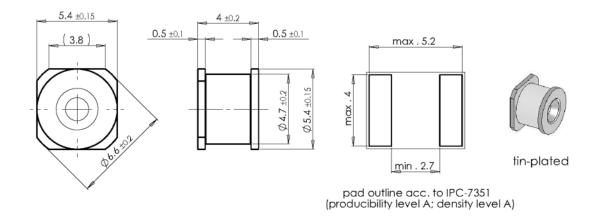


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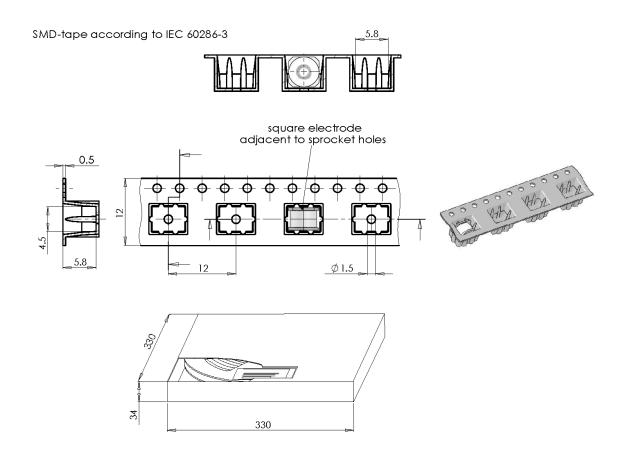
ES350XSMD

Dimensional drawing in mm



Ordering code and packing advice

B88069X4911**T902** = 900 pcs. on SMD-tape & reel



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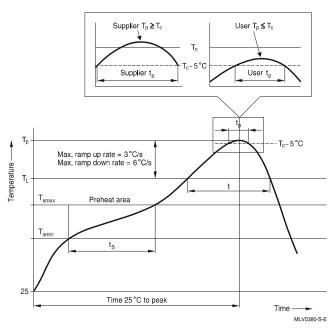
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Soldering parameter

Reflow soldering



Reflow profile features		Sn- Pb eutectic assembly	Pb-free assembly
Preheat and soak - Temperature min - Temperature max - Time Average ramp-up	Tsmin Tsmax tsmin to tsmax Tsmax to Tp	100 °C 150 °C 60 120 s	150 °C 200 °C 60 180 s
rate Liquidous temperature Time at liquidous	T _L	183 °C 60 150 s	217 °C 60 150 s
Peak package body temperature *, Classification temperature **	T _p , T _C	220 235 °C **	245 260 °C **
Time (t _p) ** within 5 °C of the specified classification temperature (T _C)		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 (T_p) is defined as a supplier minimum and
- ** = For details please refer to JEDEC J-STD-020D
- *** = Tolerance for time at peak profile temperature (t_p) 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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