

Surge arrester

3-electrode arrester

Series/Type: T90-A470XSMD Ordering code: B88069X8861T902

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Version: 03

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3-electrode arrester T90-A470XSMD

Features

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

Applications

- Line protection
- Station protection
- Base stations

Electrical specifications

DC spark-over voltage 1) 2) 3)			
Tolerance			
Min. Max.			
	564	V	
at 100 V/µs - for 99% of measured values		V	
 typical values of distribution 		V	
at 1 kV/µs - for 99% of measured values		V	
- typical values of distribution		V	
,	10	Α	
50 Hz; 0.18 s (9 cycles) 4)	40	Α	
8/20 µs ⁴⁾	10	kA	
8/20 µs ⁴⁾⁶⁾	20	kA	
10/350 µs ⁴⁾	2	kA	
10/1000 μs ⁴⁾	200	Α	
	> 1	$G\Omega$	
	< 1.5	pF	
	< 0.2	μs	
Arc voltage at 1 A		V	
Glow to arc transition current Glow voltage		Α	
	~ 60	V	
	~ 1.2	g	
	-40 + 125	°C	
	40/125/21		
Marking, blue negative		EPCOS 470 YY O 470 - Nominal voltage YY - Year of production O - Non radioactive	
	UL 497B (E16307	70) 🗫	
	of distribution asured values of distribution 50 Hz; 1 s ⁴⁾ 50 Hz; 0.18 s (9 cycles) ⁴⁾ 8/20 µs ⁴⁾ 8/20 µs ⁴⁾⁶⁾ 10/350 µs ⁴⁾	of distribution	

Remarks on next page

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- 1) At delivery AQL 0.65 level II, DIN ISO 2859
- 2) In ionized mode
- 3) Tip or ring electrode to center electrode
- ⁴⁾ Total current through center electrode, half value through tip respectively ring electrode.
- 5) Test according to ITU-T Rec. K.12
- 6) DC spark-over voltage may exceed limit of +/-25% but will continue to protect without venting

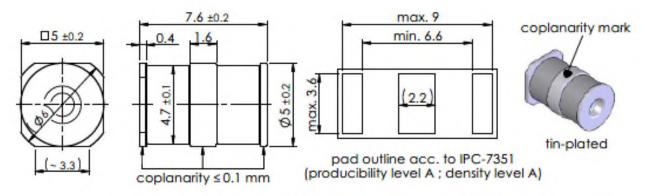
Terms in accordance with ITU-T Rec. K.12 and IEC 61643-311.



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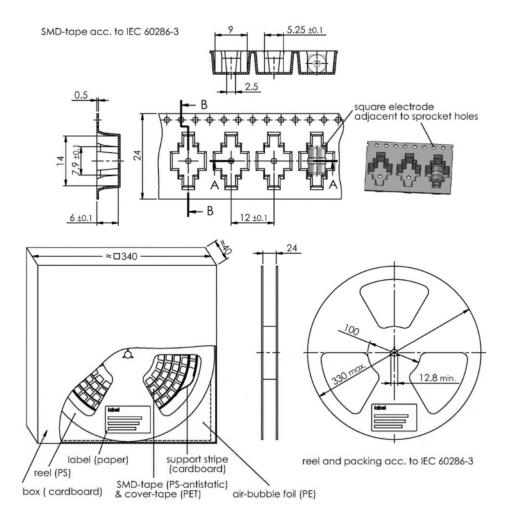
Dimensional drawing in mm



^{*} for reflow soldering, coplanarity mark upwards

Ordering code and packing advice

B88069X8861**T902** = SMD-tape with 900 pcs.



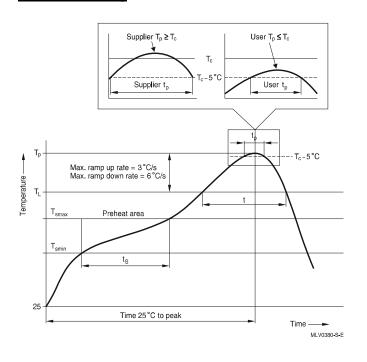
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Soldering parameter

Reflow soldering



Reflow profile features		Sn- Pb eutectic assembly	Pb-free assembly
Preheat and soak - Temperature min - Temperature max - Time	T _{smin} T _{smax} t _{smin} to t _{smax}	100 °C 150 °C 60 120 s	150 °C 200 °C 60 180 s
Average ramp-up rate	T_{smax} to T_{p}	max. 3 °C/ s	max. 3 °C/ s
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 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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^{** =} 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.



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