



Surge arrester

2-electrode arrester

Series/Type:	S30-A420XS
Ordering code:	B88069X6311T253
Date:	2020-07-29
Version:	04

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2-electrode arrester

S30-A420XS

Features

- Very small size (EIA 1812)
- Short response time
- High current capability
- Stable performance over service life
- Ultra low capacitance and insertion loss
- High insulation resistance
- Excellent SMD handling
- RoHS-compatible

Applications

- PCI cards
- Modem
- Splitter
- Line cards
- Applications with limited space

Electrical specifications

DC spark-over voltage ^{1) 2)}		420	V
Tolerance		± 25	%
Min.		315	V
Max.		525	V
Impulse spark-over voltage			
at 100 V/μs - for 99% of measured values		< 650	V
- typical values of distribution		< 550	V
at 1 kV/μs - for 99% of measured values		< 750	V
- typical values of distribution		< 600	V
Service life ^{3) 4)}			
300 operations	8/20 μs	100	A
10 operations [5x (+) & 5x (-)]	8/20 μs	1	kA
100 operations [50x (+) & 50x (-)]	10/1000 μs	10	A
Insulation resistance at 100 V _{DC}		> 1	GΩ
Capacitance at 1 MHz		< 0.8	pF
Arc voltage at 1 A		~ 20	V
Glow to arc transition current		< 0.3	A
Glow voltage		~ 150	V
Weight		~ 0.2	g
Operation and storage temperature		-40 ... +125	°C
Climatic category (IEC 60068-1)		40/125/21	
Marking		 LY L - Nominal voltage (M ≙ 420 V) Y - Year of production (last digit)	

Remarks on next page

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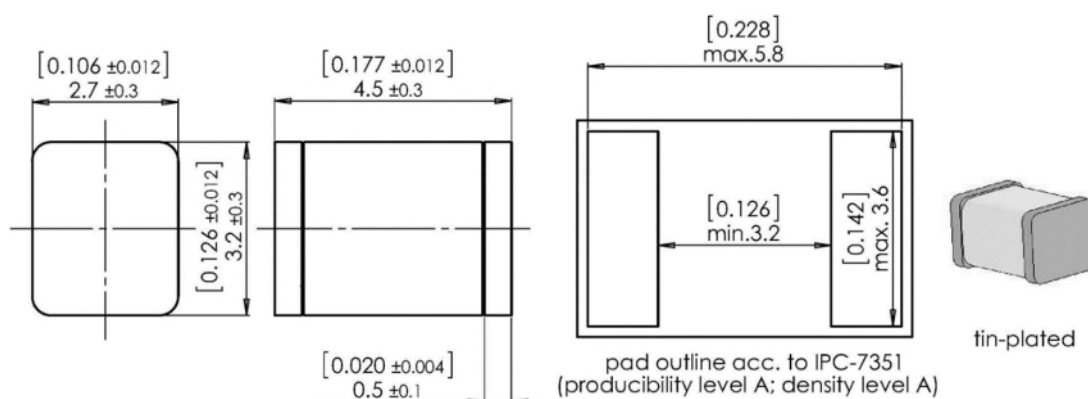
2-electrode arrester

S30-A420XS

- 1) At delivery AQL 0.65 level II, DIN ISO 2859
- 2) In ionized mode
- 3) Tests according to ITU-T Rec. K. 12 and UL 497B
- 4) Data after Service life:
 DC spark-over voltage $420\text{ V} \pm 30\%$
 Impulse spark-over voltage at $100\text{ V}/\mu\text{s} < 850\text{ V}$
 Impulse spark-over voltage at $1\text{ kV}/\mu\text{s} < 1000\text{ V}$
 Impulse resistance $IR > 10^9\text{ Ohm}$

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

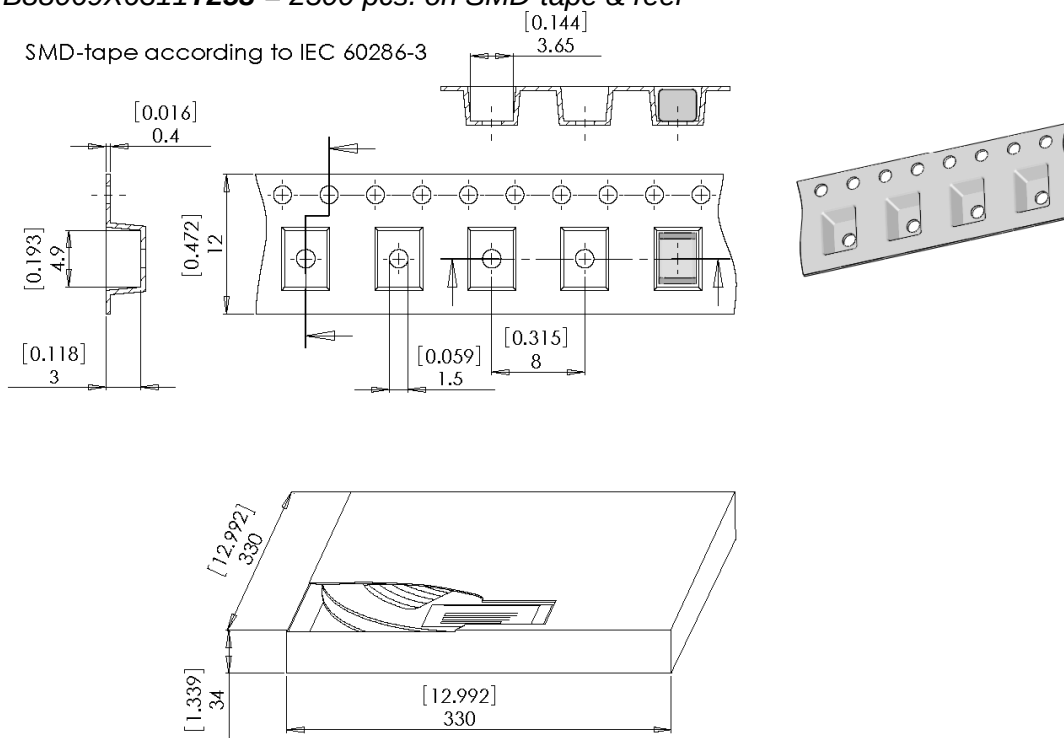
Dimensional drawing in mm



Ordering code and packing advice

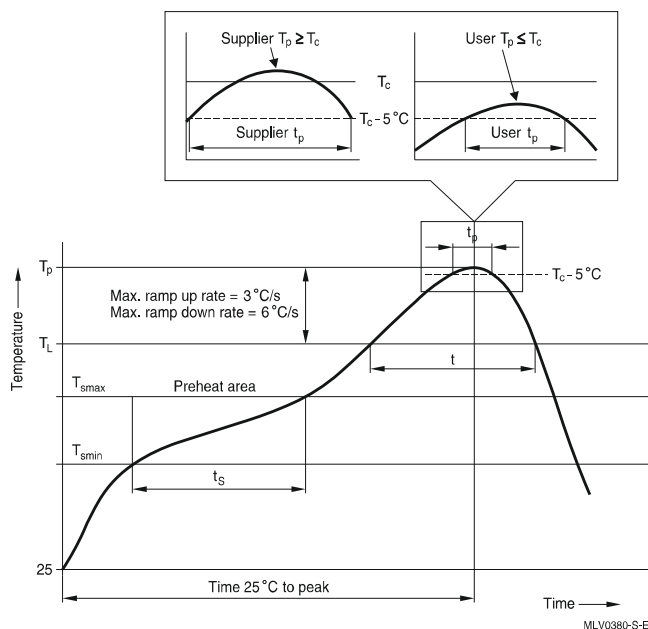
B88069X6311T253 = 2500 pcs. on SMD-tape & reel

SMD-tape according to IEC 60286-3



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 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.
 ** = 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.

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