Surge arrester

2-electrode arrester

Series/Type:	**EM4000XS**
Ordering code:	**B88069X4251******
Date:	2019-07-19
Version:	04

Features

- Very small size
- Very fast response time
- Stable performance over life
- Very low capacitance
- High insulation resistance
- RoHS-compatible

Applications

- Consumer electronics
- Tuner
- Air condition
- Power supply

Electrical specifications

DC spark-over voltage [1) 2)]		4000	V
Tolerance		±20	%
Min.		3200	V
Max.		4800	V
Impulse spark-over voltage			
at 100 V/µs	- for 99% of measured values	< 5100	V
	- typical values of distribution	< 4900	V
at 1 kV/µs	- for 99% of measured values	< 5300	V
	- typical values of distribution	< 5100	V
at 5 kV/µs	- for 99% of measured values	< 5700	V
	- typical values of distribution	< 5300	V
Service life			
10 operations	50 Hz; 1 s	1	A
300 operations	8/20 µs	100	A
10 operations	8/20 µs	2	kA
Insulation resistance at 100 V_{DC}		> 1	GΩ
Capacitance at 1 MHz		< 1	pF
Arc voltage at 1 A		~ 35	V
Glow to arc transition current		< 0.1	A
Glow voltage at 0.1 A		~ 170	V
AC withstand voltage (1 min) [3)]		1800	V
Weight		~ 0.7	g
Operation temperature		–40 ... +125	°C
Recommended storage			
- temperature		+5 ... +35	°C
- humidity		45 ... 80	%
- period		≤ 2	years
Climatic category (IEC 60068-1)		40/125/21	
Marking, red positive		**EPCOS EM 4000 YY O** EM - Series 4000 - Nominal voltage YY - Year of production O - Non radioactive	

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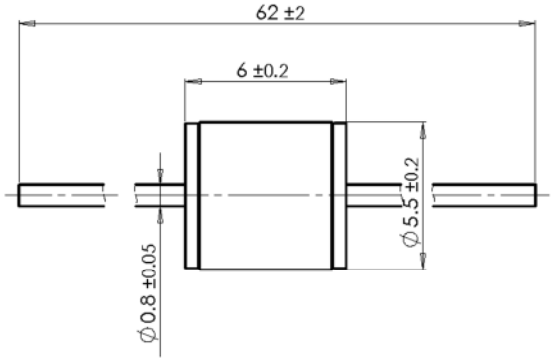
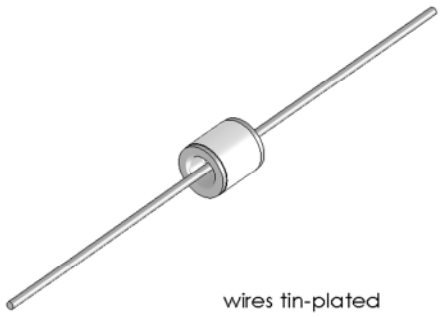
Certifications	UL 1449 (E319264)

1) At delivery AQL 0.65 level II, DIN ISO 2859
2) In ionized mode
3) Test conditions in acc. with MIL-STD-202G at 25 ±5 °C, relative humidity of ≤ 55 % and atmospheric pressure 860 ... 1100mbar.

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

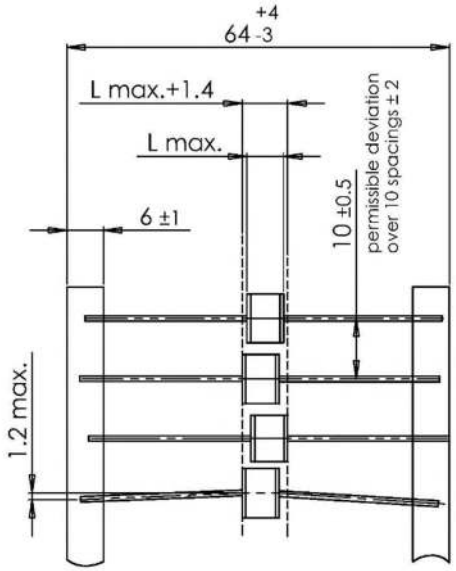
Dimensional drawing in mm



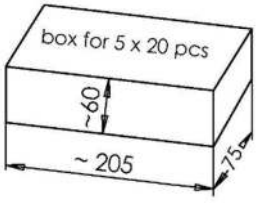


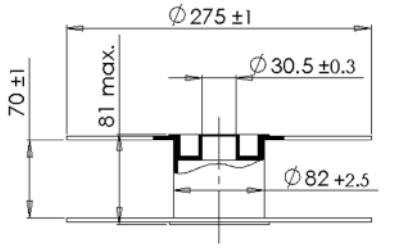
Ordering codes and packing advices

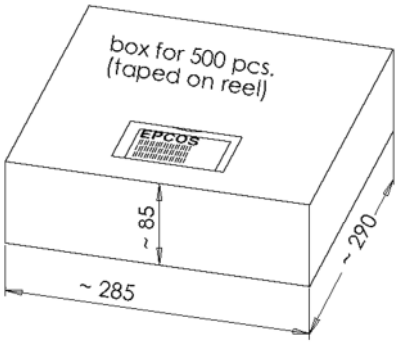
*B88069X4251**S102** = 100 pcs. on 5 taped stripes B88069X4251**T502** = 500 pcs. on tape & reel*



tape acc. to IEC 60286-1

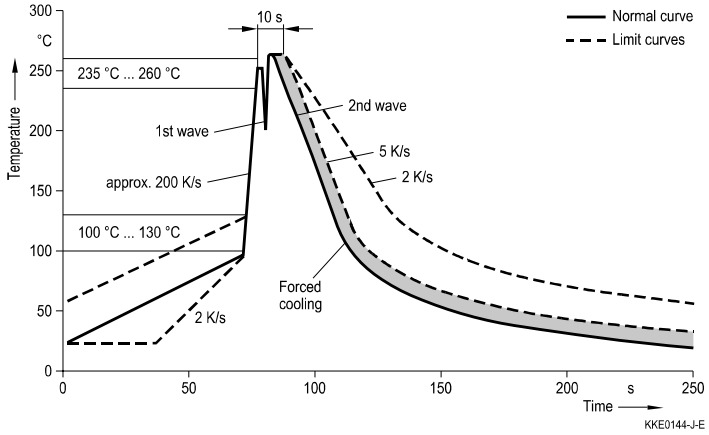






Soldering parameter

Wave soldering



Wave profile features	Pb-free assembly
Solder	Sn 95.5 / Ag 3.8 / Cu 0.7
Solder bath temperature	263 (±3) °C
Dwell time	< 3 s

Soldering profile applied to a single soldering process.

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.
- Electromagnetic fields and ionizing radiation may affect the electrical characteristics of the arrester. The impact of such effects (inductive and capacitive field distortion from adjacent components) must be avoided by appropriate circuit design measures.
- 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.
- If the contacts of the surge arresters are defective, current load can cause sparks and loud noises.
- Surge arresters must be handled with care and must not be dropped.
- Do not continue to use damaged surge arresters.

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