Surge Arresters

Series/Type: T83-A450X

The following products presented in this data sheet are being withdrawn.

Ordering Code	Substitute Product	Date of Withdrawal	Deadline Last Orders	Last Shipments
B88069X5950B502		2024-05-03	2024-08-16	2024-11-15

Please contact your nearest TDK sales office if you need support in selecting a suitable substitute. The addresses of our worldwide sales network are presented at www.tdk-electronics.tdk.com/sales.

Surge arrester — B88069X5950B502

3-electrode arrester — T83-A450X

Features

- Standard size
- Fast response time
- Very high current rating
- Stable performance over life
- Very low capacitance
- High insulation resistance
- RoHS-compatible

Applications

- Branch exchange (MDF)
- Line protection
- Station protection

Electrical specifications

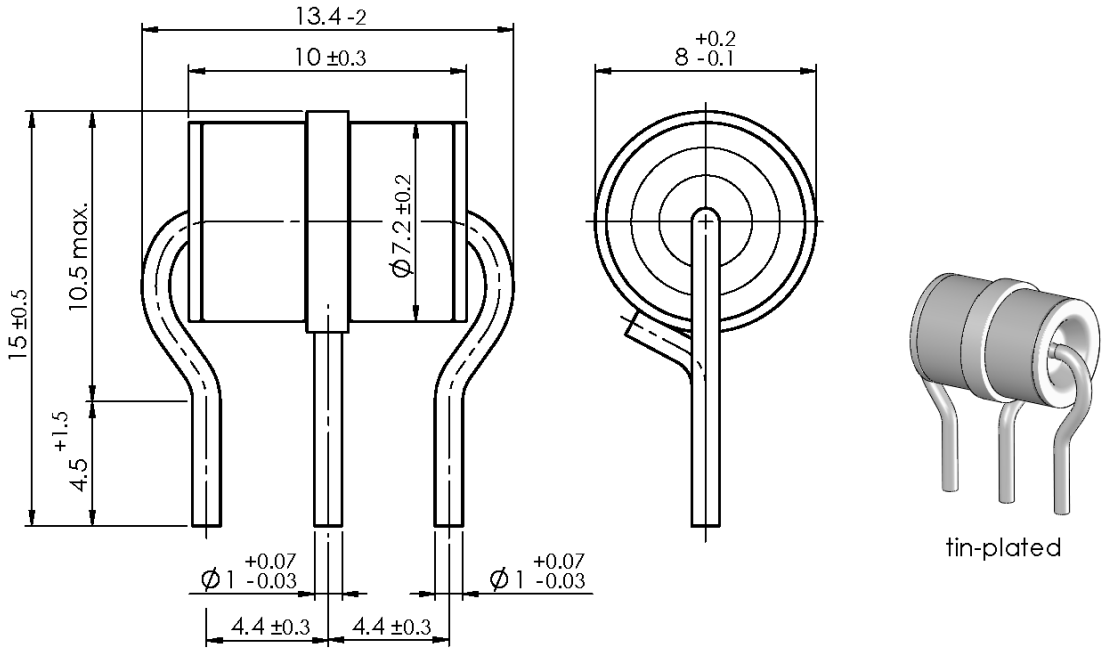
DC spark-over voltage [1) 2) 3)]		450	V
Tolerance		±20	%
Min.		360	V
Max.		540	V
Impulse spark-over voltage [3)]			
at 100 V/µs	- for 99% of measured values	< 900	V
	- typical values of distribution	< 700	V
at 1 kV/µs	- for 99% of measured values	< 1000	V
	- typical values of distribution	< 850	V
Service life			
10 operations	50 Hz; 1 s [4)]	10	A
1 operation	50 Hz; 0.18 s (9 cycl.) [4)]	40	A
10 operations [5× (+) & 5× (–)]	8/20 µs [4)]	10	kA
1 operation	8/20 µs [4)]	15	kA
1 operation	10/350 µs [4)]	2	kA
300 operations [150× (+) & 150× (–)]	10/1000 µs [4)]	200	A
Insulation resistance at 100 V_{DC} [3)]		> 10	GΩ
Capacitance at 1 MHz [3)]		< 1.5	pF
Transverse delay time [5)]		< 0.2	µs
Arc voltage at 1 A		~ 30	V
Glow to arc transition current		< 1	A
Glow voltage		~ 200	V
Weight		~ 2	g
Operation and storage temperature		–40 ... +125	°C
Climatic category (IEC 60068-1)		40/125/21	
Marking, red negative		**EPCOS** **450 YY O** 450 - Nominal voltage YY - Year of production O - Non radioactive	
Certifications		UL 497B (E163070)	

Remarks on next page

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

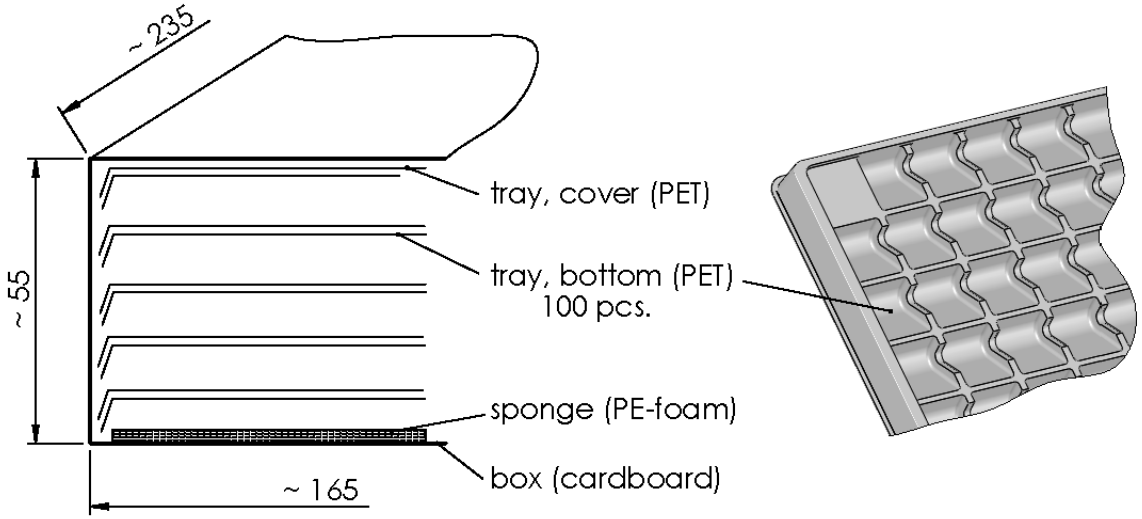
Terms in accordance with ITU-T Rec. K.12 and IEC 61643-311.

Dimensional drawing in mm



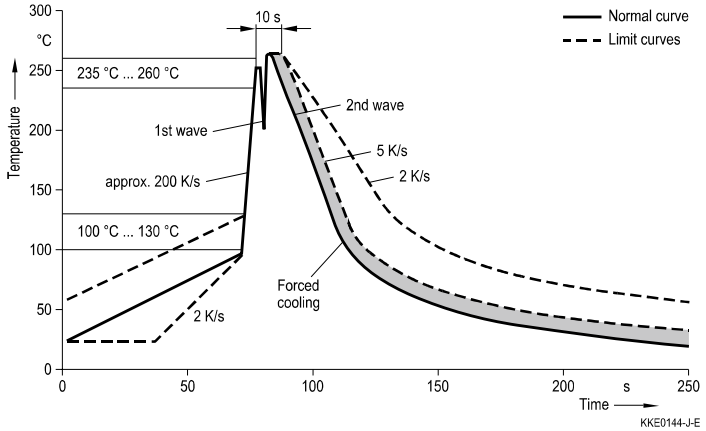
Ordering code and packing advice

*B88069X5950**B502** = 500 pcs. on trays*



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.
- If the contacts of the surge arresters are defective, current load can cause sparks and loud noises.
- 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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1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application.** As a rule we are either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether a product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified.** In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of an electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of an electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
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Important notes

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