ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

Part Number:	B88069X3653B502
Manufacturer:	TDK
Package:	Tray
Availability:	Please confirm with sales

Product Page:

https://antrexco.com/product/details/tdk/b88069x3653b502.html

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Contact Information

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Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

Surge arrester

3-electrode arrester

Series/Type:	**T93-A230XF1**
Ordering code:	**B88069X3653B502**
Date:	2026-04-01
Version:	03

Surge arrester — B88069X3653B502

3-electrode arrester — T93-A230XF1

Features

- Small size
- Fast response time
- High current rating
- Stable performance over life
- Low capacitance
- High insulation resistance
- Reliable failsafe device
- RoHS-compatible

Applications

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

Electrical specifications

DC spark-over voltage [1) 2) 3)]		230	V
Tolerance		±20	%
Min.		184	V
Max.		276	V
Impulse spark-over voltage [3)]			
at 100 V/µs	- for 99% of measured values	< 600	V
	- typical values of distribution	< 550	V
at 1 kV/µs	- for 99% of measured values	< 700	V
	- typical values of distribution	< 650	V
Service life			
10 operations	50 Hz; 1 s [4)]	10	A
10 operations [5× (+) & 5× (–)]	8/20 µs [4)]	10	kA
1 operation	10/350 µs [4)]	2	kA
300 operations (+/– alternating polarity)	10/1000 µs [4)]	200	A
Insulation resistance at 100 V_{DC} [3)]		> 1	GΩ
Capacitance at 1 MHz [3)]		< 1.5	pF
DC holdover voltage [5)]			
at 135 V_{DC} / 1300 Ω		< 150	ms
Transverse delay time [5)]		< 0.2	µs
Arc voltage at 1 A		~ 10	V
Glow to arc transition current		< 1	A
Glow voltage		~ 60	V
Weight		~ 0.9	g
Operation and storage temperature		–40 ... +125	°C
Climatic category (IEC 60068-1)		40/125/21	
Marking, blue negative		**TDK** **230 YY** 230 - Nominal voltage YY - Year of production	

Continued on next page

Certifications	UL 497B (E163070)

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

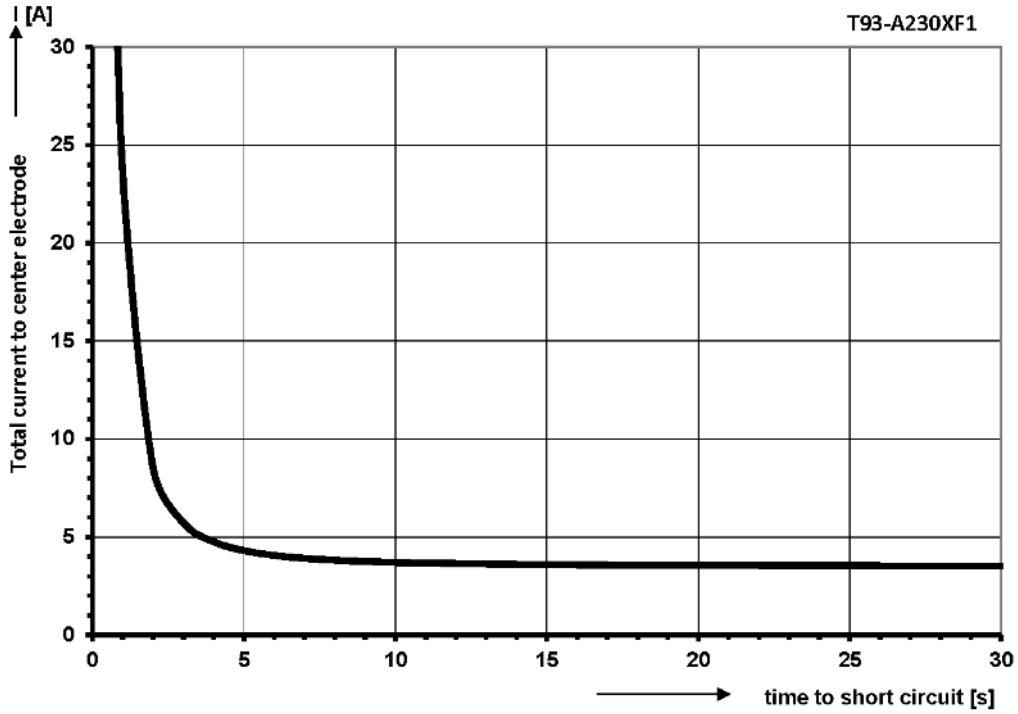
Terms in accordance with ITU-T Rec. K.12 and IEC 61643-311.

The arrester failsafe mechanism contains an insulating foil with a melting temperature of 260 °C.

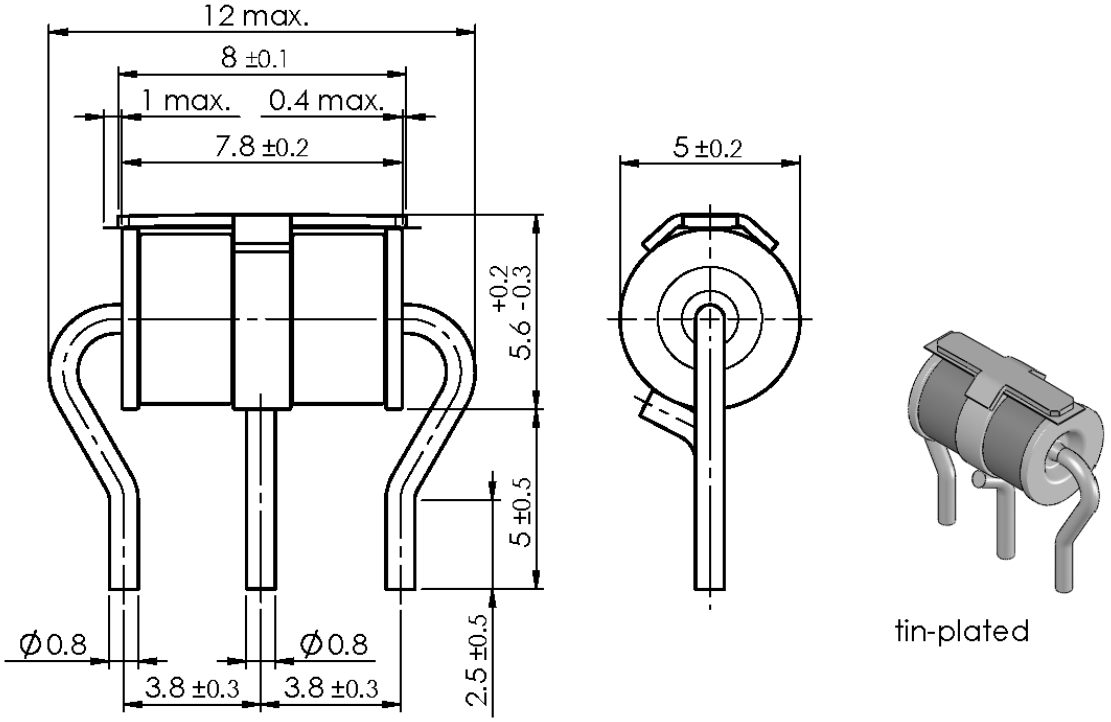
Arrester failsafe works at temperatures > 260 °C. The arrester has to be fixed mechanically, if the arrester is contacted by soldering and if the solder temperature is less than 260 °C.

Failsafe characteristic diagram

For arrester only, characteristic can differ in assembled module.

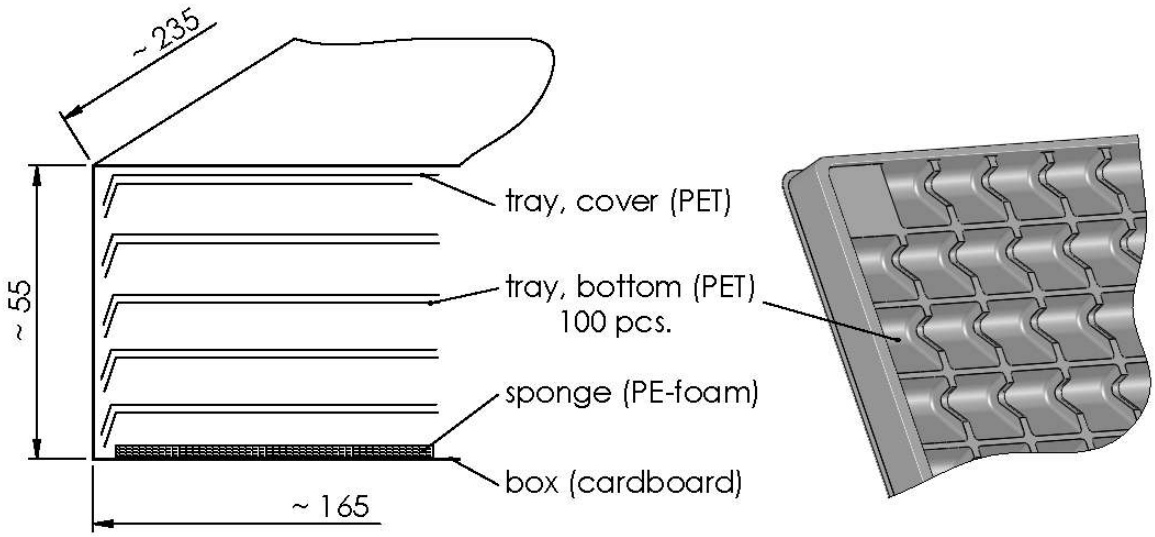


Dimensional drawing in mm



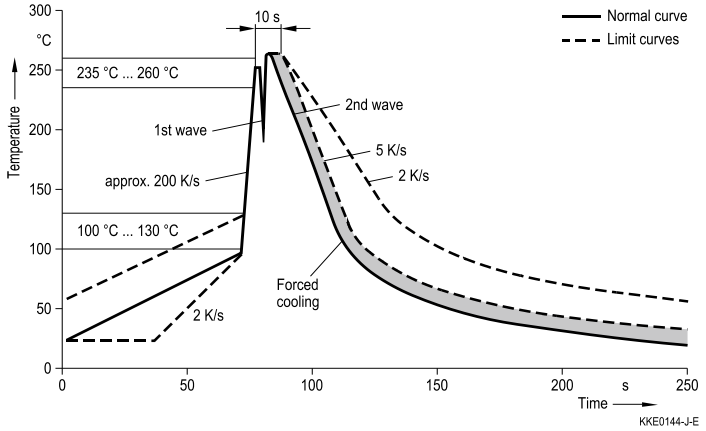
Ordering code and packing advice

*B88069X3653**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

- Depending on the sensor material the short-circuit spring does not trigger until 260 °C is reached. Thermal radiation to adjacent components must be taken into consideration in the circuit design. Depending on the mounting position, the surge arrester may have to be secured by additional mechanical means.
- Do not continue to use surge arresters whose short-circuit mechanisms have been activated.
- If the contacts of the surge arresters are defective, current load can cause sparks and loud noises.
- 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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Important notes

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