

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

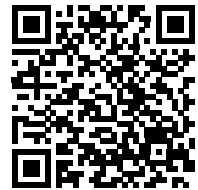
Part Number:	B88069X6241T902
Manufacturer:	TDK
Package:	Tape & Reel (TR), Cut Tape (CT)
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/tdk/b88069x6241t902.html>

Request a Quote:

[Submit RFQ for this part](#)



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Contact Information

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Website: <https://antrexco.com>

Quality & Trust

New & Original Components

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

2-electrode arrester

Series/Type:	ES90XSMD
Ordering code:	B88069X6241T902
Date:	2026-04-01
Version:	04

Surge arrester

B88069X6241T902

2-electrode arrester

ES90XSMD

Features

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

Applications

- Modem
- XDSL-splitter
- Tuner
- Data lines
- Antenna

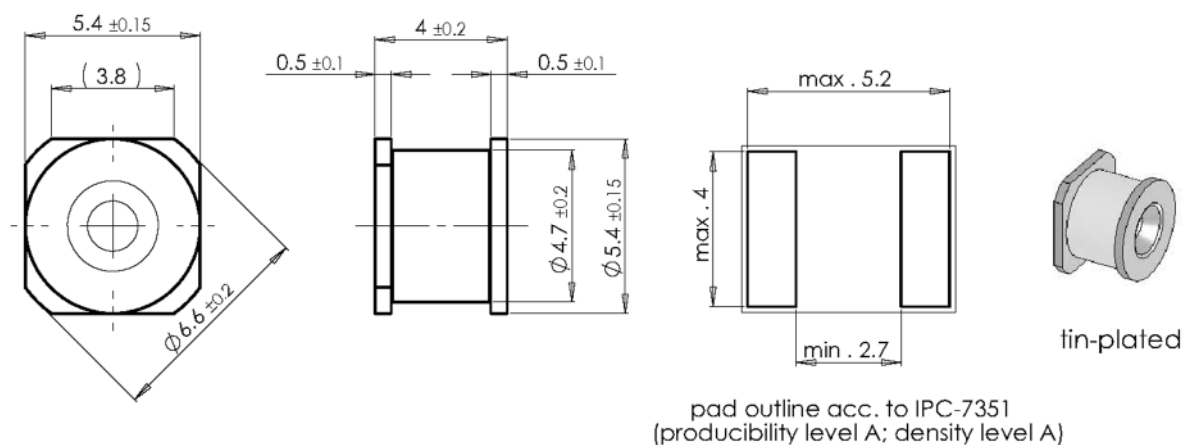
Electrical specifications

DC spark-over voltage ^{1) 2)}		90	V
Tolerance		±20	%
Min.		72	V
Max.		108	V
Impulse spark-over voltage			
at 100 V/μs	- for 99% of measured values	< 450	V
	- typical values of distribution	< 300	V
at 1 kV/μs	- for 99% of measured values	< 600	V
	- typical values of distribution	< 550	V
Service life			
10 operations	8/20 μs	2.5	kA
1 operation	8/20 μs	5	kA
Insulation resistance at 50 V _{DC}		> 1	GΩ
Capacitance at 1 MHz		< 1	pF
Arc voltage at 1 A		~ 12	V
Glow to arc transition current		~ 0.5	A
Glow voltage		~ 70	V
Weight		~ 0.3	g
Operation and storage temperature		-40 ... +125	°C
Climatic category (IEC 60068-1)		40/125/21	
Marking, red positive		TDK ES 90 YY ES - Series 90 - Nominal voltage YY - Year of production	
Certification		UL 497B (E163070)	

¹⁾ At delivery AQL 0.65 level II, DIN ISO 2859

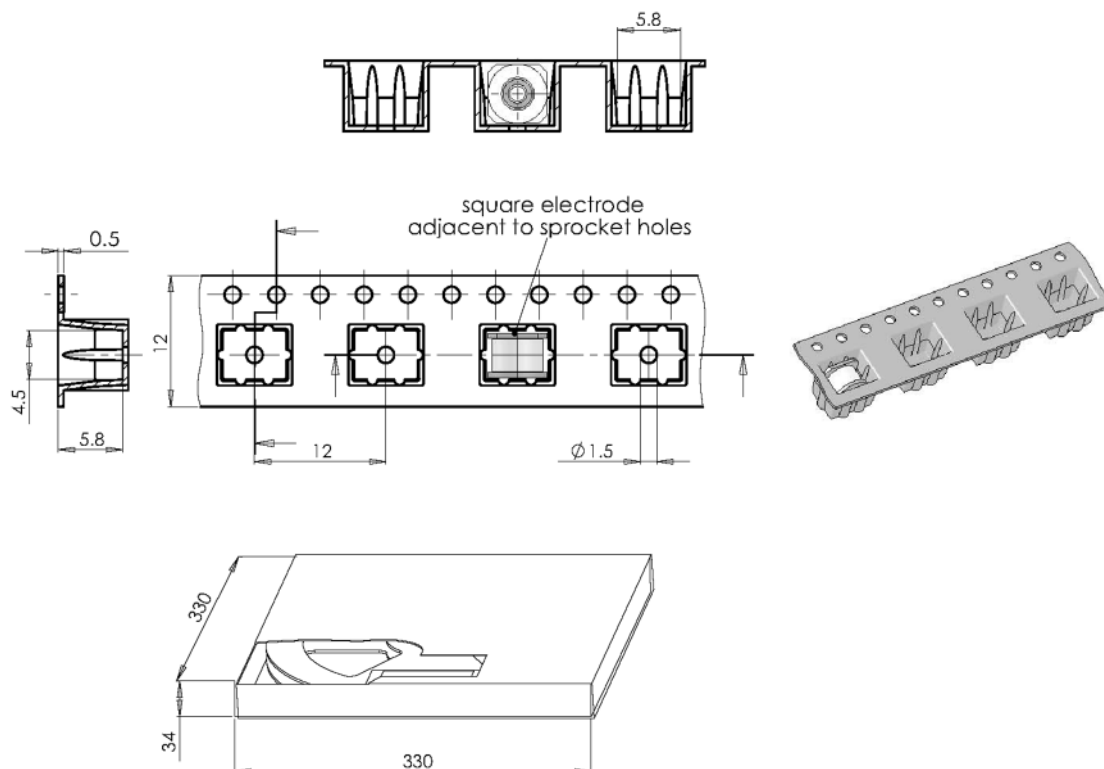
²⁾ In ionized mode

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

Dimensional drawing in mm

Ordering code and packing advice

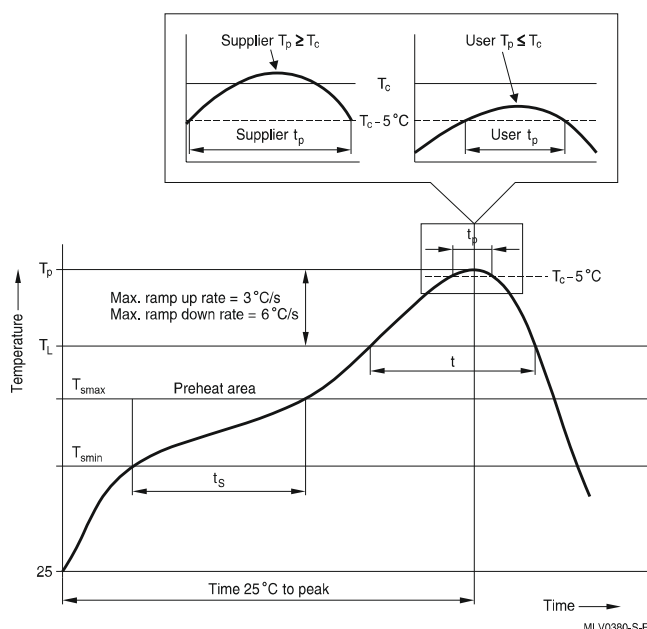
B88069X6241T902 = 900 pcs. on SMD-tape

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.
- 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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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.
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3. **The warnings, cautions and product-specific notes must be observed.**
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Important notes

8. The trade names EPCOS, CarXield, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, FilterCap, FormFit, InsuGate, LeaXield, MediPlas, MiniBlue, MiniCell, MKD, MKK, ModCap, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PiezoBrush, PlasmaBrush, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, SurfIND, ThermoFuse, WindCap, XieldCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at www.tdk-electronics.tdk.com/trademarks.

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