

ANTREX Electronics

Electronic Components Sourcing Information

Product Reference Information

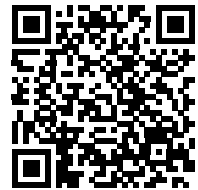
Part Number:	B88069X1003T302
Manufacturer:	TDK
Package:	Tape & Reel (TR), Cut Tape (CT)
Availability:	Please confirm with sales

Product Page:

<https://antrexco.com/product/details/tdk/b88069x1003t302.html>

Request a Quote:

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Contact Information

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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

Stacked surge arresters

Series/Type:	LN8A-A1400DC-5
Ordering code:	B88069X1003xxxx
Date:	2020-06-16
Version:	15

Surge arrester

B88069X1003xxxx

Stacked surge arresters

LN8A-A1400DC-5

Features

- Fast response time
- High current rating
- Stable performance over life
- Very low capacitance
- High insulation resistance
- Excellent SMD handling
- RoHS-compatible

Applications

- DC power supply protection 60 V

Electrical specifications	Arrester only	w. capacitors ²⁾	Unit
DC spark-over voltage ¹⁾	1400 ±30	< 1250	V %
Front of wave spark-over voltage at 6 kV, 1.2/50 µs			
- initial	< 2300	< 900	V
- after service life	< 3000	< 1500	V
DC operating voltage ³⁾	60 ±20		V _{DC} %
Service life			
10 operations [5× (+) & 5× (-)] 8/20 µs	20		kA
10 operations [5× (+) & 5× (-)] 10/350 µs	4		kA
100 operations [50× (+) & 50× (-)] 10/350 µs	500		A
300 operations (+/- alternating polarity) 10/1000 µs	100		A
Insulation resistance at 100 V _{DC}	> 10		GΩ
Capacitance at 1 MHz	< 1		pF
Weight	~ 5.5		g
Operation and storage temperature	-40 ... +125		°C
Climatic category (IEC 60068-1)	40/125/21		
Marking, black positive	 YY - Year of production 60DC - DC operating voltage		
Certifications	UL 1449 (E319264)		

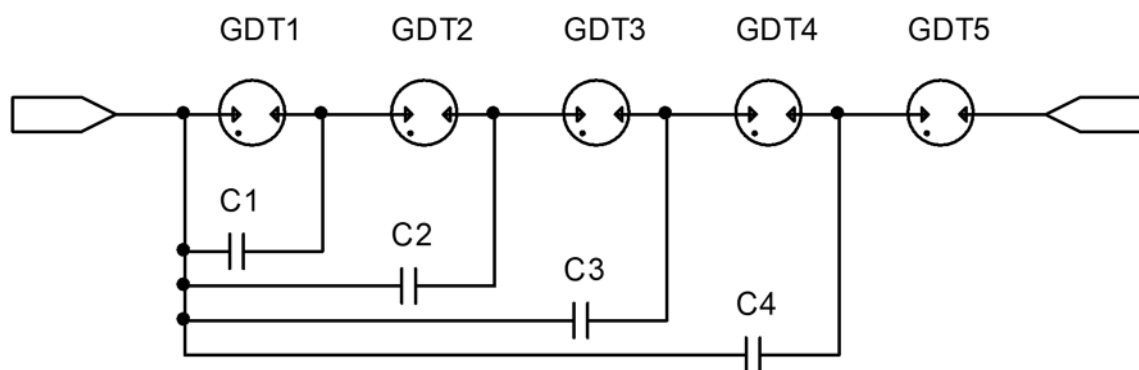
¹⁾ At delivery AQL 0.65 level II, DIN ISO 2859

²⁾ Refer to circuit diagram on page 3

³⁾ DC current source 30 A

Terms in accordance with IEC 61643-11.

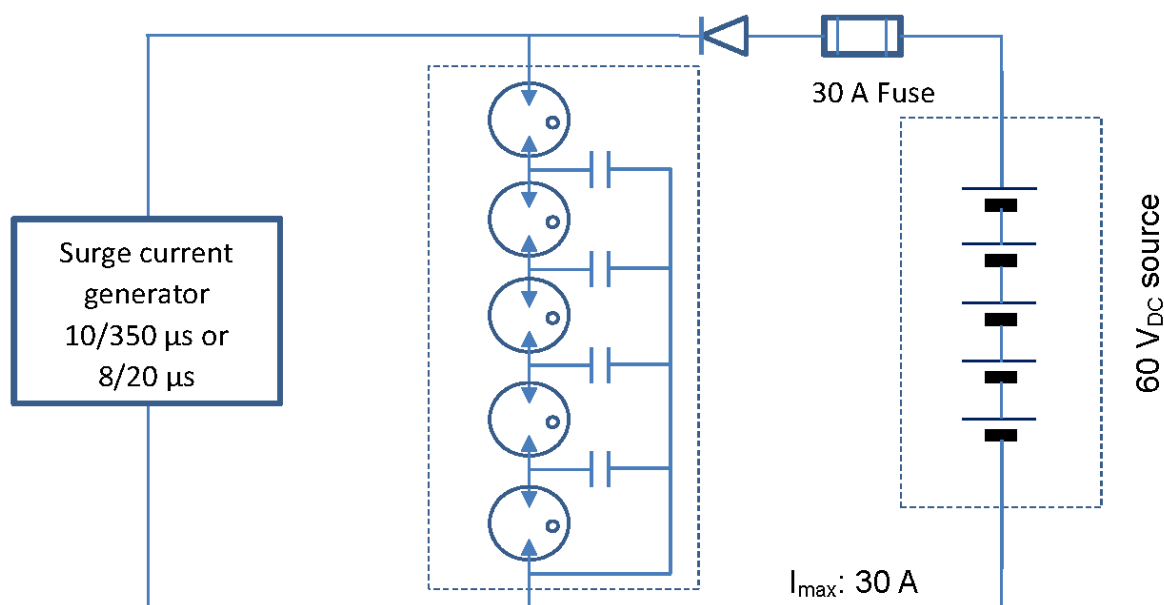
Circuit diagram (C1 to C4 = each capacitor 100 pF to 470 pF)

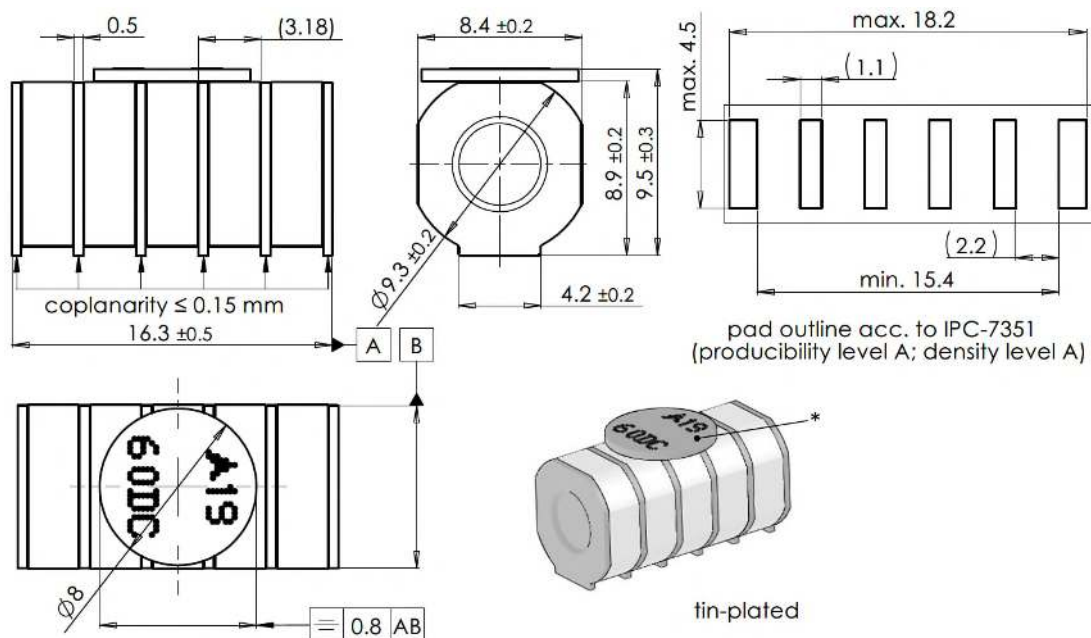


Recommended capacitor: TDK C4520X7R3D471K130KA

Test circuit

10/350 μ s or 8/20 μ s circuit



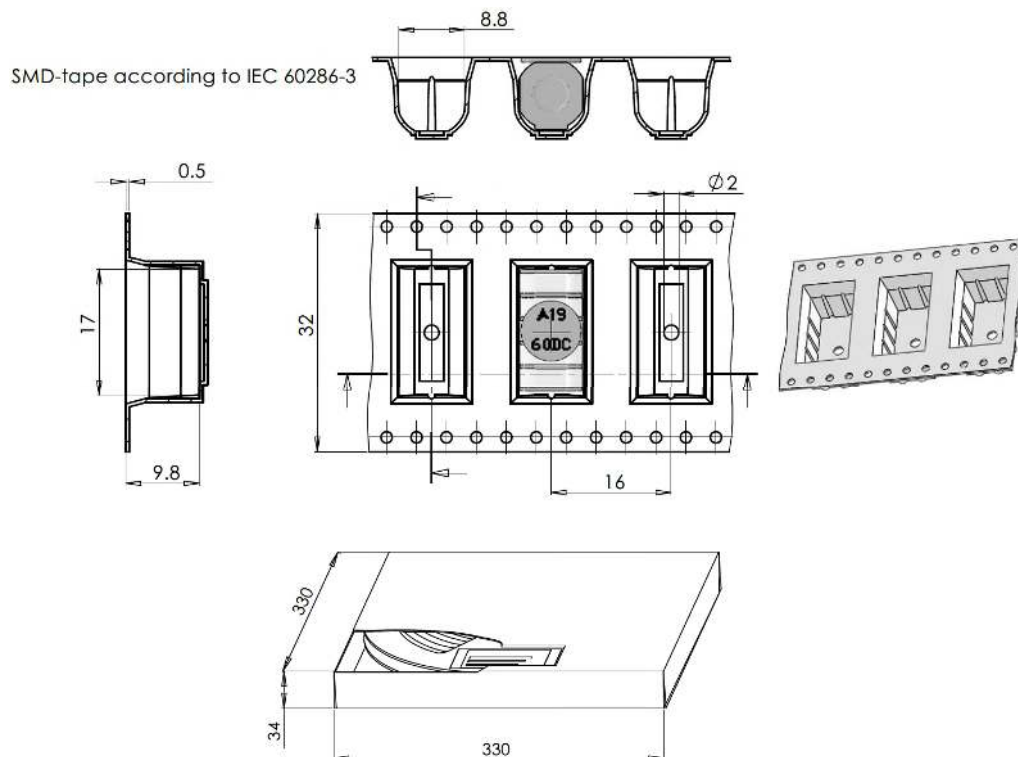
Dimensional drawing in mm


* - for pick and place, dimension of suction nozzle should be smaller than disc

Ordering code and packing advice

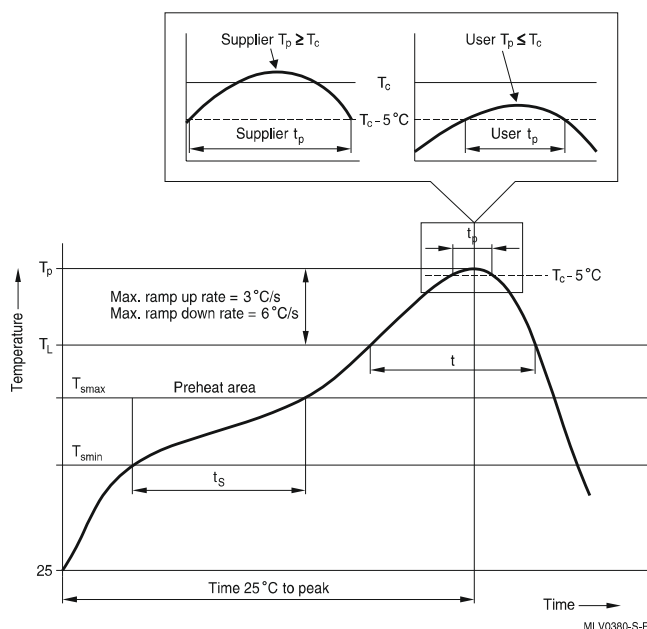
B88069X1003T302 = 300 pcs. on SMD-tape & reel

B88069X1003T252 = 250 pcs. on SMD-tape & reel



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

- The follow current must be limited (see test circuit) so that the arrester can be properly extinguished when the surge has decayed. The arrester might otherwise heat up and ignite adjacent components.
- 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.
- 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 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.

Surge arrester**B88069X1003xxxx****Stacked surge arresters****LN8A-A1400DC-5**

Display of ordering codes for TDK Electronics products

The ordering code for one and the same product can be represented differently in data sheets, data books, other publications, on the company website, or in order-related documents such as shipping notes, order confirmations and product labels. **The varying representations of the ordering codes are due to different processes employed and do not affect the specifications of the respective products.** Detailed information can be found on the Internet under www.tdk-electronics.tdk.com/orderingcodes.

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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.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as hazardous)**. Useful information on this will be found in our Material Data Sheets on the Internet (www.tdk-electronics.tdk.com/material). Should you have any more detailed questions, please contact our sales offices.
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7. **Our manufacturing sites serving the automotive business apply the IATF 16949 standard**. The IATF certifications confirm our compliance with requirements regarding the quality management system in the automotive industry. Referring to customer requirements and customer specific requirements ("CSR") TDK always has and will continue to have the policy of respecting individual agreements. Even if IATF 16949 may appear to support the acceptance of unilateral requirements, we hereby like to emphasize that **only requirements mutually agreed upon can and will be implemented in our Quality Management System**. For clarification purposes we like to point out that obligations from IATF 16949 shall only become legally binding if individually agreed upon.

Important notes

8. The trade names EPCOS, CeraCharge, CeraDiode, CeraLink, CeraPad, CeraPlas, CSMP, CTVS, DeltaCap, DigiSiMic, ExoCore, FilterCap, FormFit, LeaXield, MiniBlue, MiniCell, MKD, MKK, ModCap, MotorCap, PCC, PhaseCap, PhaseCube, PhaseMod, PhiCap, PowerHap, PQSine, PQvar, SIFERRIT, SIFI, SIKOREL, SilverCap, SIMDAD, SiMic, SIMID, SineFormer, SIOV, 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.

Release 2020-05