



Surge arrester

Stacked surge arresters

| | |
|-----------------------|------------------------|
| Series/Type: | LN5-A600DC-2 |
| Ordering code: | B88069X4793T103 |
| Date: | 2019-01-17 |
| Version: | 01 |

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 24 V

| Electrical specifications | Arrester only | w. capacitors ²⁾ | Unit |
|---|---------------|-----------------------------|-----------------|
| DC spark-over voltage ¹⁾ | 600 ±30 | | V % |
| Front of wave spark-over voltage at 6 kV, 1.2/50 µs | | | |
| - initial | 1100 | < 750 | V |
| - after service life | 1500 | < 1000 | V |
| DC operating voltage ³⁾ | | | |
| - nominal | | 24 | V _{DC} |
| - max. | | 30 | V _{DC} |
| Service life | | | |
| 10 operations [5x (+) & 5x (-)] | 8/20 µs | 5 | kA |
| 10 operations [5x (+) & 5x (-)] | 10/350 µs | 1 | kA |
| Insulation resistance at 100 V _{DC} | | > 1 | GΩ |
| Capacitance at 1 MHz | | < 1 | pF |
| Arc voltage at 1 A | | > 33 | V |
| Weight | | ~ 1.0 | g |
| Operation and storage temperature | | -40 ... +125 | °C |
| Climatic category (IEC 60068-1) | | 40/125/21 | |
| Marking | | without | |

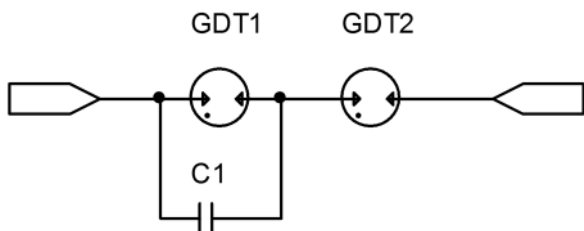
¹⁾ At delivery AQL 0.65 level II, DIN ISO 2859

²⁾ Refer to circuit diagram on page 3

³⁾ DC current source 30 A

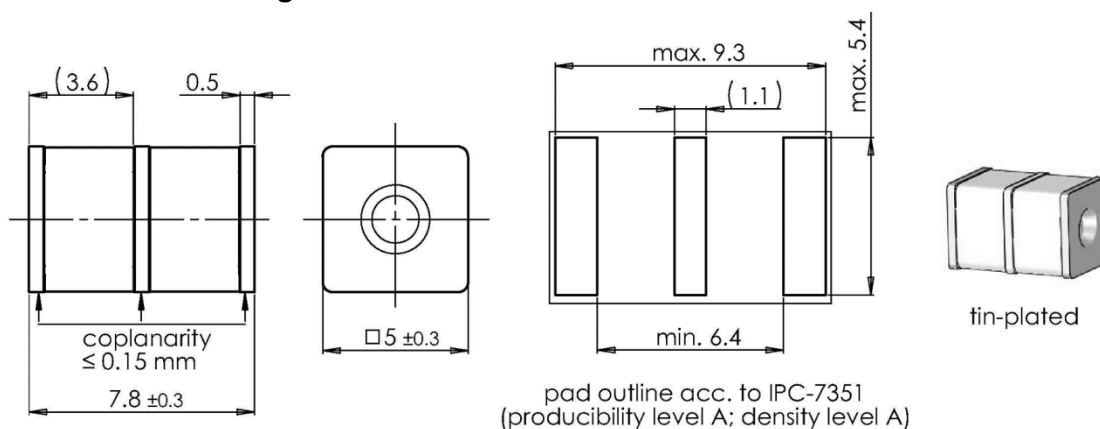
Terms in accordance with IEC 61643-11.

Circuit diagram (C1 = 330 pF to 470 pF)



Recommended capacitor: TDK C4520X7R3D471K130KA

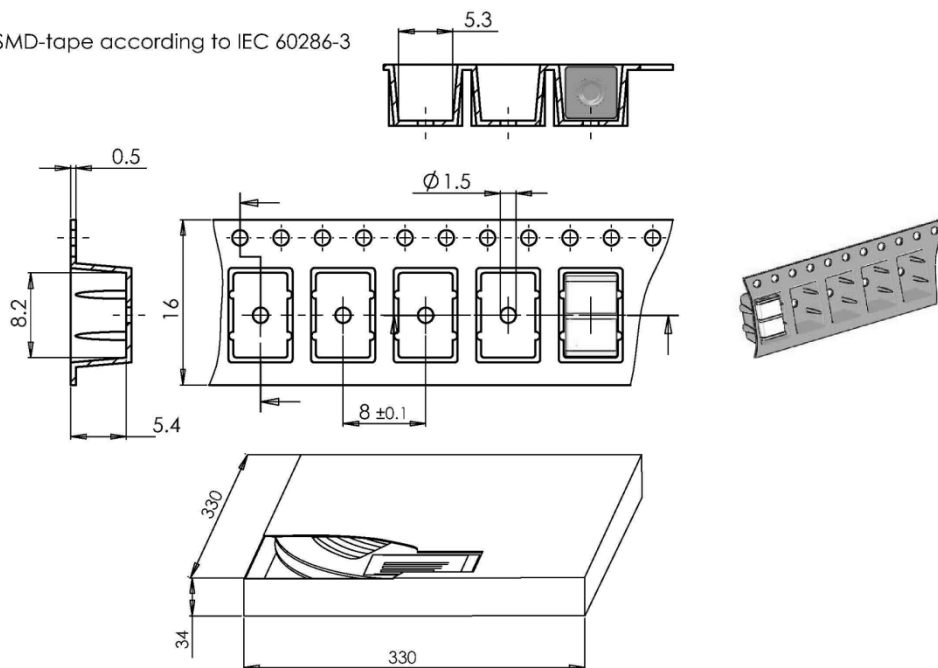
Dimensional drawing in mm



Ordering code and packing advice

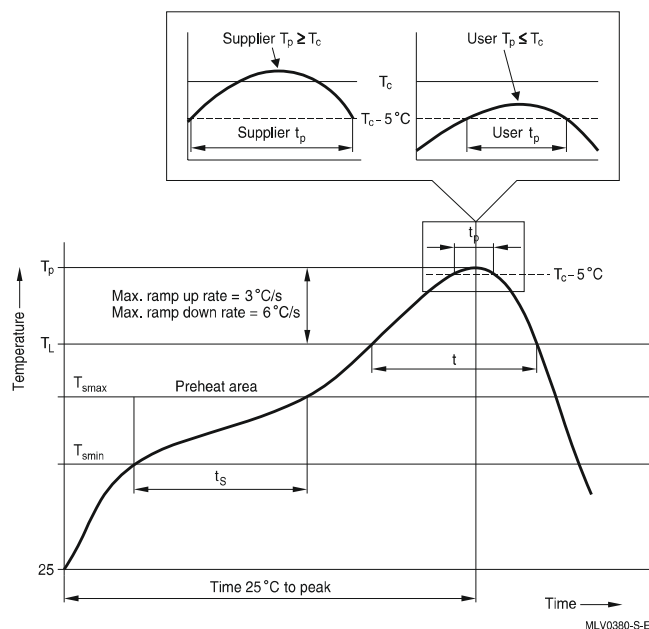
B88069X4793T103 = 1000 pcs. on SMD-tape & reel

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

- The follow current must be limited 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.

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B88069X4793T103

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LN5-A600DC-2

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