

# Surge arrester

2-electrode arrester

Series/Type: EHV63-H36T7 Ordering code: B88069X2093A802

Date: 2019-07-05

Version: 05

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# 2-electrode arrester EHV63-H36T7

## **Features**

- Built to automotive standard (IATF 16949)
- Small size
- Fast response time
- High current capability
- Stable performance over service life
- Low capacitance and insertion loss
- High insulation resistance
- RoHS-compatible

# **Applications**

## Automotive:

- On-board chargers
- Vehicle charging stations

#### Others:

- LED lighting
- Power supply
- Photovoltaic
- Air conditioning

## **Electrical specifications**

Tolerance Min. 2880 V Min. 2880 V Max. 4320 V Max. 4350 V Max. 4350 V Max. 4150 M Max. 4350 V Max. 4150 M Max. 4350 V Max. 45 kV/μs - for 99% of measured values $< 4500$ V Max. $< 4500$ V Max. $< 4500$ V Max. $< 4500$ V Max. $< 4500$ M M M Max. $< 4500$ M M M M M M M M M M M M M M M M M M	DC spark-over voltage 1) 2)	3600	V
Max.4320VImpulse spark-over voltage at 100 V/μs - for 99% of measured values - typical values of distribution< 4350 $<$ 4150 $<$ 4150 $<$ 7 $<$ 4300 $<$ 7 $<$ 1 kV/μs - for 99% of measured values - typical values of distribution - typical values of distribution - typical values of distribution< 4500 $<$ 4300 $<$ 7 $<$ 4500Service life 300 operations 3 operations 1 operation 8/20 μs 1 operation 8/20 μs 1 operation 8/20 μs 1 operation 1 operation 8/20 μs 1 operation 1 operation 1 operation 1 operation 1 operation 1 operation 2 operation 2 operation 3 o		±20	%
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Min.	2880	V
at 100 V/µs - for 99% of measured values	Max.	4320	V
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Impulse spark-over voltage		
at 1 kV/ $\mu$ s   – for 99% of measured values	at 100 V/µs - for 99% of measured values	< 4350	
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	<ul> <li>typical values of distribution</li> </ul>	< 4150	V
at 5 kV/µs - for 99% of measured values < 5000 V Service life 300 operations 8/20 µs 100 A 3 operations 8/20 µs 3 kA 1 operation 8/20 µs 5 kA Insulation resistance at 100 V $_{DC}$ > 1 $_{Capacitance}$ at 1 MHz < 1 $_{Capacitance}$ Arc voltage at 1 A $_{Capacitance}$ Clow voltage at 0.1 A $_{Capacitance}$ Arc voltage at 0.1 A $_{Capacitance}$ Clow voltage at 0.1 A $_{Capacitance}$ Arc voltage at 0.1 A $_{Capacitance}$ Arc voltage at 0.1 A $_{Capacitance}$ Clow voltage $_{Capacitance}$ Clow V V V Clow Clow Clow Clow Clow Clow Clow Clow	at 1 kV/µs - for 99% of measured values	< 4500	V
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	<ul> <li>typical values of distribution</li> </ul>	< 4300	V
Service life $300 \text{ operations}  8/20 \ \mu s \qquad 100 \qquad A \\ 3 \text{ operations}  8/20 \ \mu s \qquad 3 \qquad kA \\ 1 \text{ operation}  8/20 \ \mu s \qquad 5 \qquad kA \\ \text{Insulation resistance at } 100 \ V_{DC} \qquad > 1 \qquad G\Omega \\ \text{Capacitance at } 1 \text{ MHz} \qquad < 1 \qquad pF \\ \text{Arc voltage at } 1 \text{ A} \qquad \sim 45 \qquad V \\ \text{Glow to arc transition current} \qquad < 0.3 \qquad A \\ \text{Glow voltage at } 0.1 \text{ A} \qquad V$	at 5 kV/µs - for 99% of measured values	< 5000	V
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	<ul> <li>typical values of distribution</li> </ul>	< 4500	V
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	Service life		
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	300 operations 8/20 µs	100	Α
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	3 operations 8/20 µs	3	kA
Capacitance at 1 MHz  Arc voltage at 1 A  Glow to arc transition current  Glow voltage at 0.1 A  Capacitance at 1 MHz  Capacitance a	1 operation 8/20 µs	5	kA
Arc voltage at 1 A Glow to arc transition current Glow voltage at 0.1 A  ~ 45 < 0.3 A V	Insulation resistance at 100 V <sub>DC</sub>	> 1	$G\Omega$
Glow to arc transition current Glow voltage at 0.1 A  Color voltage at 0.1 A	Capacitance at 1 MHz	< 1	pF
Glow to arc transition current < 0.3 A V	Arc voltage at 1 A	~ 45	V
	<u> </u>	< 0.3	Α
AC withstand voltage (1 min) 3) 1800 V	Glow voltage at 0.1 A	~ 240	V
<del>-</del> · · · · ·	AC withstand voltage (1 min) 3)	1800	V
Weight ~ 1 g	Weight	~ 1	g
Operation and storage temperature -40 +125 °C	Operation and storage temperature	-40 <b>+</b> 125	°C
Recommended storage	Recommended storage		
- temperature +5 +35 °C	- temperature	+5 +35	_
- humidity 45 80 %	•		%
- period ≤ 2 years	- period	≤ 2	years
Climatic category (IEC 60068-1) 40/125/21	Climatic category (IEC 60068-1)	40/125/21	

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PPD AB PD / PPD AB PM Version: 05 / 2019-07-05



## 2-electrode arrester

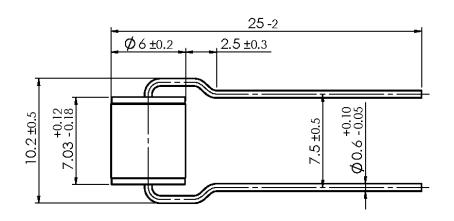
EHV63-H36T7

Marking, blue positive	EPCOS 3600 WWY 3600 - Nominal voltage WW - Calendar week of production Y - Year of production (last digit)
Certifications	UL 1449 (E319264) CAL US

<sup>1)</sup> At delivery AQL 0.65 level II, DIN ISO 2859

Terms and current waveforms in accordance with: ITU-T Rec. K. 12; IEC 61643-21; 61643-311.

# Dimensional drawing in mm





<sup>2)</sup> In ionized mode

Test conditions in acc. with MIL-STD-202G at 25 ±5 °C, relative humidity of ≤ 55% and atmospheric pressure 860 ... 1100mbar.

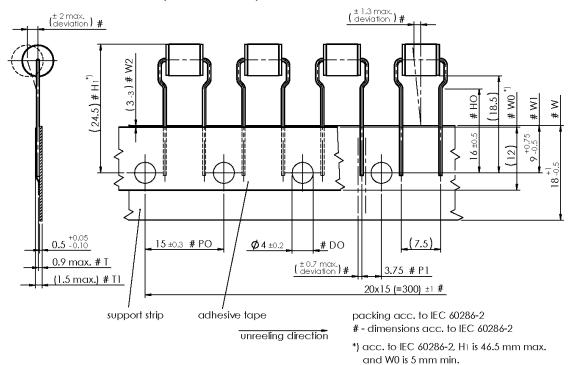


## 2-electrode arrester

EHV63-H36T7

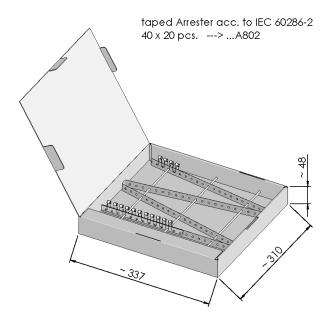
## Ordering codes and packing advices

B88069X2093**A802** = 800 pcs. in ammo pack



Tape force

- the extraction force for components in the tape plane, vertical to the direction of unreeling shall be ≥5 N
- break force of the tape ≥15 N



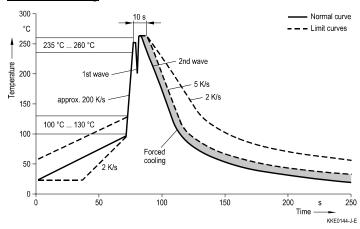
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#### 2-electrode arrester EHV63-H36T7

#### 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.
- Electromagnetic fields and ionizing radiation may affect the electrical characteristics of the arrester. The impact of such effects (inductive and capacitive field distortion from adjacent components) must be avoided by appropriate circuit design measures.
- 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.
- If the contacts of the surge arresters are defective, current load can cause sparks and loud noises.
- Surge arresters must be handled with care and must not be dropped.
- Do not continue to use damaged surge arresters.

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