Switching spark gap

SSG with lead wires

Series/Type:	**SSG3CX-1**
Ordering code:	**B88069X5903******
Date:	2019-07-19
Version:	01

Features

- Extremely long life time
- Stable performance over life
- Insensitive performance against variations in temperature
- Low switching losses
- Very short breakdown time
- High reliability by robust design
- RoHS compatible

Applications

- Ignition of HID lamps for video projection

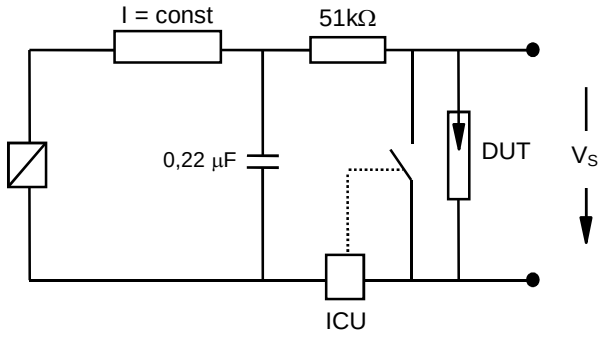
Electrical specifications

Nominal breakdown voltage V_n	3000	V
Initial values [2]		
Static breakdown voltage V_s [1]		
First ignition value $V_{s, fte}$ after 24 hours in darkness	≤ 3900	V
Following ignition values $V_{s, fiv}$	2550 ... 3540	V
Electrical life time [3]		
Breakdown voltage V_b		
First ignition value $V_{B, FTE}$ after 24 hours in darkness	≤ 4200	V
Following ignition values $V_{B, FIV}$	2400 ... 3600	V
Switching operations		
at 0 °C ... +100 °C	1000 000	Ignitions
Test circuit parameters		
Open circuit voltage V_o	4200	V
Loading resistance R	4000	kΩ
Discharge capacitance C	1.5	nF
Inductance L	7.5	µH
Discharge peak current I_p	50	A
General technical data		
Insulation resistance at 100 V	> 100	MΩ
Early ignition values below 2400 V	≤ 1	%
Breakdown time	≤ 50	ns
Maximum switching frequency	400	Hz
Weight	~ 2	g
Marking, red positive	**EPCOS 3000 YY O** 3000 - Nominal voltage YY - Year of production O - Non radioactive	

[1] At delivery AQL 0,65 level II, DIN ISO 2859
[2] Page 2, Fig. 1 and 2
[3] Page 2, Fig. 3 and 4

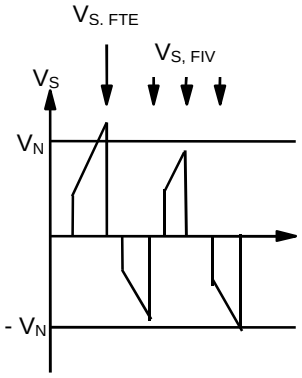
Test circuits

Fig. 1: QC- test circuit (100% outgoing inspection)



DUT device under test
ICU ignition control unit (sensitivity 10 ... 30 µA)
Discharge current 10 ... 20 mA

Fig. 2: Explanation of measurands



$dV_S/dt \sim dV_N/dt$

Fig. 3: QC- test circuit (sampling inspection at 25 °C)

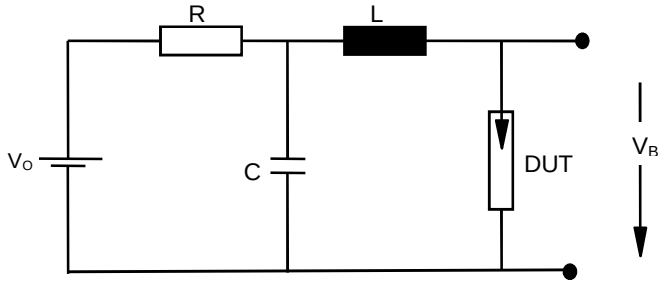
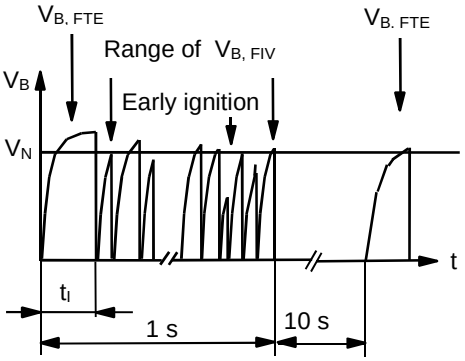
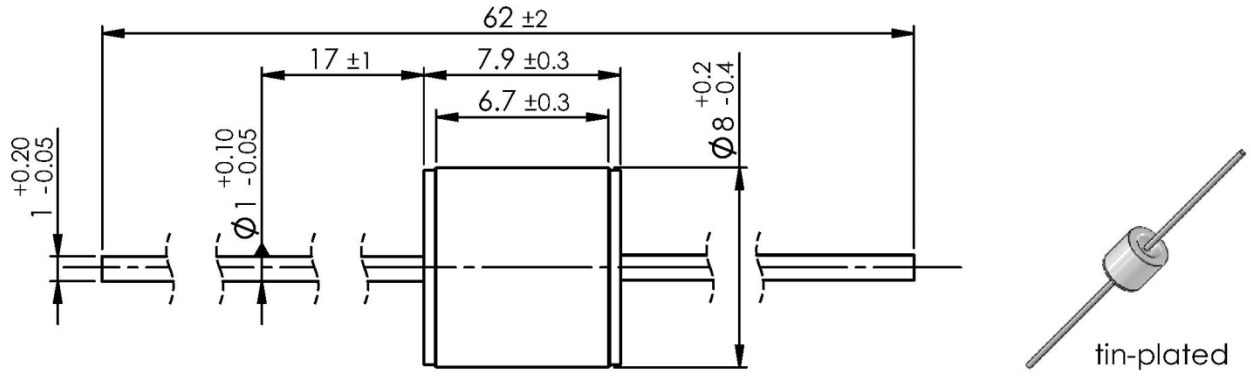


Fig. 4: Explanation of measurands

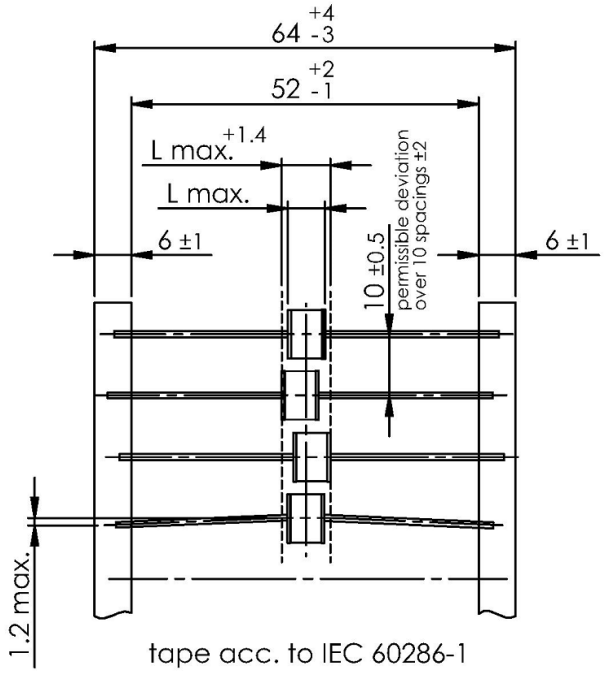


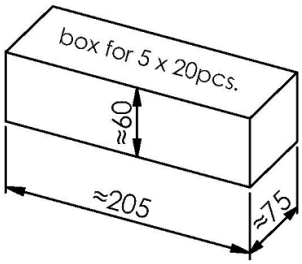
Dimensional drawing in mm



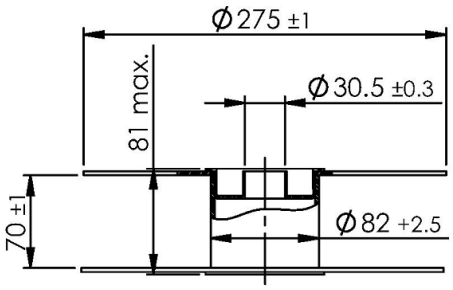
Ordering code and packing advice

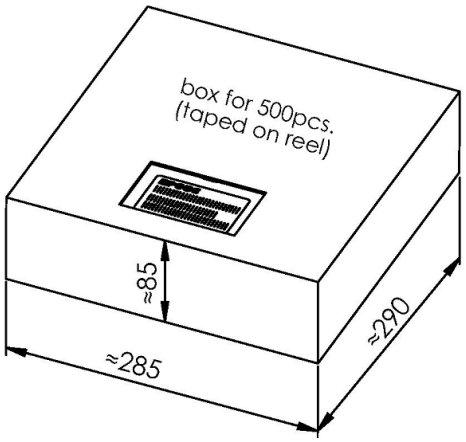
*B88069X5903**S102** = 100 pcs. on 5 taped stripes*





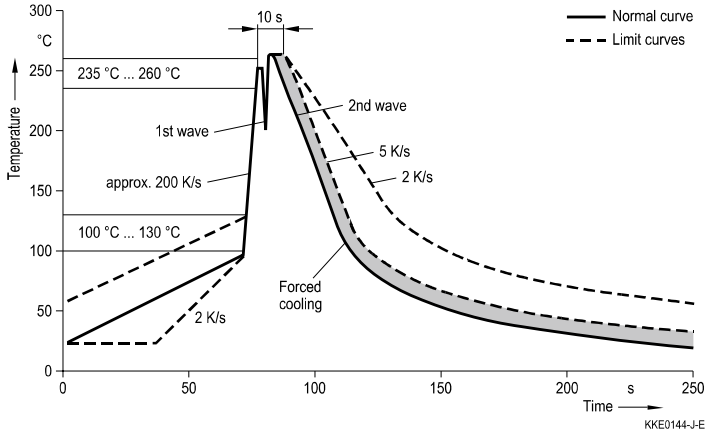
*B88069X5903**T502** = 500 pcs. on tape and reel*





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

- Switching spark gaps may become hot in case of longer periods of current stress (danger of burning).
- Electromagnetic fields and ionizing radiation may affect the electrical characteristics of the switching spark gaps. The impact of this kind of disturbances (inductive and capacitive comply, field distortion by nearby conductors) has to be avoided by circuit design.
- Switching spark gaps may be used only within their specified values. In case of overload, the head contacts may fail or the component may be destroyed.
- Switching spark gaps must be handled with care and must not be dropped.
- Damaged switching spark gaps must not be re-used.

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Release 2018-10