



Switching Spark Gap

SSG with lead wires

Series/Type: FS03X-1GS
Ordering code: B88069X6000T502
Version/Date: Issue 03 / 2006-01-12

Bosch ID-No. 1 237 320 004

Features	Applications
<ul style="list-style-type: none"> ▪ Extremely long life time ▪ Stable performance over life ▪ Insensitive performance against variations in temperature ▪ Very low switching losses ▪ Very short breakdown time ▪ High reliability by robust design ▪ RoHS compatible 	<ul style="list-style-type: none"> ▪ Ignition circuits ▪ High voltage switch

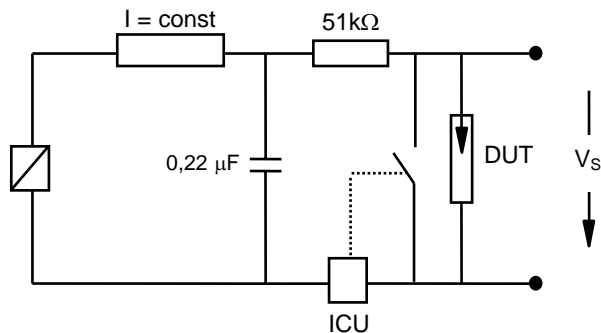
Electrical specifications

Nominal breakdown voltage V_N	400	V
Initial values ²⁾		
Static breakdown voltage V_S ¹⁾		
First ignition value $V_{S, FTE}$ after 24 hours in darkness	≤ 440	V
Following ignition values $V_{S, FIV}$	360 ... 430	V
Electrical life time ³⁾		
Breakdown voltage V_B		
First ignition value $V_{B, FTE}$ after 24 hours in darkness	≤ 450	V
Ignition time t_i at V_0 during life	≤ 200	ms
Following ignition values $V_{B, FIV}$	360 ... 440	V
Switching operations in total		
at $-40\text{ }^\circ\text{C}$	100 000	Ignitions
at $+25\text{ }^\circ\text{C}$	10 000	Ignitions
at $+125\text{ }^\circ\text{C}$	40 000	Ignitions
at $+125\text{ }^\circ\text{C}$	50 000	Ignitions
Test circuit parameters		
Open circuit voltage V_0	449 ... 450	V
Loading resistance R	61 ... 75	k Ω
Discharge capacitance C	423 ... 517	nF
Inductance L	1.5 ... 2.5	μH
Discharge peak current I_P , 8 half cycles, 850 V	max. 250	A
General technical data		
Insulation resistance at 100 V	> 10	M Ω
Early ignition values below 722 V	≤ 1	%
Breakdown time	≤ 50	ns
Maximum switching frequency	100	Hz
Maximum loading current	40	mA
Weight	~ 2	g
Marking, blue positive additional blue dot on ceramic	EPCOS 400 WWY O 400 - Nominal voltage WW - Calendar week of production Y - Year of production O - Non radioactive	

- 1) At delivery AQL 0,65 level II, DIN ISO 2859
- 2) Fig. 1 and 2
- 3) Fig. 3 and 4

Figures

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

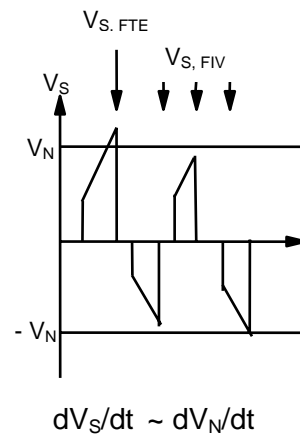


Fig. 3: QC- test circuit (sampling inspection at 25 °C)

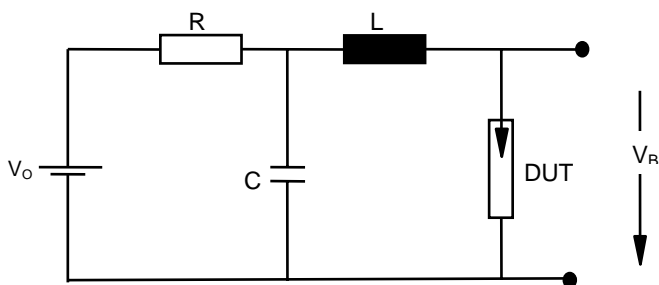
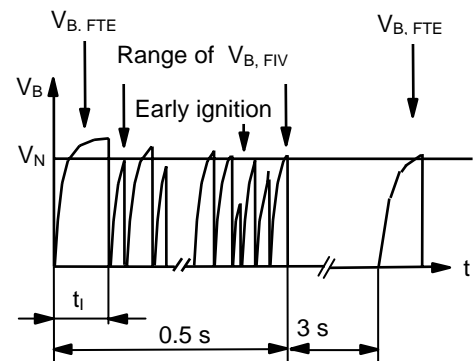
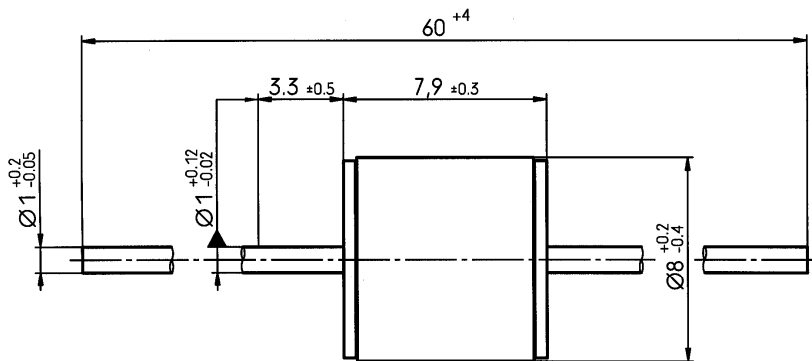


Fig. 4: Explanation of measurands



Dimensional Drawing


Not to scale

Dimensions in mm

Non controlled document

Basic material of wires: Cu-OF

Surface of wires:

1) silver-plated (6 ± 3) μm

2) tin-plated (25 ± 20) μm

Cautions and warnings

- Switching spark gaps may be used only within their specified values.
- Damaged switching spark gaps must not be re-used.

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