Switching spark gap

SSG with lead wires

Series/Type: **FS08X-1JG**
Ordering code: **B88069X3790T502**
Version/Date: Issue 03 / 2008-10-29

Features	Applications
▪ 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 compatibility	▪ Ignition circuits ▪ High voltage switch

Electrical specifications

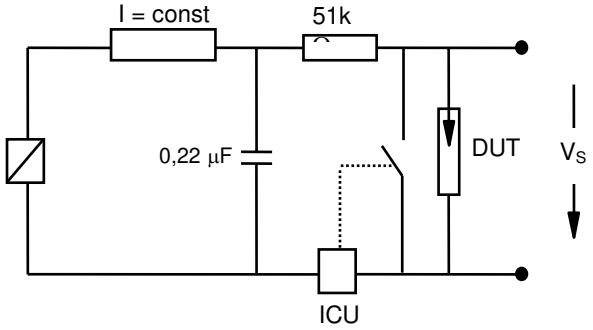
Nominal breakdown voltage V_N	800		V
Initial values [2]			
Static breakdown voltage V_S [1]			
First ignition value $V_{S, FTE}$ after 24 hours in darkness	≤ 950		V
Following ignition values $V_{S, FIV}$	704 ... 896		V
Electrical life time [3]			
Breakdown voltage V_B			
First ignition value $V_{B, FTE}$ after 24 hours in darkness	≤ 1000	**S.C.** [4]	V
Ignition time t_I at V_0 during life	≤ 60		ms
Following ignition values $V_{B, FIV}$	680 ... 920	**S.C.** [4]	V
Switching operations			
at – 40 °C	20 000		Ignitions
at + 25 °C	70 000	**S.C.** [4]	Ignitions
at +125 °C	70 000		Ignitions
at +150 °C	30 000		Ignitions
at +170 °C	10 000		Ignitions
(at –40 … +170 °C)	(total 200 000)		Ignitions
Test circuit parameters			
Open circuit voltage V_0	1000		V
Loading resistance R	68		kΩ
Discharge capacitance C	100		nF
Inductance L	0.5		µH
Discharge peak current I_P	~ 400		A
General technical data			
Max. static breakdown voltage at 100 kV/s	1300		V
Insulation resistance at 100 V	> 100	**S.C.** [4]	MΩ
Early ignition values < 680 V [5]	≤ 1		%
Breakdown time	≤ 50		ns
Maximum switching frequency	400		Hz
Maximum loading current	50		mA
Weight	~ 2		g

Marking, blue positive	**EPCOS 800 WWY O** 800 - 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) Page 2, Fig. 1 and 2
3) Page 2, Fig. 3 and 4
4) S.C. = **S**ignificant **C**haracteristic
5) No early ignition value < 500 V

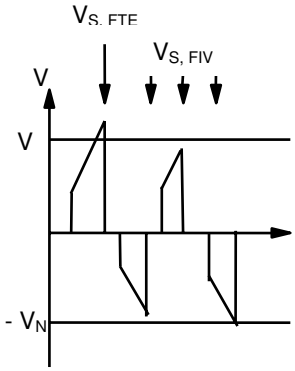
Figures

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



$dV_S/dt \sim dV_N/dt$

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

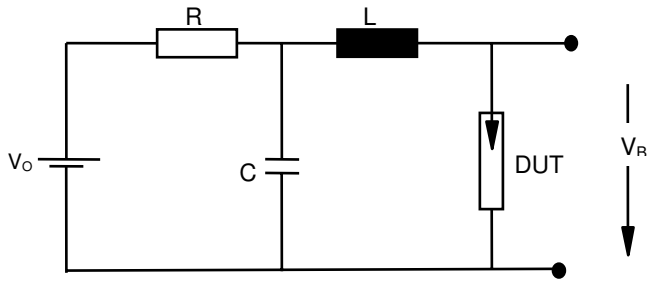
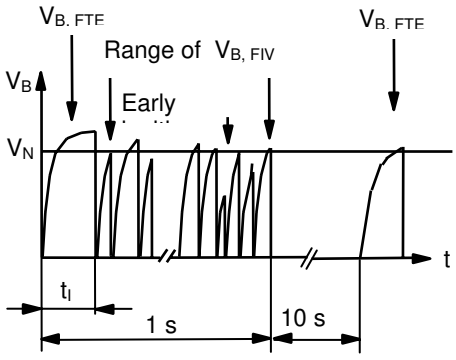
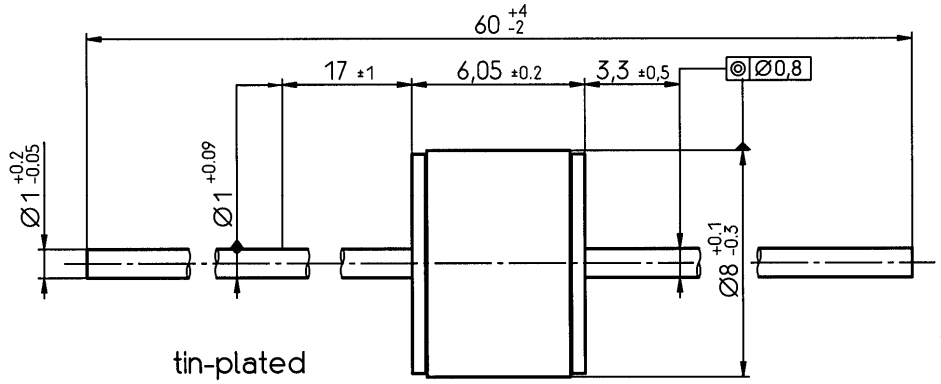


Fig. 4: Explanation of measurands



Dimensional Drawing



Not to scale

Dimensions in mm

Non controlled document

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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