



Switching spark gap

SSG with lead wires

Series/Type: FS04X-1JMG
Ordering code: B88069X0410T502
Version/Date: Issue 06 / 2009-06-29

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

Electrical specifications

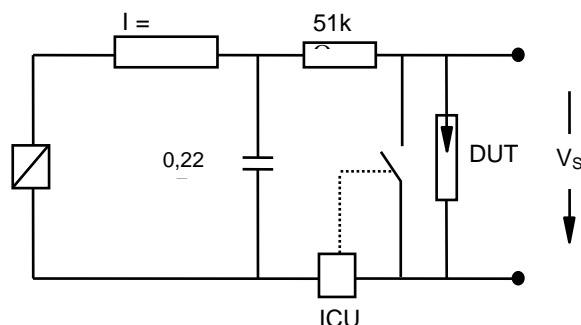
Nominal breakdown voltage V_N	400	V
Initial values		
Static breakdown voltage V_S ^{1) 2)}		
First ignition value $V_{S, FTE}$ after 24 hours in darkness	≤ 460	V
Following ignition values (selection limits)	360 ... 420	V
Following ignition values $V_{S, FIV}$	350 ... 430	V
Breakdown voltage V_B (measuring time 200 ms) ⁴⁾		
First ignition value $V_{B, FTE}$	≤ 460	V
Following ignition values $V_{B, FIV}$	340 ... 460	V
Electrical life time ³⁾		
Breakdown voltage V_B		
First ignition value $V_{B, FTE}$ initial after 24 hours in darkness	≤ 460	V
First ignition value $V_{B, FTE}$ after 24 hours in darkness	≤ 500	V
Following ignition values $V_{B, FIV}$	340 ... 460	V
Switching operations		
at - 40 °C Ignition time $t_i \leq 60$ ms ⁵⁾	60 000	Ignitions
at - 40 °C Ignition time $t_i \leq 200$ ms	100 000	Ignitions
at +25 °C Ignition time $t_i \leq 60$ ms	100 000	Ignitions
at +25 °C Ignition time $t_i \leq 200$ ms	200 000	Ignitions
at +125 °C Ignition time $t_i \leq 60$ ms	200 000	Ignitions
Test circuit parameters		
Open circuit voltage V_0	500	V
Loading resistance R	10	k Ω
Discharge capacitance C	680	nF
Inductance L	0.5	μ H
Discharge peak current I_P	~ 500	A

General technical data		
Insulation resistance at 100 V	> 100	MΩ
Early ignition values below 340 V	≤ 2	%
Breakdown time	≤ 50	ns
Maximum switching frequency	200	Hz
Maximum loading current	50	mA
Weight	~ 2	g
Marking, blue positive	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) Page 2, Fig. 1 and 2
- 3) Page 2, Fig. 3 and 4
- 4) Page 2, Fig. 3 and 4, 100 % outgoing inspection
- 5) After storage in darkness for 30 days

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

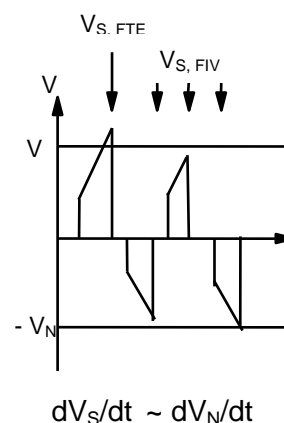


Fig. 3: QC- test circuit (sampling inspection at 25

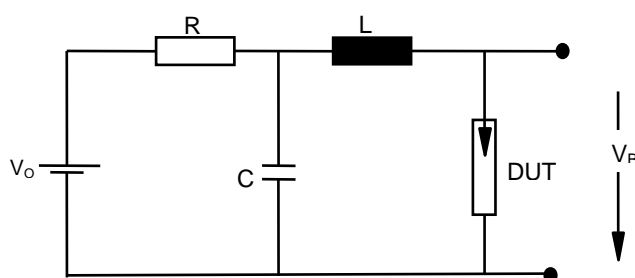
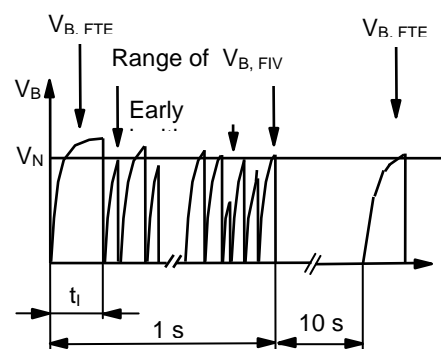
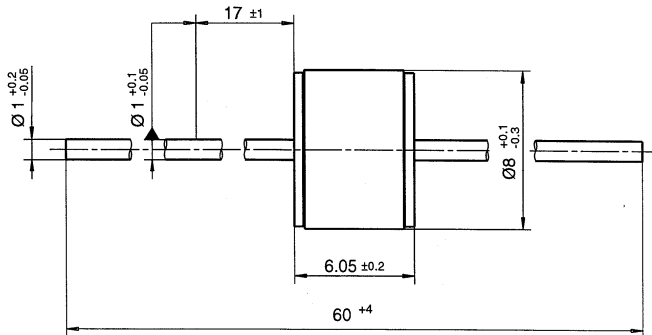


Fig. 4: Explanation of measurands



Dimensional drawing



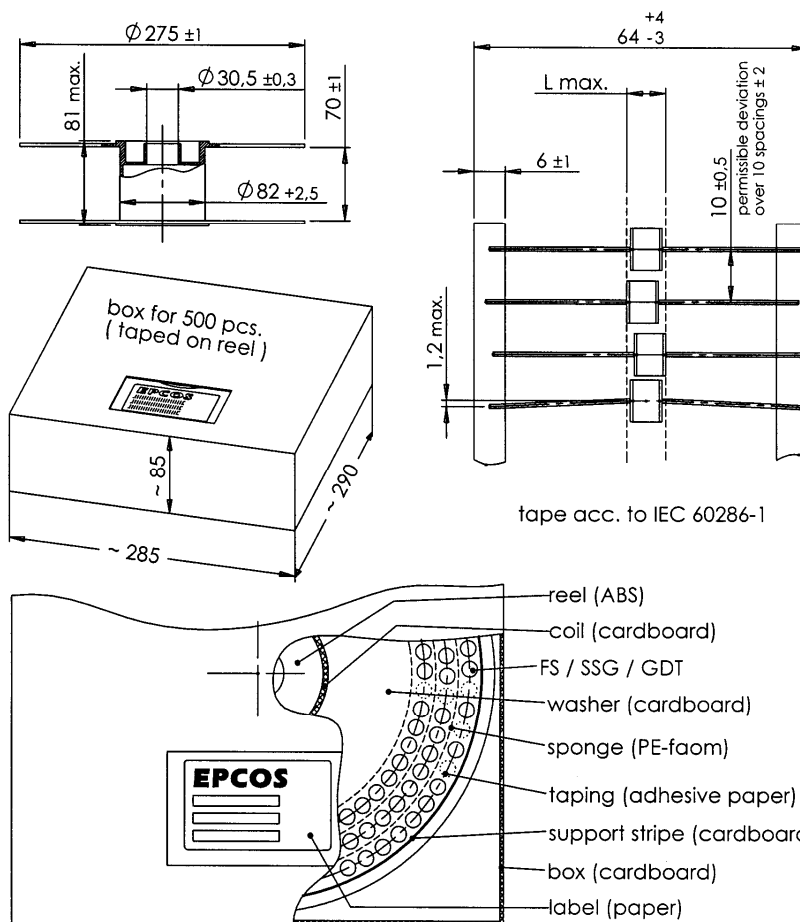
Not to scale

Dimensions in mm

Non controlled document

Packing advice

T502 = 500 pcs on tape and reel



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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