



## Switching spark gap

SSG with lead wires

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

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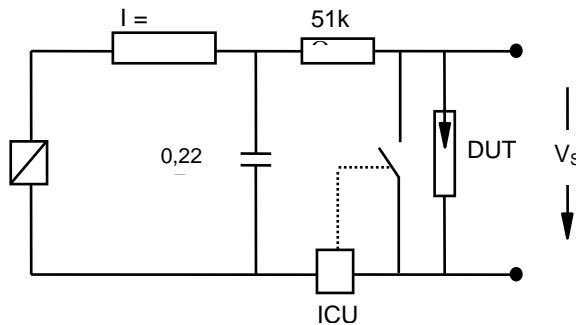
Features	Applications
<ul style="list-style-type: none"> <li>▪ Extremely long life time</li> <li>▪ Stable performance over life</li> <li>▪ Insensitive performance against variations in temperature</li> <li>▪ Extremely low switching losses</li> <li>▪ Very short breakdown time</li> <li>▪ High reliability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

**Electrical specifications**

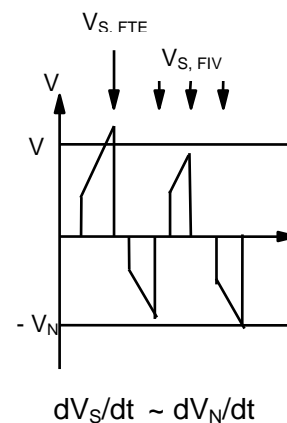
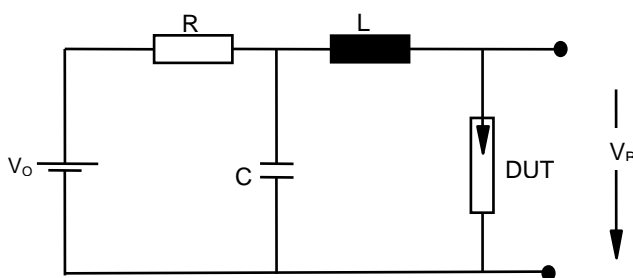
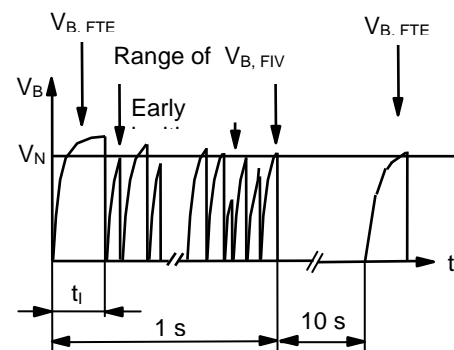
Nominal breakdown voltage $V_N$	400	V
Initial values		
Static breakdown voltage $V_S$ <sup>1) 2)</sup>		
First ignition value $V_{S, FTE}$ after 24 hours in darkness	≤ 460	V
Following ignition values (selection limits)	360 ... 420	V
Following ignition values $V_{S, FIV}$	350 ... 430	V
Breakdown voltage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

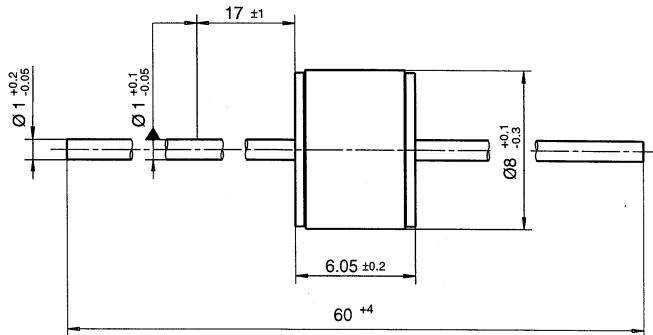
<b>General technical data</b> Insulation resistance at 100 V Early ignition values below 340 V Breakdown time Maximum switching frequency Maximum loading current Weight	$> 100$ $\leq 2$ $\leq 50$ 200 50 $\sim 2$	$M\Omega$ % ns Hz mA g
<b>Marking, blue positive</b>	<b>EPCOS 400 WWY O</b> 400 - Nominal 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  $\mu$ A)  
 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**


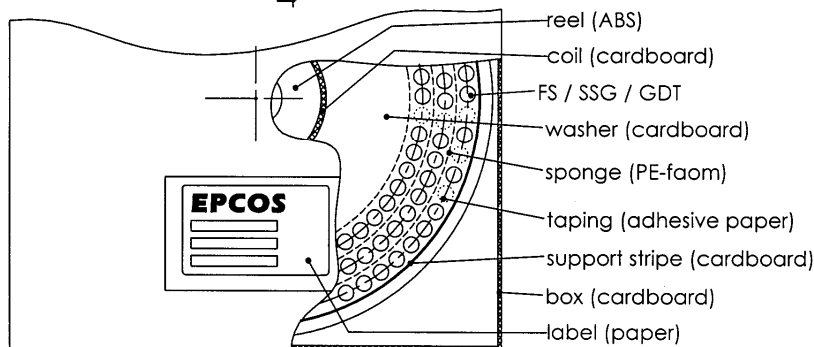
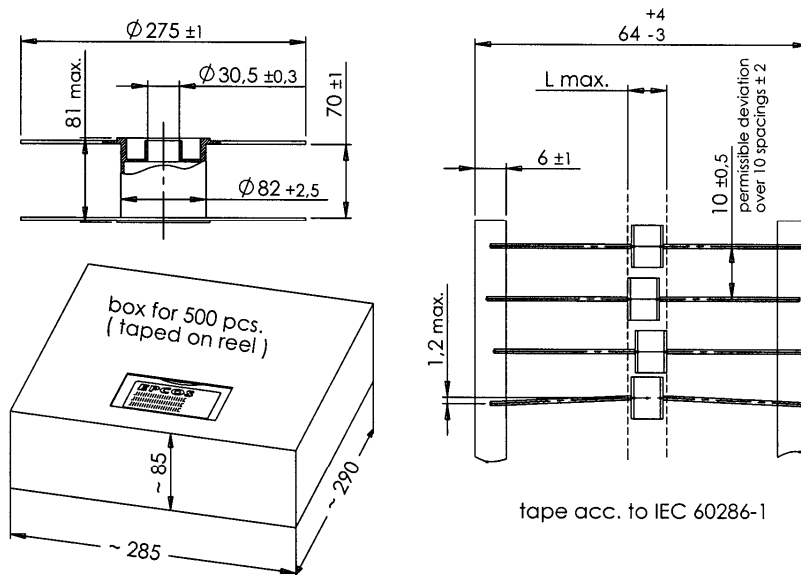
Not to scale

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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