



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832

Email & Skype: info@chipsmall.com Web: www.chipsmall.com

Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China





## 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"> <li>▪ Extremely long life time</li> <li>▪ Stable performance over life</li> <li>▪ Insensitive performance against variations in temperature</li> <li>▪ Very 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 circuits</li> <li>▪ High voltage switch</li> </ul>

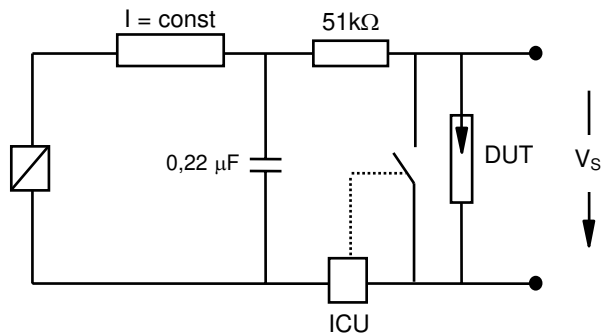
**Electrical specifications**

Nominal breakdown voltage $V_N$	400	V
Initial values <sup>2)</sup>		
Static breakdown voltage $V_S$ <sup>1)</sup>		
First ignition value $V_{S, FTE}$ after 24 hours in darkness	$\leq 440$	V
Following ignition values $V_{S, FIV}$	360 ... 430	V
Electrical life time <sup>3)</sup>		
Breakdown voltage $V_B$		
First ignition value $V_{B, FTE}$ after 24 hours in darkness	$\leq 450$	V
Ignition time $t_i$ at $V_0$ during life	$\leq 200$	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 $\Omega$
Discharge capacitance C	423 ... 517	nF
Inductance L	1.5 ... 2.5	$\mu\text{H}$
Discharge peak current $I_P$ , 8 half cycles, 850 V	max. 250	A
General technical data		
Insulation resistance at 100 V	$> 10$	M $\Omega$
Early ignition values below 722 V	$\leq 1$	%
Breakdown time	$\leq 50$	ns
Maximum switching frequency	100	Hz
Maximum loading current	40	mA
Weight	$\sim 2$	g
Marking, blue positive additional blue dot on ceramic	<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) Fig. 1 and 2
- 3) Fig. 3 and 4

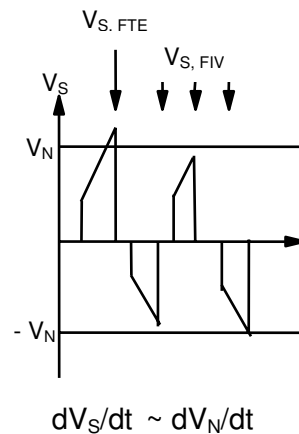
**Figures**

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

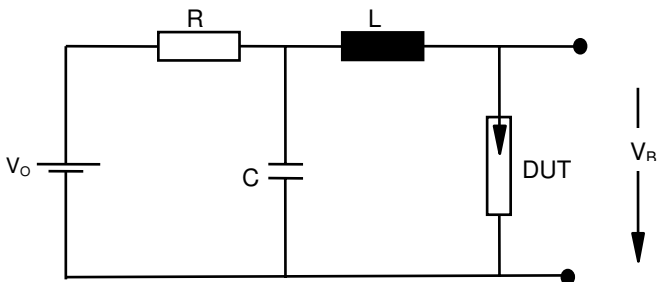


DUT device under test  
 ICU ignition control unit (sensitivity 10 ... 30 μA)  
 Discharge current 10 – 20 mA

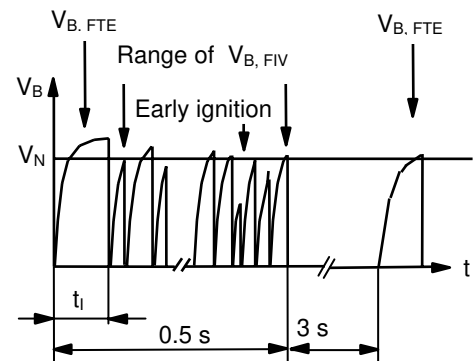
**Fig. 2:** Explanation of measurands



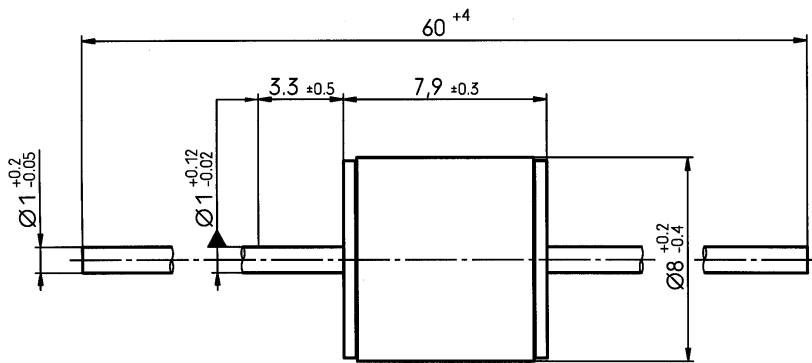
**Fig. 3:** QC- test circuit (sampling inspection at 25 °C)



**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 ( $6 \pm 3$ )  $\mu\text{m}$

2) tin-plated ( $25 \pm 20$ )  $\mu\text{m}$

### Cautions and warnings

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

## Important notes

The following applies to all products named in this publication:

1. Some parts of this publication contain **statements about the suitability of our products for certain areas of application**. These statements are based on our knowledge of typical requirements that are often placed on our products in the areas of application concerned. We nevertheless expressly point out **that such statements cannot be regarded as binding statements about the suitability of our products for a particular customer application**. As a rule, EPCOS is either unfamiliar with individual customer applications or less familiar with them than the customers themselves. For these reasons, it is always ultimately incumbent on the customer to check and decide whether an EPCOS product with the properties described in the product specification is suitable for use in a particular customer application.
2. We also point out that **in individual cases, a malfunction of passive electronic components or failure before the end of their usual service life cannot be completely ruled out in the current state of the art, even if they are operated as specified**. In customer applications requiring a very high level of operational safety and especially in customer applications in which the malfunction or failure of a passive electronic component could endanger human life or health (e.g. in accident prevention or life-saving systems), it must therefore be ensured by means of suitable design of the customer application or other action taken by the customer (e.g. installation of protective circuitry or redundancy) that no injury or damage is sustained by third parties in the event of malfunction or failure of a passive electronic component.
3. **The warnings, cautions and product-specific notes must be observed.**
4. In order to satisfy certain technical requirements, **some of the products described in this publication may contain substances subject to restrictions in certain jurisdictions (e.g. because they are classed as “hazardous”)**. Useful information on this will be found in our Material Data Sheets on the Internet ([www.epcos.com/material](http://www.epcos.com/material)). Should you have any more detailed questions, please contact our sales offices.
5. We constantly strive to improve our products. Consequently, **the products described in this publication may change from time to time**. The same is true of the corresponding product specifications. Please check therefore to what extent product descriptions and specifications contained in this publication are still applicable before or when you place an order.  
**We also reserve the right to discontinue production and delivery of products.** Consequently, we cannot guarantee that all products named in this publication will always be available.
6. Unless otherwise agreed in individual contracts, **all orders are subject to the current version of the “General Terms of Delivery for Products and Services in the Electrical Industry” published by the German Electrical and Electronics Industry Association (ZVEI)**.
7. The trade names EPCOS, CeraDiode, CSSP, PhaseCap, PhaseMod, SIFI, SIKOREL, SilverCap, SIMID, SIOV, SIP5D, SIP5K, TOPcap, UltraCap, WindCap are **trademarks registered or pending** in Europe and in other countries. Further information will be found on the Internet at [www.epcos.com/trademarks](http://www.epcos.com/trademarks).