



### Features

- Tight DC breakdown voltage tolerance ( $\pm 10\%$ )
- Long-life tungsten electrodes
- Rugged glass-to-metal seals

### Applications

- Test equipment
- Video displays
- Pulse generators

### Description

High Energy Devices' Sparkgap line of two electrode spark gaps excel in applications that require the efficient transfer of high voltage, high energy pulses and DC overvoltage protection for magnetrons, diodes, capacitors, etc. The SB series (.4-5.0kV) can reliably switch pulses having peak currents of several kiloamperes with energy contents as high as 50 joules. The larger SG series (2.0-40.0kV) can reliably switch pulses having peak currents of several kiloamperes and energy contents as high as 100 joules.

### Ordering Information

A complete part number is represented by the digits below. Breakdown voltages are expressed in Volts for devices <1000V and kV for devices  $\geq 1$ kV. For example, SB400 is a 400V SB series device and SG10.0 is a 10kV SG series device.

### Standard Voltages

Series	DC Breakdown Voltage (Nom)	Unit
SB	400	V
	600	V
	800	V
	1.0	kV
	1.5	kV
	2.0	kV
	3.0	kV
	4.0	kV
	5.0	kV
SG	2.0	kV
	5.0	kV
	10.0	kV
	15.0	kV
	20.0	kV
	25.0	kV
	30.0	kV
	35.0	kV
40.0	kV	

Devices in the SB/SG Series with other breakdown voltages in the .4-40.0kV range are available upon request.

Product Series / Part Number	Breakdown Voltage
SBXXX	400-800V
SBX.X	1.0-5.0kV
SGX.X	2.0-9.0kV
SGXX.X	10.0-40.0kV

All Sparkgaps are available with .360 O.D. x .406 endcaps or .250 O.D. x .270 endcaps.

## Specifications (@25°C)

Parameter	Conditions	Symbol	SB400			SB600			SB800			Units
			Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	
<b>Device Specifications</b>												
DC Breakdown	100V/s	$V_{BD}$	360	400	440	540	600	660	720	800	880	V
Insulation Resistance	100V	IR	-	$10^{10}$	-	-	$10^{10}$	-	-	$10^{10}$	-	$\Omega$
Dimension A		-	-	-	0.470	-	-	0.470	-	-	0.470	inches
<b>Life Ratings</b>												
Surge Life	3kA (PW=15 $\mu$ s)	-	1100	-	-	1100	-	-	1100	-	-	surges
Pulse Energy		-	-	50	-	-	50	-	-	50	-	J

## Specifications (@25°C)

Parameter	Conditions	Symbol	SB1.0			SB1.5			SB2.0			Units
			Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	
<b>Device Specifications</b>												
DC Breakdown	100V/s	$V_{BD}$	0.9	1.0	1.1	1.35	1.50	1.65	1.8	2.0	2.2	kV
Insulation Resistance	100V	IR	-	$10^{10}$	-	-	$10^{10}$	-	-	$10^{10}$	-	$\Omega$
Dimension A		-	-	-	0.470	-	-	0.480	-	-	0.480	inches
<b>Life Ratings</b>												
Surge Life	3kA (PW=15 $\mu$ s)	-	1100	-	-	1100	-	-	1100	-	-	surges
Pulse Energy		-	-	50	-	-	50	-	-	50	-	J

## Specifications (@25°C)

Parameter	Conditions	Symbol	SB3.0			SB4.0			SB5.0			Units
			Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	
<b>Device Specifications</b>												
DC Breakdown	100V/s	$V_{BD}$	2.7	3.0	3.3	3.6	4.0	4.4	4.5	5.0	5.5	kV
Insulation Resistance	100V	IR	-	$10^{10}$	-	-	$10^{10}$	-	-	$10^{10}$	-	$\Omega$
Dimension A		-	-	-	0.500	-	-	0.520	-	-	0.520	inches
<b>Life Ratings</b>												
Surge Life	3kA (PW=15 $\mu$ s)	-	1100	-	-	1100	-	-	1100	-	-	surges
Pulse Energy		-	-	50	-	-	50	-	-	50	-	J

## Specifications (@25°C)

Parameter	Conditions	Symbol	SG2.0			SG5.0			SG10.0			Units
			Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	
<b>Device Specifications</b>												
DC Breakdown	100V/s	$V_{BD}$	1.8	2.0	2.2	4.5	5.0	5.5	9.9	10.0	11.0	kV
Insulation Resistance	100V	IR	-	$10^{10}$	-	-	$10^{10}$	-	-	$10^{10}$	-	$\Omega$
Dimension A		-	-	-	2.20	-	-	2.20	-	-	2.20	inches
Dimension B		-	-	-	0.60	-	-	0.60	-	-	0.60	inches
<b>Life Ratings</b>												
Surge Life	3kA (PW=15 $\mu$ s)	-	1500	-	-	1500	-	-	1500	-	-	surges
Pulse Energy		-	-	100	-	-	100	-	-	100	-	J

## Specifications (@25°C)

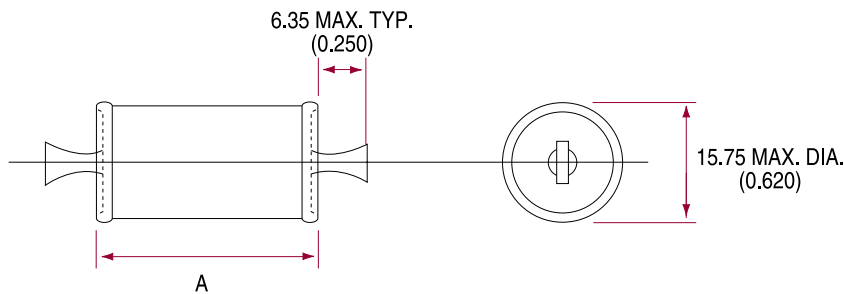
Parameter	Conditions	Symbol	SG15.0			SG20.0			SG25.0			Units
			Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	
<b>Device Specifications</b>												
DC Breakdown	100V/s	$V_{BD}$	13.5	15.0	16.5	18.0	20.0	22.0	22.5	25.0	27.5	kV
Insulation Resistance	100V	IR	-	$10^{10}$	-	-	$10^{10}$	-	-	$10^{10}$	-	$\Omega$
Dimension A		-	-	-	2.20	-	-	3.04	-	-	3.04	inches
Dimension B		-	-	-	0.60	-	-	1.21	-	-	1.21	inches
<b>Life Ratings</b>												
Surge Life	3kA (PW=15 $\mu$ s)	-	1500	-	-	1500	-	-	1500	-	-	surges
Pulse Energy		-	-	100	-	-	100	-	-	100	-	J

## Specifications (@25°C)

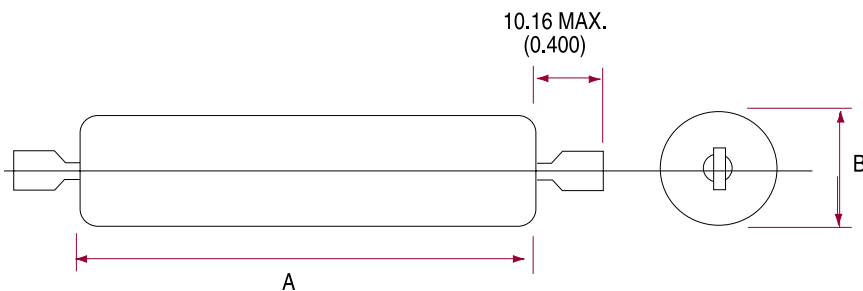
Parameter	Conditions	Symbol	SG30.0			SG35.0			SG40.0			Units
			Min	Nom	Max	Min	Nom	Max	Min	Nom	Max	
<b>Device Specifications</b>												
DC Breakdown	100V/s	$V_{BD}$	27.0	30.0	33.0	31.5	35.0	38.5	36.0	40.0	44.0	kV
Insulation Resistance	100V	IR	-	$10^{10}$	-	-	$10^{10}$	-	-	$10^{10}$	-	$\Omega$
Dimension A		-	-	-	3.32	-	-	3.32	-	-	3.57	inches
Dimension B		-	-	-	1.21	-	-	1.21	-	-	1.21	inches
<b>Life Ratings</b>												
Surge Life	3kA (PW=15 $\mu$ s)	-	1500	-	-	1500	-	-	1500	-	-	surges
Pulse Energy		-	-	100	-	-	100	-	-	100	-	J

## MECHANICAL DIMENSIONS mm/(inches)

### SB Series



### SG Series



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