

HIGH ENERGY DEVICES



Selection Guide

Product Family	Spark Gaps			
Voltage Range	200-50,000V			
Series [Notes 3, 4]	BX	SB [Note 5]	SG [Note 5]	TG Legacy [Note 6]
Description	Two Electrode Miniature Ceramic-Metal Low Cost	Two Electrode High Energy Glass-Metal Ignition and Safety Tungsten Electrodes With Ferrule End Covers	Two Electrode High Energy Glass-Metal Ignition and Safety Tungsten Electrodes With Axial Rod Configuration	Two Electrode High Energy Glass-Metal Utility Spark Gaps
DC @ 100V/s	2,000-20,000V	400-5,000V	2,000-40,000V	200-50,000V
Impulse @ 100V/ μ s	4,000-27,500V	[Note 9]	[Note 9]	[Note 9]
IR @ 100Vdc	10^{10} Ohms	10^{10} Ohms	10^{10} Ohms	10^{10} Ohms
Surge Life Ratings	10,000 surges @ 5,000A (0.7 Joules) $V_{BD} = 4,500V$	1,100 surges @ 3,000A (1/15)	1,500 surges @ 3,000A (1/15)	1,100-1,500 surges @ 3,000A (1/15)
Maximum Surge Current Ratings @ 8/20 μ s	10,000A	5,000A	5,000A	5,000-10,000A
Cumulative Charge Ratings [Note 8]	6 Coulombs	50 Coulombs	68 Coulombs	50-68 Coulombs
Applications	Avionic Military Industrial Medical	Avionic Military Industrial Laboratory R & D Medical Repetitive Switching		Avionic Military Industrial Laboratory R & D Medical Repetitive Switching

V_{BD} = DC Breakdown Voltage

Note (3) Specifications listed for Impulse Breakdown and Capacitance are maximum values while IR specifications are nominal values and Surge Life specifications are minimum values.

Note (4) The range of values corresponds to the low and high member of the Series.

Note (5) The SB and SG gaps are made with tungsten electrodes and designed for long life under repetitive discharge conditions.

Note (6) The TG Legacy Series includes glass-metal spark gaps consisting of various electrode designs. The series includes coaxial rod electrodes made with tungsten discs, spherical electrodes made with stainless steel electrodes and saucer shaped gaps having parallel electrodes made of tantalum. Refer to the Data Sheet for configuration details.

Note (8) Life ratings on select members of a Series are determined by laboratory tests and are dependent on the cumulative charge, in coulombs (Q), that is passed during the tests. By similarity, the Life Rating of the gaps of a Series, tested with different waveforms, can be approximated by dividing the Cumulative Charge Rating by the charge content in the given waveform that is passed without changing its DC Breakdown Voltage by more than 20%. The coulomb content of any surge current can be approximated by determining the area under the current waveform.

Note (9) The Impulse Breakdown for these Series has been measured at a pulse repetition rate of 400 pulses per second with a pulse of (0.5/1.0) microseconds. Typical values of breakdown voltages are 10-25% greater than the DC Breakdown.