e2v technologies

GXF Series
2-electrode Spark Gaps

The data should be read in conjunction with the 2-electrode Spark Gap Preamble.

DESCRIPTION

The GXF Series of 2-electrode spark gaps are gas discharge tubes, hermetically sealed in a convoluted ceramic/metal envelope and suitable for use under severe environmental conditions. Tubes with a DC breakdown voltage in the range 500 V to 40 kV are available. This is signified by a numeral or numerals following the type letters and is expressed in hundreds of volts, e.g. GXF5 has a 500 V DC breakdown voltage and GXF400 has a 40 kV DC breakdown voltage.

TYPICAL APPLICATIONS

- Protection of transmitting or power line equipment
- Transient protection against lightning or EMP
- General high energy switching
- Single-shot pulse generators

ELECTRICAL AND PHYSICAL CHARACTERISTICS

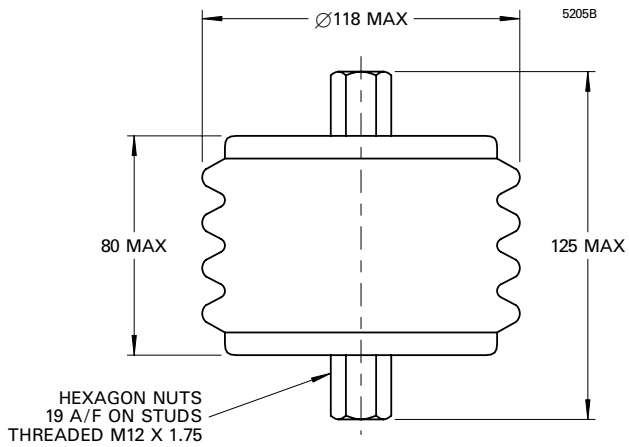
All ratings given in this data sheet are absolute, non-simultaneous ratings. It is the equipment designer's responsibility to ensure that they are not exceeded. The spark gap life depends on circuit conditions such as peak discharge current and duration, charge transfer per discharge and the repetition rate.

DC breakdown voltage range	500 V to 40 kV
Breakdown voltage tolerance	±10%
Impulse ratio, measured at 15 kV/μs (no test data above 10 kV dc)	7.4 max at 500 V dc 1.8 max at 10 kV dc
Peak current, single discharge (8/20 μs waveshape)	100 kA max
Charge transfer, single discharge (8/20 μs waveshape)	1.5 C max
Capacitance	50 pF max
Operating temperature	−20 to +90 °C
Mechanical shock, half-sine	40 g for 6 ms
Mounting	one connection must be flexible
Maximum torque, end to end	16 Nm
Net weight	900 g approx
Radioactivity (see note)	tritium (^{3}H), 29.7 MBq max per device

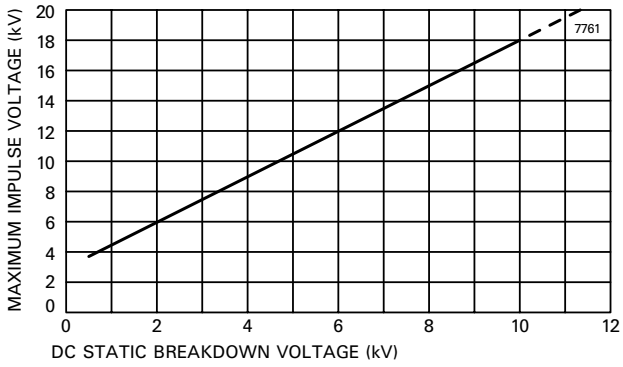
Note: GXF series spark gaps with DC breakdown voltages up to 10 kV contain tritium (^{3}H), a radioactive gas, to ensure consistency of operation. Users should ensure they comply with relevant national legislation regarding radioactive substances.

GXF series spark gaps with DC breakdown voltages greater than 10 kV contain no radioactive material.

OUTLINE (All dimensions in millimetres)



MAXIMUM IMPULSE BREAKDOWN VOLTAGE AT 15 kV/μs



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