



RU91

TRIGGERED SPARK GAPS

GENERAL INFORMATION AND APPLICATIONS

The RU91-series of triggered spark gaps are gas-discharge tubes, hermetically sealed in ceramic/metal envelope. Switches with a DC hold-off voltages ranging from 20 to 150 kV are available.

They are suitable for capacitor switching applications such as flash lamps, gas lasers, medical lithotripters, and as crowbar protection devices.

CAUTION! EXTREMELY HIGH PRESSURE INSIDE!

PRODUCT SPECIFICATIONS

Specification	Unit	Maximum Value
Self-Breakdown Voltage Range (SBV) ^(Note 1,2)	kV	20...150
Peak Current, single discharge ^(Notes 3,4)	kA	5
Repetition Rate ^(Note 5)	pps	50
Switching Energy, single discharge ^(Note 6)	J	500
Anode Current Pulse Width (FWHD)	µs	0.5
Minimal Trigger Voltage	% SBV	50 - 150
Typical Life @100J per shot ^(Note 7)	shots	10 000
Operating Temperatures	°C	-60 ... +150

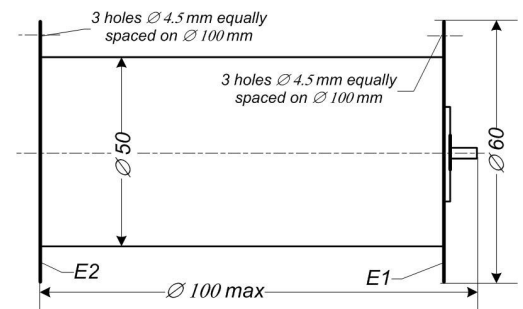
Important! All ratings given in this data sheet are absolute, non-simultaneous ratings. It is the equipment designer's responsibility to ensure that they are not exceeded. The spark gap life depends on circuit conditions such as peak discharge current and duration, charge transfer per discharge and the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

NOTES

- 1) The tubes are manufactured with any SBV within the limits indicated. Operating voltage range ($U_{max} - U_{min}$) for a specific tube is defined by SBV. Optimum breakdown voltage is typically 40 to 80% of SBV. Operation at SBV value may result in self-firing over time.
- 2) For voltages over 30kV immersion into oil or SF6 is required. Dielectric strength of environment must be more than the upper limit of operating SBV. It is recommended to use solid insulation on protruding parts of the tube.
- 3) Current pulse waveform - damped sinusoid with the second half-wave amplitude not more than 20 % of the first half-wave.
- 4) The tube can be operated with peak currents up to 100 kA, however limiting the peak current can increase spark gap life.
- 5) The life of a spark gap increases with decreasing repetition rate. Recovery time with low duty operation is very short (microseconds) and high repetition rates are possible.
- 6) Long life depends on even distribution of the discharge around the electrodes. The electromagnetic fields generated by the discharge may be sufficient to produce a preferred discharge path which in turn might lead to excessive local erosion and reduced life.
- 7) In case of reduction of switching energy and operating voltage range the lifetime can be increased up to 1 million shots total.
- 8) Before putting into operation it is recommended to make a static conditioning of the tube, gradually increasing voltage and using a current limiting resistor ~6 Ohm.

OUTLINE

(all dimensions are in millimeters)



ORDERING INFORMATION

- RU91-X X – SBV value.
- Please indicate your impulse voltage requirements, switching capacitance/energy per shot and pulse repetition rate.