



# RK2M

## 2-ELECTRODE SPARK GAP

### GENERAL INFORMATION AND APPLICATIONS

The RK2M-series of 2-electrode spark gaps are compact high-pressure gas-discharge tubes, hermetically sealed in a ceramic-metal envelope. The dynamic breakdown voltage (the voltage at which the gap breaks down under transient conditions) is incredibly close to their static breakdown voltage.

The tubes are suitable for capacitor switching applications, including turbine engine ignition and x-ray pulse systems. The design of the tubes is protected by Russian patent #108224 (priority 11/09/2009).

*THE SWITCH DOES NOT CONTAIN ANY RADIOACTIVE, TOXIC HAZARDOUS SUBSTANCES.*

### PRODUCT SPECIFICATIONS

| Specification   | Unit    | Maximum Value |
|---|---------|---------------|
| DC breakdown voltage range (SBV) <sup>(Note 1)</sup>  | kV      | 0.5...5       |
| Impulse ratio (8/20 us waveshape) <sup>(Note 2)</sup> | -       | <1.5          |
| Breakdown voltage tolerance within the lifetime       | %       | <15           |
| Peak current (8/20 μs) <sup>(Notes 3,4)</sup>         | kA      | 5             |
| Charge transfer, single discharge (8/20 μs)           | Coulomb | 4             |
| Pulse repetition rate                                 | Hz      | 100           |
| Insulation Resistance                                 | MΩ      | > 20          |
| Operating temperatures                                | °C      | -60 ... +200  |
| Net weight  | g       | 20            |

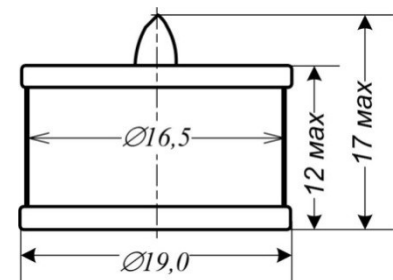
**Important!** All ratings given in this data sheet are absolute, non-simultaneous ratings. It is the equipment designer's responsibility to ensure that they are not exceeded. The spark gap life depends on circuit conditions such as peak discharge current and duration, charge transfer per discharge and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

### NOTES

- 1) Each overvoltage gap is manufactured with a specific static (or DC) breakdown voltage (SBV). This voltage can be set anywhere within the available min-max range. The SBV is specified by the addition of a dash number to the part number, giving the SBV in kilovolts.
- 2) Impulse ratio is measured at dynamic breakdown voltage with rise rate of 15 kV/μs = 3 max @ 1.0 kV; less than 1.5 @ > 10.0 kV dc. The dynamic breakdown voltage is a function of the rate of rise of the applied voltage (dv/dt). In general, it will be higher for higher dv/dt.
- 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 10 kA, however limiting the peak current can increase spark gap life.

### OUTLINE

(all dimensions are in millimeters)



### ORDERING INFORMATION

- RK2M-X; X – DC breakdown voltage.
- Please indicate your impulse voltage requirements, switching capacitance/energy per shot and pulse repetition rate.