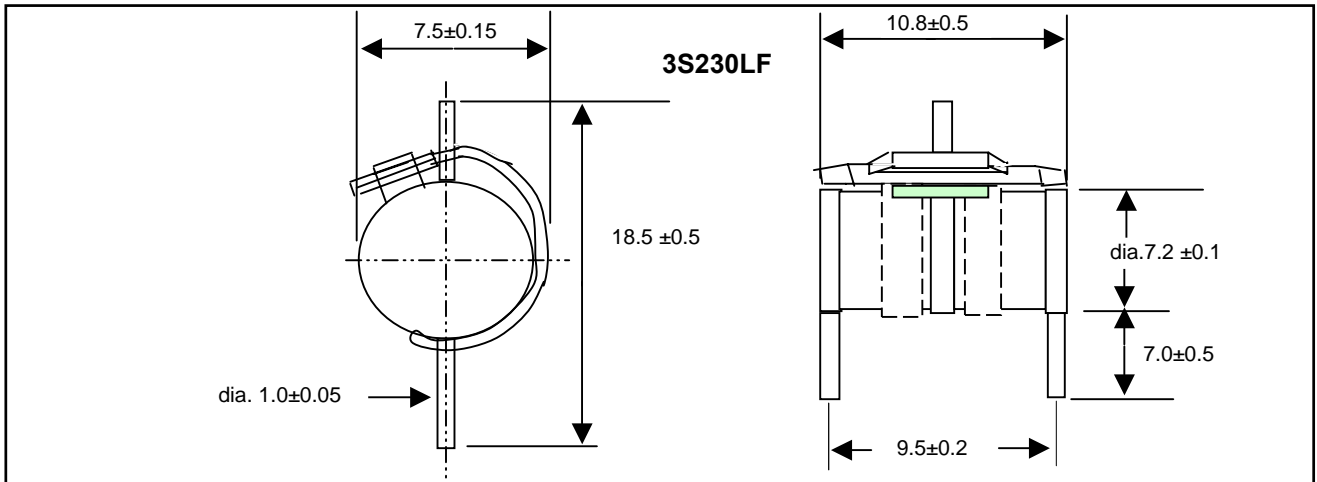


**HAKEL GAS DISCHARGE TUBES - SALIENT FEATURES**

- \* Stable breakdown voltage
- \* High insulation resistance; enables the use in high temperature and humidity
- \* Small capacitance; minimises transmission loss and noise even with high frequency range
- \* High durability against surges and fast restorability
- \* Long life
- \* Free of radioactive substance
- \* Inexpensive for superior performance
- \* High mechanical strength prevents leak and breakdown from strong shock
- \* Various types available



Type 3 TERMINAL CERAMIC TYPE GD TUBE - 3S230LF			
Sl. No.	Description	Test Condition	Specification
<b>ELECTRICAL CHARACTERISTICS, Test Methods as per ITU-T (CCITT) K.12</b>			
1	D.C Spark-Over Voltage	100V/Sec	230 $\pm$ 20%
2	Impulse Spark-Over Voltage	100V/ $\mu$ sec	<500V
3	Impulse Spark-Over Voltage	1000V/ $\mu$ sec	<650V
4	Impulse Transverse Delay	1000 V/ $\mu$ sec	< 75ns
5	Insulation Resistance	100V	>10 <sup>10</sup> Ohm
6	Glow Voltage	10 mA	< 70 V
7	Arc Voltage	2 A	< 10 V
8	Capacitance	1 M Hz	< 1.5 pF
9	DC Holdover Voltage	135 V	< 150 ms
10	Impulse Discharge Current	10000 A, 8/20 $\mu$ sec	10 Operations
		200 A, 10/700 $\mu$ sec	500 Operations
		200 A, 10/1000 $\mu$ sec	300 Operations
11	Alternating Discharge Current	10 A r.m.s, 1 sec	10 Operations
12	Fail-safe Operating Time	10 A r.m.s.	< 5 Sec

**NOTES:**

1. All dimensions are in mm
2. Electrodes are nickel plated where as all lead terminals are Tin plated.
3. Marking on the GD Tube
  - 3S230LF
  - 3 : 3 Terminal GD Tube
  - S : Dimension
  - 230 : 230 Volts
  - L : With leads
  - F : With Fail-safe Mechanism
  - HAKEL : Manufacturer
  - MM : Month of manufacture
  - YY : Year of manufacture
4. The above model is also available without fail safe mechanism which is named as 3S230L
5. This model can be supplied without Leads, namely 3S230F
6. Blister Packing