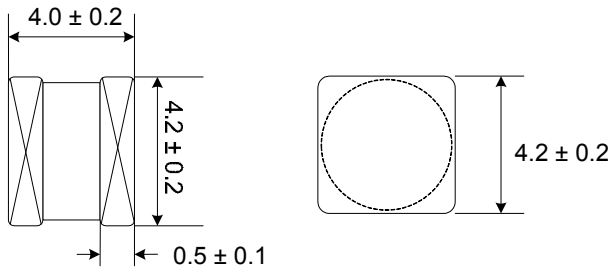
2R-4S SERIES
GAS DISCHARGE TUBES

Gas discharge tubes (GDT) use noble gasses enclosed in ceramic tubes to provide an alternate circuit path for voltage spikes.The ceramic envelope and with nickel connectors allow for high loads and Ruilon offers products that function at 20KA,40KA,50KA,60KA,100KA&150KA.The breakdown voltages of the devices have a wide range (up to 20% tolerance).Major applications are high frequency telecommunication lines,stations, security systems,HID and high quality Surge Protection Devices (SPD).

Features

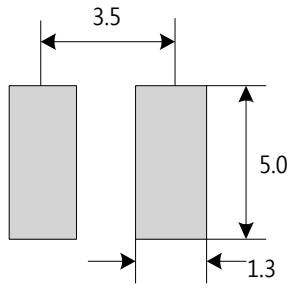
- Size:4.2mm*4.0mm
- DC Spark-over voltage: 75~2000V
- Stable breakdown voltage.
- High insulation resistance.
- Low capacitance (<1pF)
- High holdover voltage.
- Large absorbing transient current capability.
- Low Capacitance
- Micro-Gap Design



Applications

- Cable Modem
- xDSL
- Set-Top Box
- Satellite and CATV equipment
- Power supplier
- Consumer electronics
- General telecom equipment

RoHS COMPLIANT



Product Name

2	R	X	X	X	-	4	S

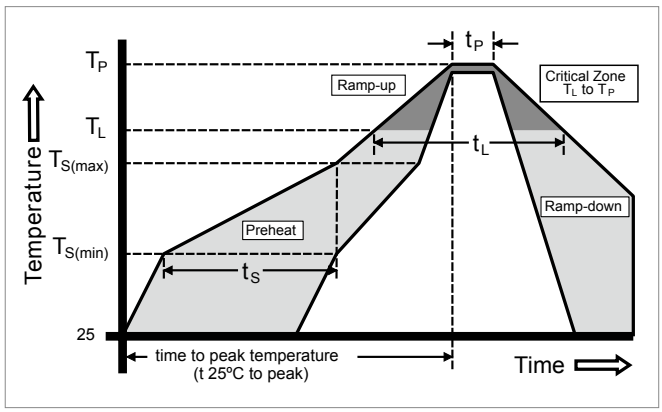
Stable breakdown voltage	DC Spark-over Voltage	Dimensions	Lead Type
2R : 2 Electrodes		4 : 4.2mm*4.0mm	S:SMD

Electriacl Characteristics

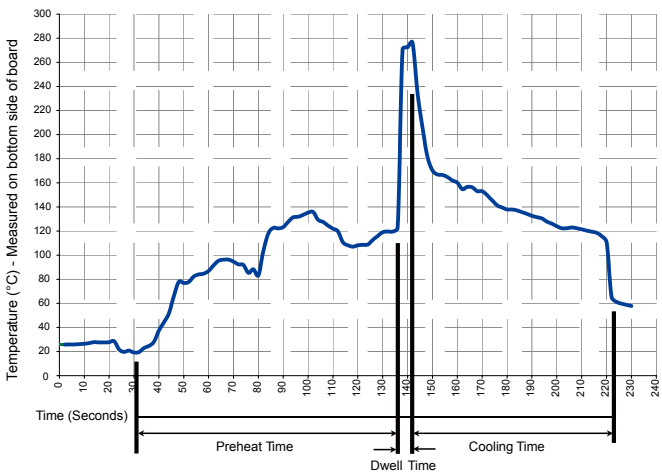
Part Number	DC Spark-over Voltage	Maximum Impulse Breakdown Voltage		Max. Impulse Discharge Current (8/20μs)		Impulse Life (10/1000μs)	Normal Alternating Discharge Current		DC Holdover Voltage	Minimum Insulation Resistance	Maximum Capacitance (1MHz)
	100V/S	100V/μs	1KV/μs	1 times	10 times	300 A	50Hz 1Sec	Single 9 Cycles	<150ms		
	(V)	(V)	(V)	(KA)		Times	(A)		(V)	(GΩ)	(pF)
2R075-4S	75±20%	700	800	5	3	300	3	6	52	1	0.5
2R090-4S	90±20%	700	800	5	3	300	3	6	52	1	0.5
2R150-4S	150±20%	600	800	5	3	300	3	6	80	1	0.5
2R230-4S	230±20%	600	700	5	3	300	3	6	150	1	0.5
2R250-4S	250±20%	600	700	5	3	300	3	6	150	1	0.5
2R300-4S	300±20%	600	700	5	3	300	3	6	150	1	0.5
2R350-4S	350±20%	650	800	5	3	300	3	6	150	1	0.5
2R400-4S	400±20%	700	800	5	3	300	3	6	150	1	0.5
2R470-4S	470±20%	800	900	5	3	300	3	6	150	1	0.5
2R600-4S	600±20%	900	1000	5	3	300	3	6	150	1	0.5
2R800-4S	800±20%	1300	1400	3	2	100	2	4	150	1	0.5
2R1000-4S	1000±20%	1500	1600	3	2	100	2	4	150	1	0.5
2R1200-4S	1200±20%	1700	1800	3	2	100	2	4	150	1	0.5
2R1400-4S	1400±20%	1700	1800	3	2	100	2	4	150	1	0.5
2R1500-4S	1500±20%	2000	2100	3	2	100	2	4	150	1	0.5
2R1600-4S	1600±20%	2000	2100	3	2	100	2	4	150	1	0.5
2R1800-4S	1800±20%	2500	2600	3	2	100	2	4	150	1	0.5
2R2000-4S	2000±20%	2700	2600	3	2	100	2	4	150	1	0.5

DC Spark-over Voltage	DC Measuring Voltage
75-90V	50V
150-400V	100V
470-800V	250V
1000-2000V	500V

Reflow Condition		Pb – Free assembly
Pre Heat	-Temperature Min ($T_{s(min)}$)	150°C
	-Temperature Max ($T_{s(max)}$)	200°C
	-Time (Min to Max) (t_s)	60 – 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak		3°C/second max
$T_{S(max)}$ to T_L - Ramp-up Rate		5°C/second max
Reflow	-Temperature (T_L) (Liquidus)	217°C
	-Temperature (t_L)	60 – 150 seconds
Peak Temperature (T_P)		$260^{+0/-5}$ °C
Time within 5°C of actual peak Temperature (t_p)		10 – 30 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T_P)		8 minutes Max.
Do not exceed		260°C



Soldering parameters -wave soldering



Recommended process parameters

Wave Parameter	Lead-Free Recommendation
Preheat: (Depends on Flux Activation Temperature)	(Typical Industry Recommendation)
Temperature Minimum:	100° C
Temperature Maximum:	150° C
Preheat Time:	60-180 seconds
Solder Pot Temperature:	280° C Maximum
Solder Dwell Time:	2-5 seconds