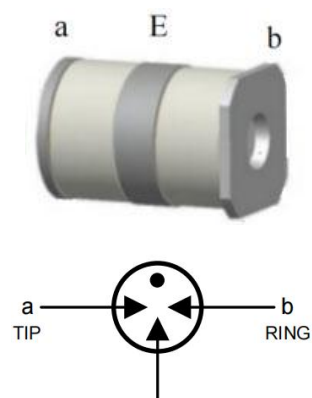


### Features

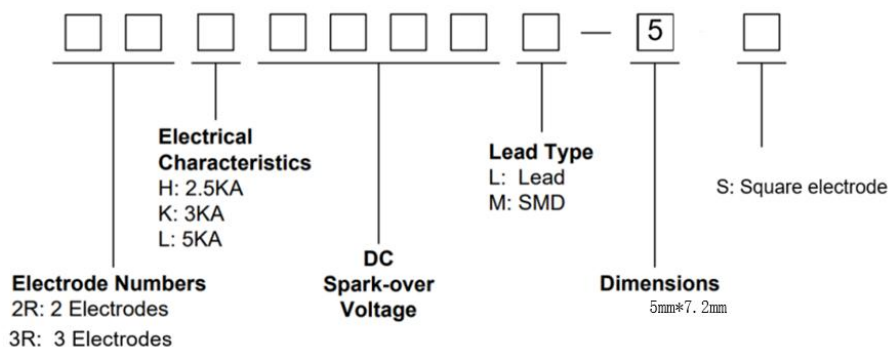
- ◆ Stable breakdown voltage
- ◆ High insulation resistance
- ◆ Low capacitance ( $\leq 1.5\text{pF}$ )
- ◆ Stable performance over life
- ◆ Large absorbing transient current capability
- ◆ Fast response time
- ◆ Size: 5.0mm\*7.2mm
- ◆ RoHS compliant
- ◆ Meets MSL level 1, per J-STD-020
- ◆ Storage and operational temperature:  $-40^{\circ}\text{C} \sim +90^{\circ}\text{C}$



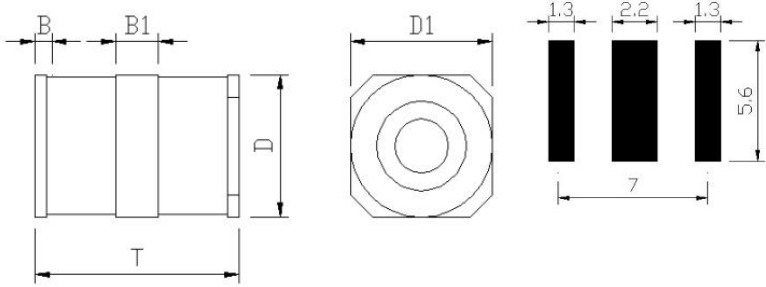
### Applications

- ◆ Repeaters, Modems
- ◆ Subscriber protection
- ◆ Telephone Interface, Line cards
- ◆ Data communication equipment
- ◆ Line test equipment
- ◆ Branch exchange
- ◆ Alarm system
- ◆ Tuner
- ◆ Antenna protection etc.

### Part Number Coding System



## Dimensions

	Ref.	Millimeters		
		Min.	Typ.	Max.
	D	4.8	5.0	5.2
	D1	4.8	5.0	5.2
	T	6.9	7.2	7.5
	B	0.2	0.4	0.6
	B1	1.3	1.5	1.7

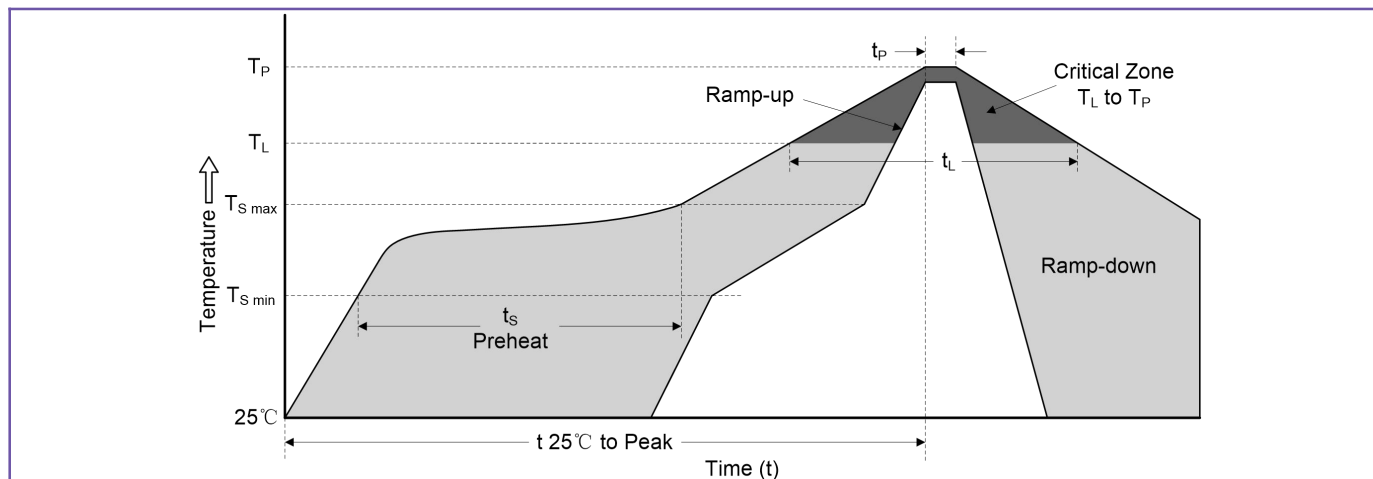
## Electrical Characteristics (T<sub>A</sub>=25℃, unless otherwise noted)

Part Number	DC Spark-over Voltage(V)	Maximum Impulse Spark-over Voltage(V)	Nominal Impulse Discharge Current (KA)	Alternating Discharge Current (A)	Impulse Life(times)	Minimum Insulation Resistance		Maximum Capacitance (pF)
	100V/s	1000V/μs	8/20μs 10 times	50Hz, 1s	10/1000μs 100A	Test Voltage (VDC)	GΩ	1MHz
3RL075M-5S	75±20%	600	5	5	300	25	1	1.5
3RL090M-5S	90±20%	600	5	5	300	50	1	1.5
3RL150M-5S	150±20%	600	5	5	300	100	1	1.5
3RL230M-5S	230±20%	700	5	5	300	100	1	1.5
3RL250M-5S	250±20%	700	5	5	300	100	1	1.5
3RL300M-5S	300±20%	800	5	5	300	100	1	1.5
3RL350M-5S	350±20%	900	5	5	300	100	1	1.5
3RL400M-5S	400±20%	950	5	5	300	100	1	1.5
3RL470M-5S	470±20%	1000	5	5	300	250	1	1.5
3RL600M-5S	600±20%	1200	5	5	300	250	1	1.5

## Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$ .	To meet specified value
Maximum Impulse Spark-over Voltage	measured with voltage ramp $dv/dt=1000V/\mu s$ .	
Impulse Discharge Current	applied through center electrode with $8/20\mu s$ waveform, for 10 times with 3min interval time, which will be equally divided between each side electrode to center electrode, without causing the DC breakdown voltage to change more than 25% from its initial measured value	
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min. DC spark-over voltage shall not change more than $\pm 25\%$ from its initial value. Test is between each side electrode and center electrode.	
Insulation Resistance	measured between each side electrodes and center electrode	
Capacitance	measured between each side electrodes and center electrode. Test frequency: 1MHz	

## Reflow Soldering Parameters



Reflow Condition		Lead-free Assembly
Preheat	-Temperature Min (T <sub>S min</sub> )	150°C
	-Temperature Max (T <sub>S max</sub> )	200°C
	-Time (min to max) (t <sub>s</sub> )	60-120 seconds
Average ramp-up rate (T <sub>L</sub> to T <sub>P</sub> )		3°C/second max.
T <sub>S max</sub> to T <sub>L</sub> -Ramp-up Rate		3°C/second max.
Reflow	-Temperature (T <sub>L</sub> ) (Liquidus)	217°C
	-Time (min to max) (t <sub>s</sub> )	60-150 seconds
Peak Temperature (T <sub>P</sub> )		260(+0/-5)°C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )		30 seconds
Ramp-down Rate		6°C/second max.
Time 25°C to Peak Temperature(T <sub>p</sub> )		8 minutes max.
Do not exceed		260°C

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