

OM SENI

3R-5S SERIES

Gas Discharge Tube (GDT) Datasheet

Features

- Excellent response to fast rising transients
- Stable breakdown voltage
- Low capacitance and Insertion Loss
- High insulation resistance
- Dimensions $\Phi 5 \times 5 \times 7.5\text{mm}$
- Storage and operating temperature: $-40^\circ\text{C} \sim +85^\circ\text{C}$
- Reliable to Protect Electrostatic Surge
- High Current Handling Capability @8/20 μs ;
- Moisture sensitivity level :Level 1

DC Spark-over Voltage
75V to 800V

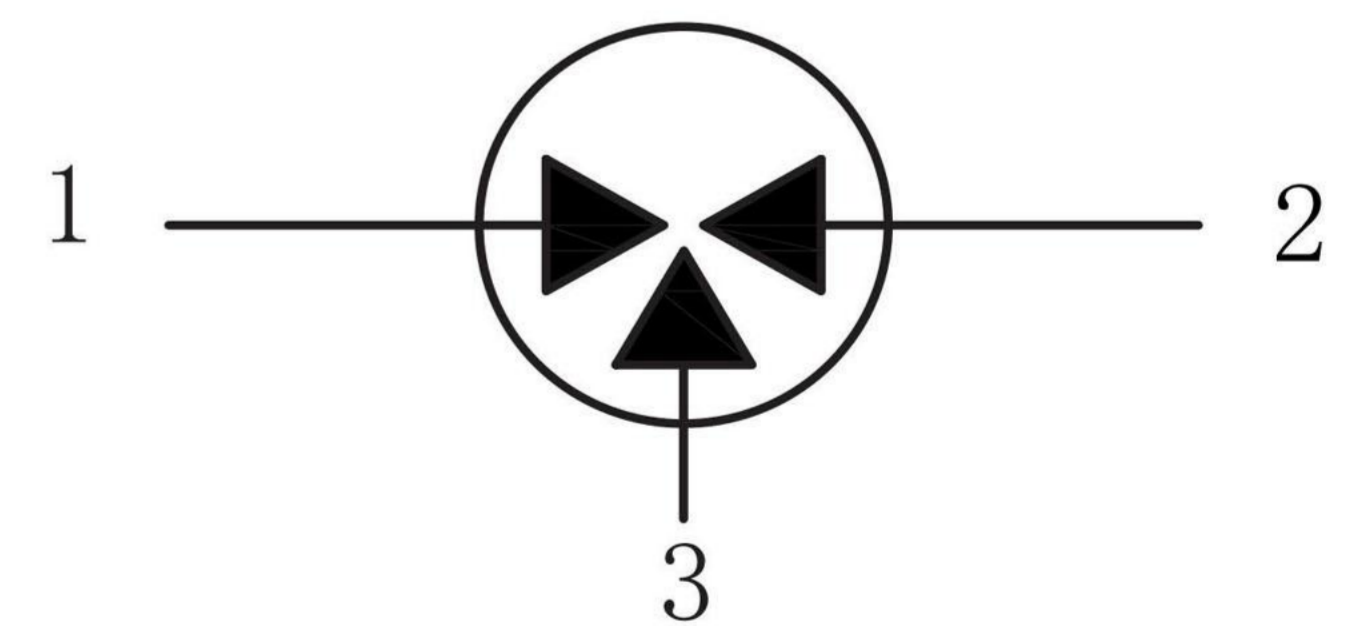
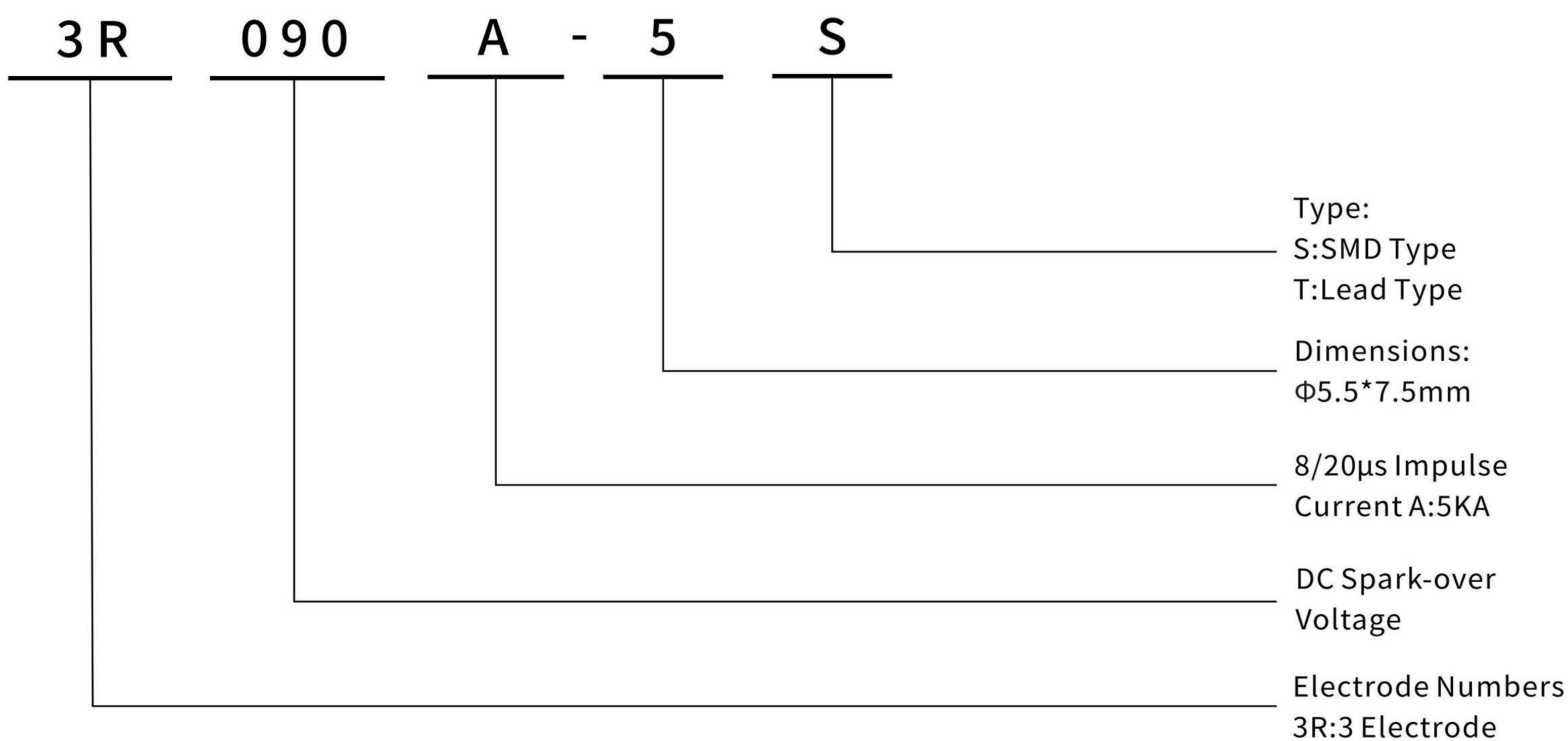
Applications

- Test equipment
- AC Power
- Power supplies
- Telephone Interface, Line cards
- General Telecommunications equipment

3R-5S



Part Number Code



Safety Certification

UL: E465335

3-Electrode Gas Discharge Tubes, Model(s):

3RxxxA-5S where xxx is 075, 090 or 150.

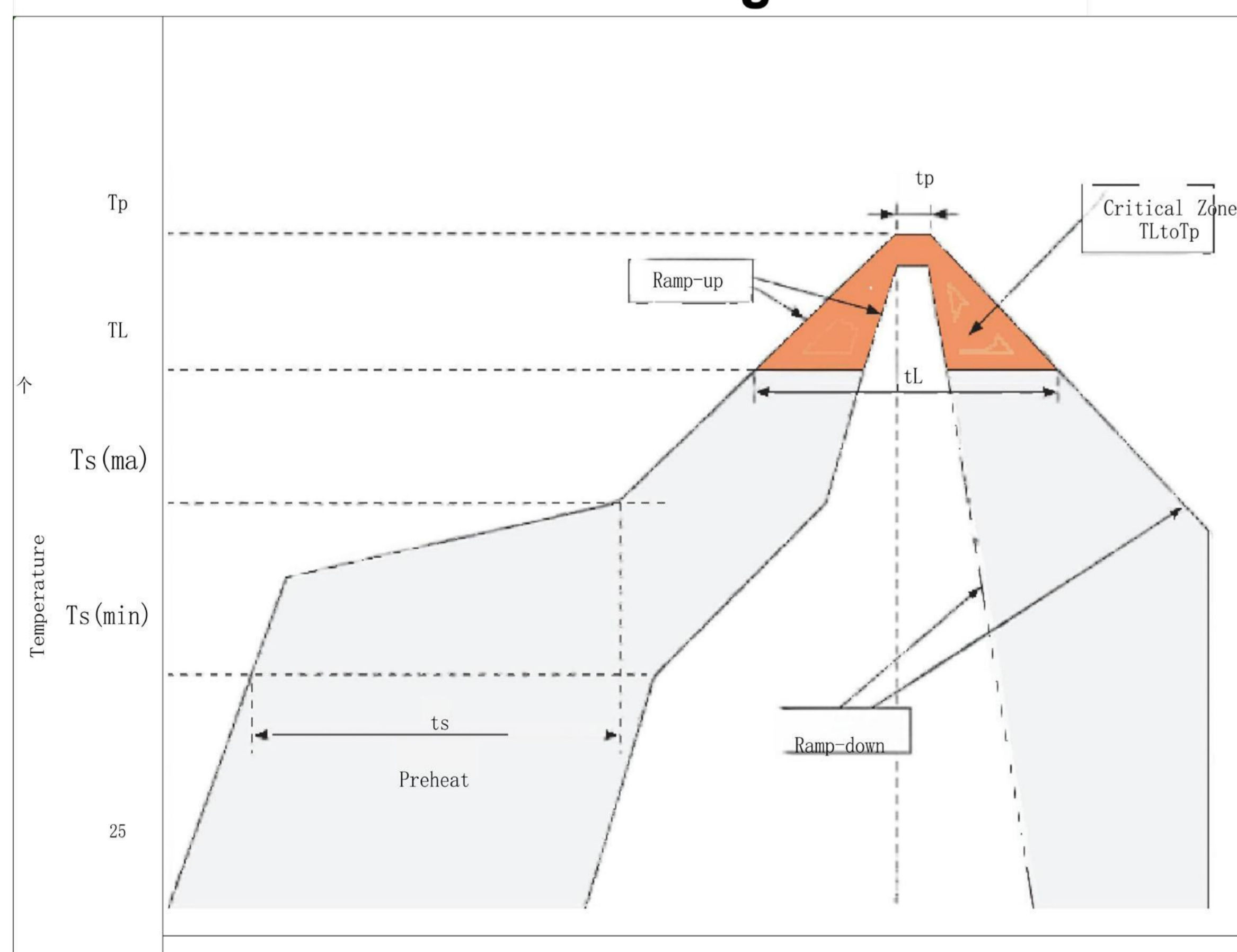
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Electrical Characteristics (Ta=25°C Unless otherwise specified)

Part Number	DC Spark-over Voltage	Maximum Impulse Spark-over Voltage	Nominal Impulse Discharge Current@8/20 μ s	Alternating Discharge Current @8/20 μ s	Impulse Life@ 10/1000 μ s	Minimum Insulation Resistance		Maximum Capacitance
						Test Voltage	G Ω	
						DC (V)		
	100V/S	1000V/ μ s	± 5 times	50Hz, 1sec 10 times	100A			1MHz
	(V)	(V)	(KA)	(A)	(times)			(pF)
3R075A-5S	75 \pm 20%	600	5	5	300	25	1	1.5
3R090A-5S	90 \pm 20%	600	5	5	300	50	1	1.5
3R150A-5S	150 \pm 20%	600	5	5	300	100	1	1.5
3R200A-5S	200 \pm 20%	700	5	5	300	100	1	1.5
3R230A-5S	230 \pm 20%	700	5	5	300	100	1	1.5
3R250A-5S	250 \pm 20%	700	5	5	300	100	1	1.5
3R350A-5S	350 \pm 20%	900	5	5	300	100	1	1.5
3R400A-5S	400 \pm 20%	950	5	5	300	100	1	1.5
3R420A-5S	420 \pm 20%	950	5	5	300	100	1	1.5
3R470A-5S	470 \pm 20%	1000	5	5	300	250	1	1.5
3R600A-5S	600 \pm 20%	1200	5	5	300	250	1	1.5
3R800A-5S	800 \pm 20%	1500	5	5	300	250	1	1.5

Recommended Soldering Conditions



(t25°C to Peak) Time =

Reflow Soldering

Profile Feature		Pb-Free Assembly
Pre-heat	Temperature Min(Ts(min))	+150°C
	Temperature Max(Ts(max))	+200°C
	Time (Min to Max) (ts)	60-180 secs.
Average ramp up rate(Liquid us Temp(TL) to peak)		3°C/sec. Max
Ts(max) to TL-Ramp-up Rate		3°C/sec. Max
Reflow	Temperature (TL) (Liquid us)	+217°C
	Temperature (tL)	60-150 secs.
Peak Temp (Tp)		+260(+0/-5) °C
Time within 5°C of actual Peak Temp(tp)		20-40secs
Ramp-down Rate		6°C/sec. Max
Time 25°C to Peak Temp(Tp)		8 min. Max
Do not exceed		+260°C

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3R-5S SERIES Electrical Ratings

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp $dv/dt=100V/s$	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp $dv/dt=1000V/\mu s$.	
Impulse Discharge Current	Maximum 8/20 μs surge current that can be applied between two electrodes, 5 positive and 5 negative surges, with 3 minutes interval time.	
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. for 10 times with interval time 3 min.	
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	

Physical Dimensions & Recommended Pad Layout

Symbol	Dimensions			
	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	4.8	5.2	0.189	0.205
B	4.8	5.2	0.189	0.205
C	7.2	7.8	0.283	0.307
D	4.8	5.2	0.189	0.205
E	4.6	4.8	0.181	0.189
F	1.4	1.6	0.055	0.063
G	0.3	0.5	0.012	0.020
H	0.3	0.5	0.012	0.020

Recommended Soldering Pad Layout

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Ordering Information

SERIES	SIZE(mm)	DELIVERY MODE	MPQ(PCS)	BOX(PCS)
3R-5S	$\Phi 5 \times 5 \times 7.5$	13" REEL	1,000	3,000

Packaging Information

Symbol	Dimensions(mm)	
	Millimeters	Inches
W	16 ± 0.3	0.63 ± 0.012
A0	5.4 ± 0.1	0.213 ± 0.004
B0	8.4 ± 0.1	0.331 ± 0.004
K0	5.3 ± 0.1	0.209 ± 0.004
P	12 ± 0.1	0.472 ± 0.004
F	7.5 ± 0.1	0.295 ± 0.004
E	1.75 ± 0.1	0.069 ± 0.004
D	1.5 ± 0.1	0.059 ± 0.004
P0	4.0 ± 0.1	0.157 ± 0.004
P2	2.0 ± 0.1	0.079 ± 0.004
T	0.4 ± 0.1	0.016 ± 0.004

