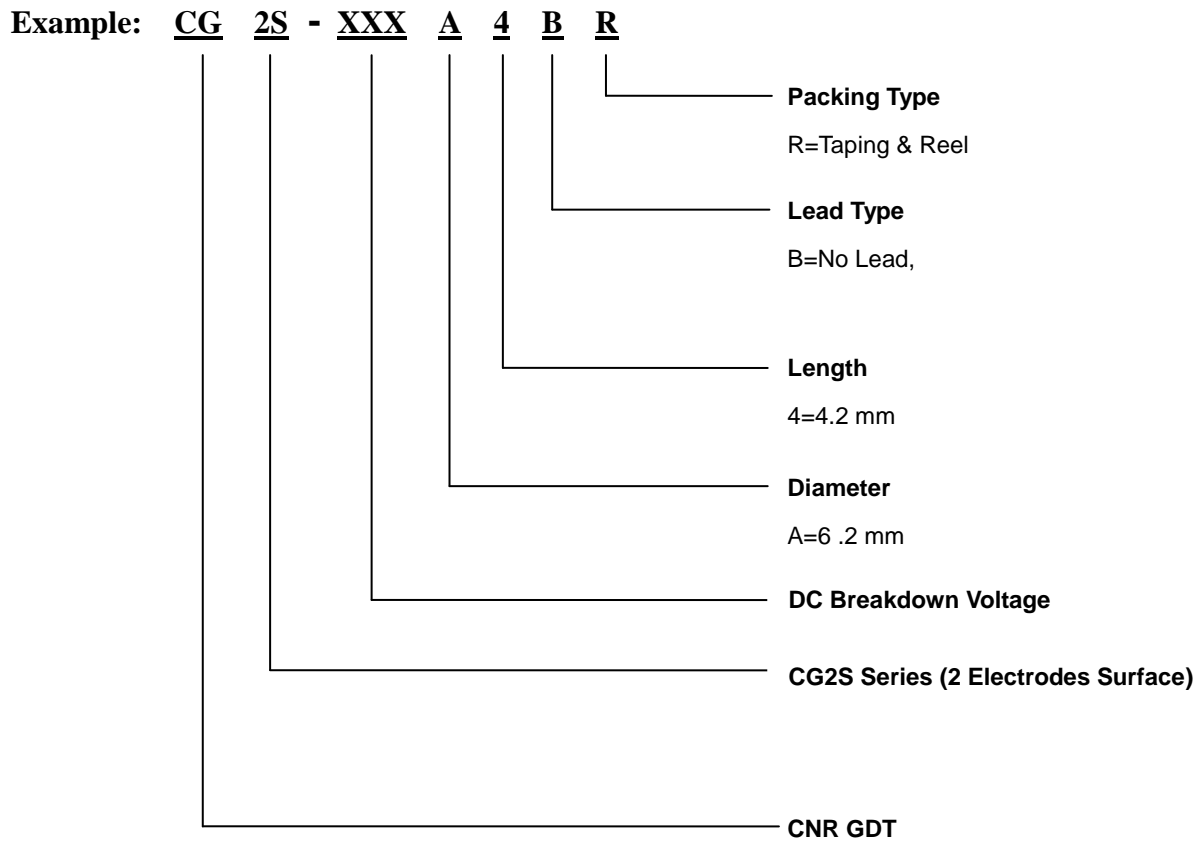


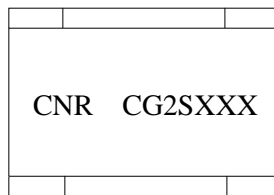
1. Scope:

This Specification covers the CNR GDT surge protector series for manufacturing gas tube arrests.

2. Part Number



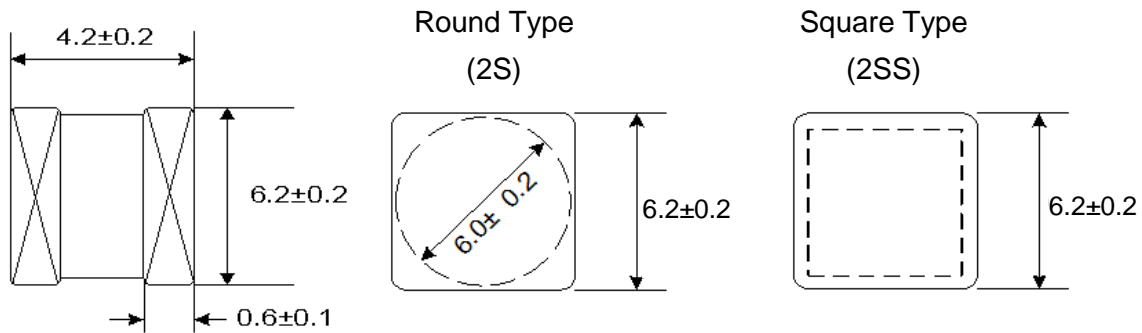
3. Marking



XXX=DC Breakdown Voltage

2S

4. Production Dimensions (mm)



5. Electrical Specification

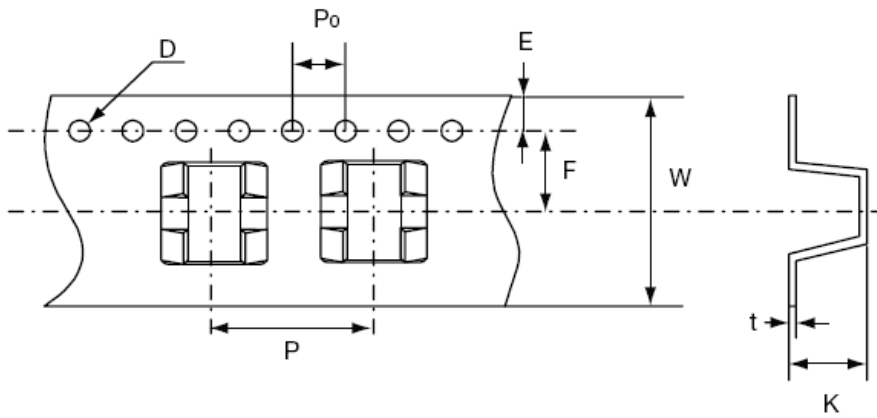
Model Name	DC Breakdown Voltage	Maximum Impulse Breakdown Voltage		Maximum Impulse Discharge Current (8/20 μ s)		Impulse Life (10/1000 μ s)	Normal Alternating Discharge Current		DC Holdover Voltage	Minimum Insulation Resistance	Maximum Capacitance (1MHz)
		100V/ μ s	1KV/ μ s	1 time	10 times		50Hz, 1Sec	Single 9cycles			
		(V)	(V)	(KA)	(times)		(A)	(V)			
CG2S-075	75 \pm 20%	600	700	8	5	500	5	15	52	1	1
CG2S-090	90 \pm 20%	600	700	8	5	500	5	15	52	1	1
CG2S-145	145 \pm 20%	500	700	8	5	500	5	15	52	1	1
CG2S-230	230 \pm 20%	500	650	8	5	500	5	15	80	1	1
CG2S-250	250 \pm 20%	500	650	8	5	500	5	15	135	1	1
CG2S-300	300 \pm 20%	550	700	8	5	500	5	15	135	1	1
CG2S-350	350 \pm 20%	600	700	8	5	500	5	15	135	1	1
CG2S-400	400 \pm 20%	750	850	8	5	500	5	15	135	1	1
CG2S-470	470 \pm 20%	800	900	8	5	500	5	15	135	1	1
CG2S-600	600 \pm 20%	900	1000	8	5	500	5	15	135	1	1
CG2S-800	800 \pm 20%	1000	1200	8	5	500	5	15	135	1	1
CG2S-1000	1000 \pm 20%	1500	1600	5	3	300	3	10	135	1	1
CG2S-1200	1200 \pm 20%	1700	1800	5	3	300	3	10	135	1	1
CG2S-1800	1800 \pm 20%	2800	3000	5	3	300	3	10	135	1	1
CG2S-2000	2000 \pm 20%	3000	3200	5	3	300	3	10	135	1	1
CG2S-2500	2500 \pm 20%	3100	3300	5	3	300	3	10	135	1	1
CG2S-2700	2700 \pm 20%	3400	3800	5	3	300	3	10	135	1	1
CG2S-3000	3000 \pm 20%	3600	4000	5	3	300	3	10	135	1	1

Approvals - UL 497B Recognized, File E220380 (CG2SM-075 to CG2SM-600)

UL1449 4th Recognized, File E316325 (CG2SM-800 to CG2SM-1000)

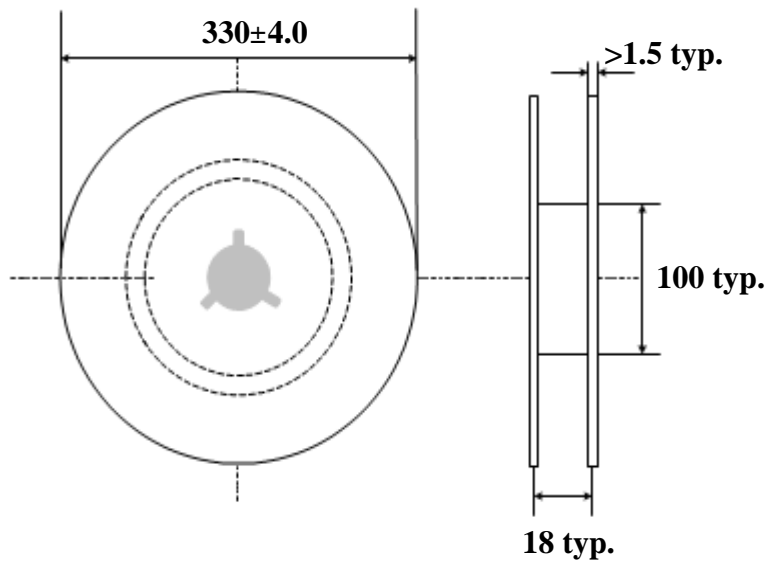
6. Packaging

Taping & Reel



Item	Spec
P	12.0±0.1
P0	4.0±0.1
W	16.0±0.3
F	7.5±0.1
E	1.75±0.1
D	Φ1.55±0.05
K	6.7±0.1
t	0.5±0.05

Unit - mm



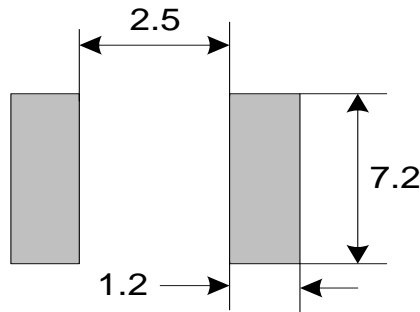
Quantity : 800 pcs per reel (13")
 3 reels per inner box
 5 inners box per car
 12000 pcs per full carton

7. Storage Environment

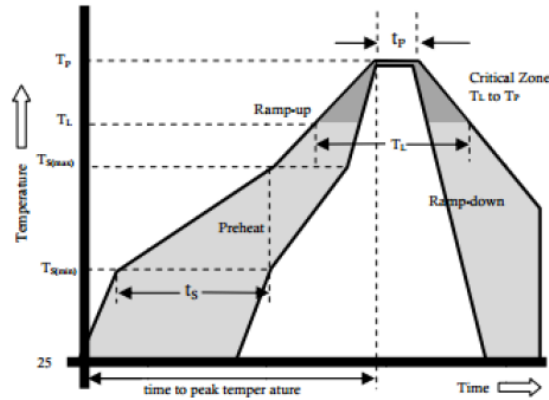
1. Operate temperature: -40°C to 90°C
2. Storage temperature: -40°C to 115°C
3. Relative humidity: ≤75%RH
4. Do not store in an environment with corrosive gas or direct sunlight.

●Storage period: 1 year

8. RECOMMENDED SOLDERING PAD



9. REFLOW PROFILE



Reflow Condition	Pb-Free assembly
Pre Heat : Temperature : Min	150°C
Temperature : Max	200°C
Time (min to max)	60-180 seconds
Average ramp up rate(Liquids)Tamp(TL) to peal	3°C/second max
Ts(max) to TL-Ramp-up Rate	3°C/second max
Reflow -Temperature (TL) (Liquids)	217°C
Reflow -Temperature (TL)	60-150 seconds
Peak Temperature (Tp)	260+0/-5°C
Time within 5°C of actual peak : Temperature (tp)	~10 seconds
Ramp-down Rate	6°C/second max.
Time 25°C to peak Temperature (Tp)	8 minutes max.
Do not exceed	260°C

10. Electrical Terms and Definitions

Item	Test Condition / Description	Requirement
DC Breakdown Voltage	The voltage measured at a rise time of 100v/s.	To meet the specified value
Maximum Impulse Breakdown Voltage	The maximum breakdown voltage at rise times of 100v/us and 1000v/us.	
Maximum Impulse Discharge Current	The maximum current applying a waveform of 8/20us that can be applied across the terminals of the gas tube without causing the gas tube to change more than $\pm 25\%$ from its initial measured DC breakdown voltage. Dwell time between pulses is 3 minutes.	
Impulse Life	The minimum number of impulses of a specified waveform and peak current which a gas tube will conduct without causing the gas tube to change more than $\pm 25\%$ from its initial measured DC breakdown voltage. Dwell time between pulses is 1-2 minutes.	
Alternating Discharge Current	Rated RMS value of AC current at 50Hz, 1 sec. 10 times. Intervals: 3min. DC breakdown voltage may not change more than $\pm 25\%$ from its initial measured DC breakdown voltage. $IR > 10^8$ ohms (-20%, +30% for 70 – 90V).	
DC Holdover Voltage	The maximum DC voltage across the two terminals of the gas tube under which it may be expected to return to the high impedance state after the gas tube breakdown.	
Capacitance	The capacitance of a gas tube shall be measured each terminal to each other terminal. Test frequency: 1MHz In measurements involving 3-electrode gas tubes, the terminal not being tested shall be connected to a ground plane.	