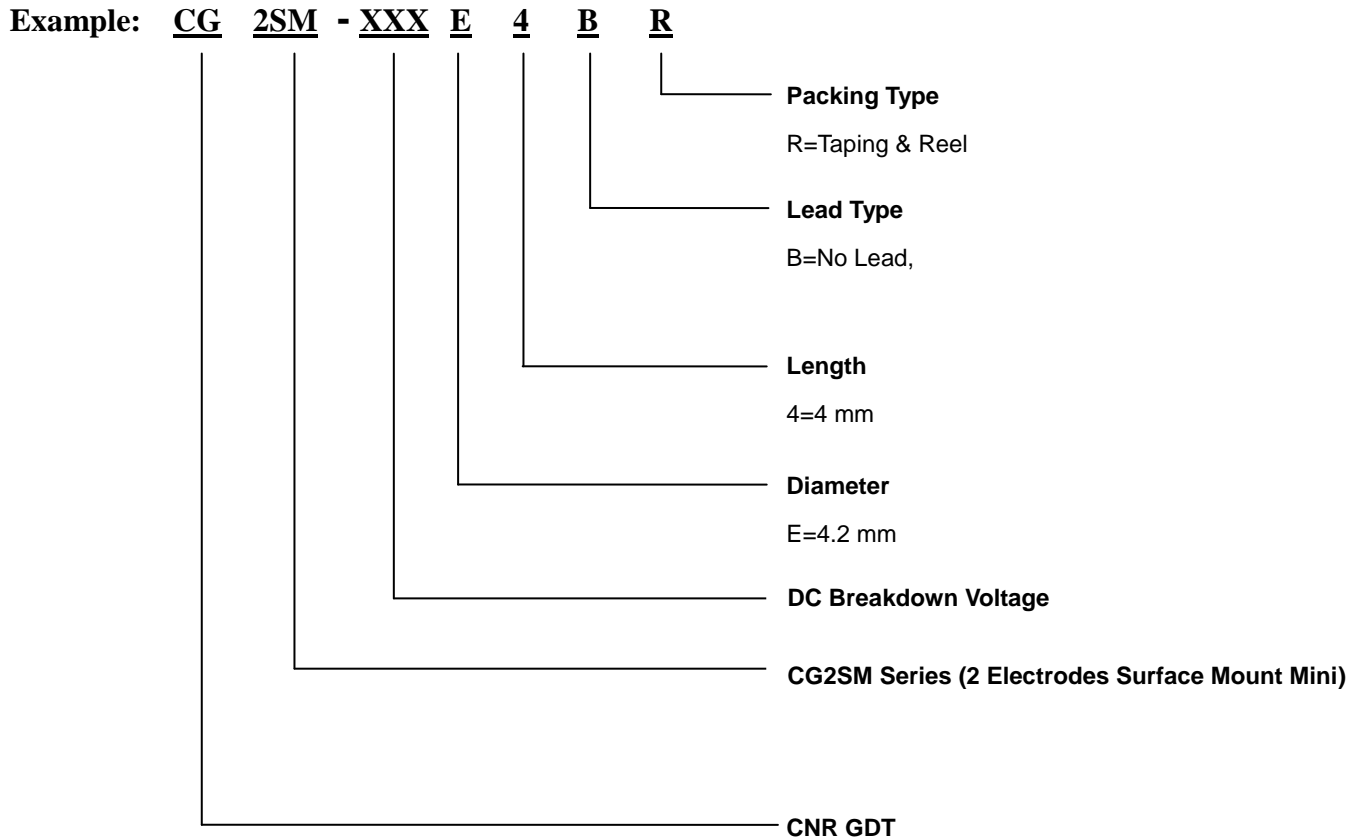


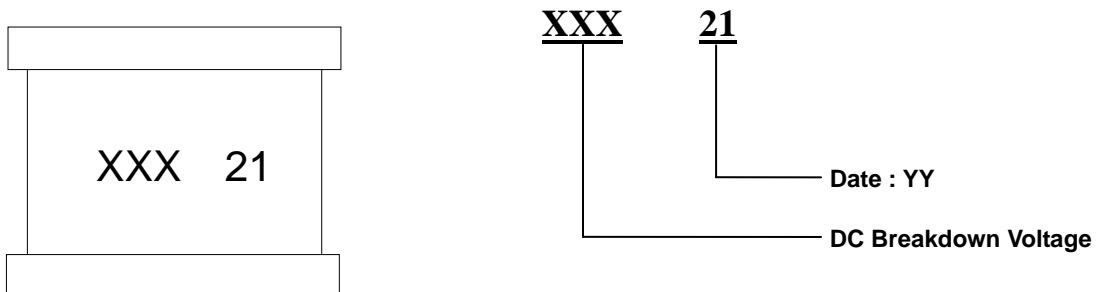
**1. Scope:**

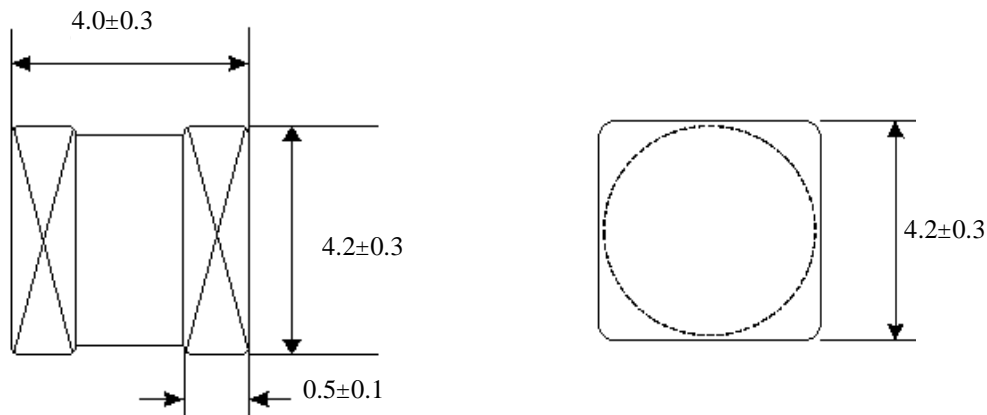
This Specification covers the CNR GDT surge protector series for manufacturing gas tube arrests.

**2. Part Number**



**3. Marking**



**4. Production Dimensions (mm)****5. Electrical Specification**

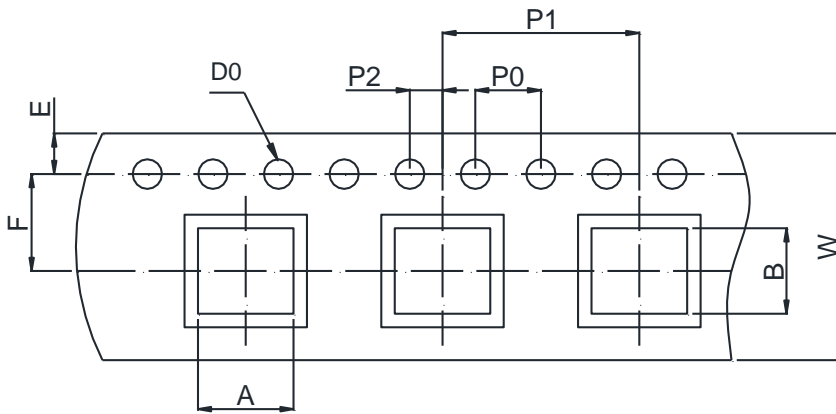
Model Name	DC Breakdown Voltage	Maximum Impulse Breakdown Voltage		Maximum Impulse Discharge Current (8/20 $\mu$ s)		Impulse Life (10/1000 $\mu$ s)	Alternating Discharge Current		DC Holdover Voltage	Minimum Insulation Resistance		Maximum Capacitance (1MHz)
		100V/ $\mu$ s	1KV/ $\mu$ s	1 time	10 times		50Hz, 1Sec	Single 9 cycles		(G $\Omega$ )	(V <sub>DC</sub> )	
		(V)	(V)	(KA)			(times)	(A)		(V)	(V <sub>DC</sub> )	
CG2SM-075	75 $\pm$ 20%	700	800	5	3	300	3	6	52	>1	50	<1
CG2SM-090	90 $\pm$ 20%	700	800	5	3	300	3	6	52	>1	50	<1
CG2SM-145	145 $\pm$ 20%	700	800	5	3	300	3	6	52	>1	100	<1
CG2SM-230	230 $\pm$ 20%	600	700	5	3	300	3	6	80	>1	100	<1
CG2SM-250	250 $\pm$ 20%	600	700	5	3	300	3	6	80	>1	100	<1
CG2SM-300	300 $\pm$ 20%	600	750	5	3	300	3	6	135	>1	100	<1
CG2SM-350	350 $\pm$ 20%	650	800	5	3	300	3	6	135	>1	100	<1
CG2SM-400	400 $\pm$ 20%	700	900	5	3	300	3	6	135	>1	100	<1
CG2SM-470	470 $\pm$ 20%	800	1000	5	3	300	3	6	135	>1	100	<1
CG2SM-600	600 $\pm$ 20%	900	1100	5	3	300	3	6	135	>1	100	<1
CG2SM-800	800 $\pm$ 20%	1300	1400	3	2	300	2	4	135	>1	100	<1
CG2SM-1000	1000 $\pm$ 20%	1500	1600	3	2	100	2	4	135	>1	100	<1

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

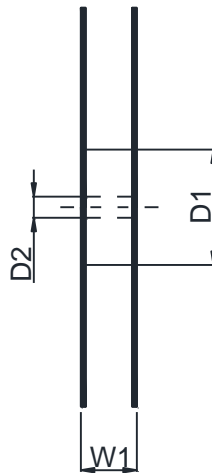
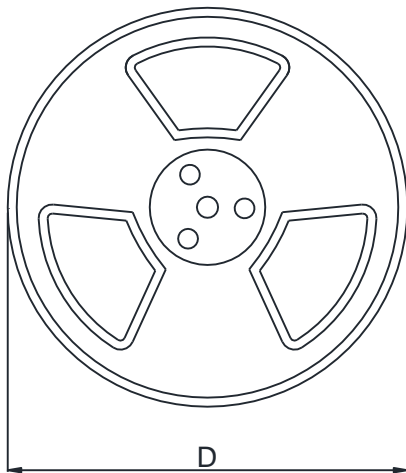
UL1449 4th Recognized, File E316325 (CG2SM-800 to CG2SM-1000)

### 6. Packaging

Taping & Reel



Item	Spec
A	6.0±0.1
B	9.0±0.1
D0	Φ1.5±0.1
E	1.75±0.1
F	7.5±0.1
P0	4.0±0.1
P1	8.0±0.1
P2	2.0±0.1
W	16±0.3



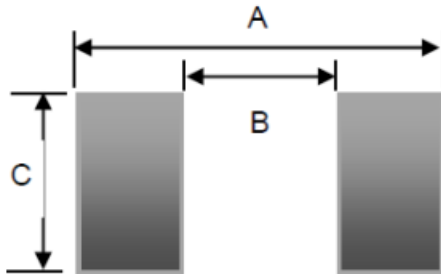
SYMBOL	mm	Quantity
D	330.0	1500 pcs
D1	58(min)	
D2	13±0.15	
W1	16±0.15	

### 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.

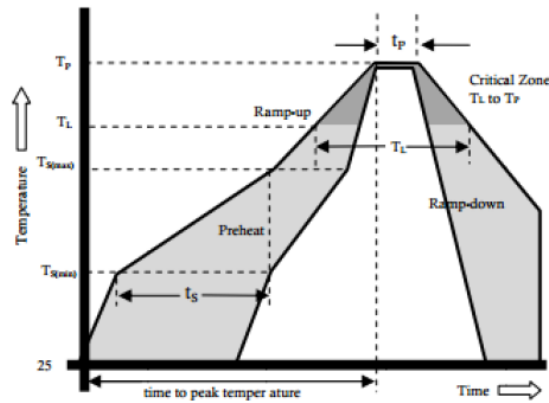
●Storage period: 1 year

**8. RECOMMENDED SOLDERING PAD**



REF	mm
A	4.2
B	2.2
C	5.0

**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**

<b>Item</b>	<b>Test Condition / Description</b>	<b>Requirement</b>
<b>DC Breakdown Voltage</b>	The voltage measured at a rise time of 100v/s.	
<b>Maximum Impulse Breakdown Voltage</b>	The maximum breakdown voltage at rise times of 100v/us and 1000v/us.	
<b>Maximum Impulse Discharge Current</b>	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.	
<b>Impulse Life</b>	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.	To meet the specified value
<b>Alternating Discharge Current</b>	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).	
<b>DC Holdover Voltage</b>	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.	
<b>Capacitance</b>	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.	