

Surface mounted Gas Discharge Tube
贴片气体放电管



◆ **Features / 特性**

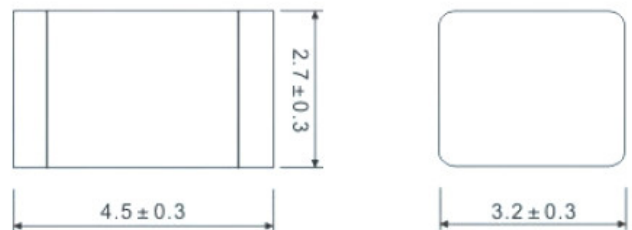
1. Protection form lightning surge
2. Surface mounted Gas Arrester
3. Impulse current capacity 4.0KV 10X700μs
4. Impulse current capacity 1.5KA 8X20μs
5. ROHS Compliant.



◆ **Application / 应用**

1. CATV modem, Telecom protection
2. Hub protection, Security systems
3. Data acquisition and Audio systems
4. Set-Top Box protection

◆ **Dimensions(mm) / 尺寸**



◆ **Electrical Specifications / 电气特性**

Part Number 料号	DC Spark-Over Voltage 标称直流击穿电压 100V/s Vs(V)	Impulse Spark Over 冲击击穿电压 1KV/μS Vis(V) Max.	Nominal Impulse Discharge Current 耐冲击电流 (10x700μs)kv	Nominal Impulse Discharge Current 耐工频电流 (8x20μs)kA	Insulation Resistance 绝缘电阻		Capacitance 电容值 C 1KHz<6V pF Max.
					Min. MΩ	DC V	
CMSG3S2R75	75±30%	500	4.0	1.5	100	50	<1.0
CMSG3S2R90	90±30%	600	4.0	1.5	100	50	<1.0
CMSG3S2R140	140±20%	600	4.0	1.5	100	100	<1.0
CMSG3S2R150	150±20%	600	4.0	1.5	100	100	<1.0
CMSG3S2R200	200±20%	600	4.0	1.5	100	100	<1.0
CMSG3S2R230	230±20%	650	4.0	1.5	100	100	<1.0
CMSG3S2R350	350±20%	800	4.0	1.5	100	100	<1.0
CMSG3S2R400	400±20%	800	4.0	1.5	100	100	<1.0
CMSG3S2R470	470±20%	900	4.0	1.5	100	100	<1.0
CMSG3S2R600	600±20%	1000	4.0	1.5	100	100	<1.0

◆ **Testing Method and Condition**

The testing condition shall be subject to the following items:

- 1) Ambient Temp.: -40°C~125°C; Relative Humidity: <95%(40°C H) ;
- 2) Atmospheric Pressure 8.6×10^4 Pa~ 1.06×10^4 Pa.

◆ **ELECTRICAL PERFORMANCE**

Item	Testing condition and method	Performance
DC Sparkover voltage(Vs)	Measure starting discharge voltage (Vs) by gradually increasing applied DC voltage. Test current is 1mA max. and test period is 1 second max. and the DC voltage ascend up within 100v/second;	Meet specified value
Insulation resistance(IR)	Measure the insulation resistance across the terminal at regulated voltage But The test voltage doesn't over the DC sparkover voltage with DC50V 100V;	100MΩ or over
Capacitance	Measure the electrostatic capacitance by applying a voltage of less than 6V between terminals.	1pF or less

◆ **PHYSICAL AND SOLDERABILITY CHARACTERISTICS**

Item	Testing condition and method	Performance
1、Lead wire pull strength	Gradually applying the load 0.5Kg and keeping the unit fixed for 10±1sec.	Meet DC spark-over voltage tolerance Not pull out and break the lead wire.
2、Lead wire bending strength	The unit shall be secured with its lead wire kept vertical and the 0.25kg weight below be applied in the axial direction. The lead wire shall gradually be bend by 90 in one direction at the point of 3mm from the body along the radius of curvature (0.75mm~0.8mm), and again back the original position. The procedure shall be repeat 2times for 30sec.	Meet DC spark-over voltage tolerance
3、Solderability	After dipping the lead wire to a depth of 2mm from the body in a soldering bath of 260±5°C for 10±1 sec.	Over 95% of the lead wire should be covered with new solder.
4、Resistance to soldering heat	After dipping the lead wire to a depth of 2mm from the body in a soldering bath of 260±5°C for 10±1 sec.	Meet DC spark-over voltage tolerance

◆ ENVIRONMENTAL CHARACTERISTICS

Item	Testing condition and method	Performance															
1、resistance to cold	The specimen shall be subjected to $-55\pm 3^{\circ}\text{C}$ for 1000 hours without load and then stored at room temperature and humidity for 4 hours.	Meet specified value															
2、resistance to heat	The specimen shall be subjected to $125\pm 2^{\circ}\text{C}$ for 1000 hours without load and then stored at room temperature and humidity for 4 hours.	Meet specified value															
3、resistance to humidity	the specimen shall be subjected to $85\pm 2^{\circ}\text{C}$ 85%R.H. for 1000 hours without load and then stored at room temperature and humidity for 4 hours.	Meet specified value															
4、Surge life	Apply a impulse current (8/20 μs of 1.5KA) for 10 times 30 seconds intervals, Thereafter, the characteristics of times Vs, IR and C shall be measured.	No cracks or failures after applying current															
5、Surge life	Apply a impulse current (10/700 μs of 4KV) for 10 times, 30 seconds intervals, Thereafter, the characteristics of times Vs, IR and C shall be measured	Δ Vs/Vs \leq 30% other items must meet the specified value															
6、Heat cycle	Repeat the temperature cycle shown below 200 times then store parts at room temperature and humidity for 4 hours. <table border="1" data-bbox="411 1137 1066 1352"> <thead> <tr> <th>Step</th> <th>Temperature</th> <th>Perid</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>$-55\pm 3^{\circ}\text{C}$</td> <td>30min</td> </tr> <tr> <td>2</td> <td>Room Temp</td> <td>3min</td> </tr> <tr> <td>3</td> <td>$125\pm 2^{\circ}\text{C}$</td> <td>30min</td> </tr> <tr> <td>4</td> <td>Room Temp</td> <td>3min</td> </tr> </tbody> </table>	Step	Temperature	Perid	1	$-55\pm 3^{\circ}\text{C}$	30min	2	Room Temp	3min	3	$125\pm 2^{\circ}\text{C}$	30min	4	Room Temp	3min	Meet specified value
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7、temperature range	1) Operating temp range : -55°C to $+125^{\circ}\text{C}$ 2) Storage temp range : -40°C to $+85^{\circ}\text{C}$																

◆ Materials / 材料

Ceramic Body / End plate

Element: Silver or Silver

Metallization of ceramic body

High temperature solder perform

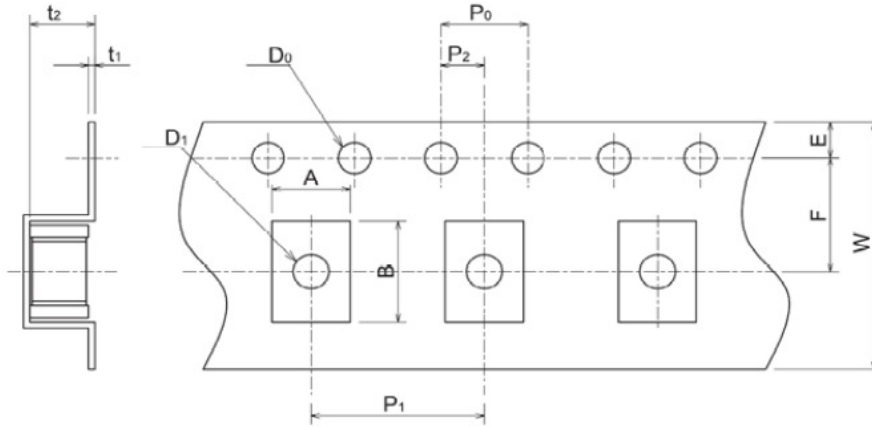
End termination overcoat: Nickel Flash, Tin/Lead

◆ Operation Temperature / 工作温度

-40°C to 125°C

◆ PACKAGING (2000PCS/Reel):

1、Injection molded, high impact anti-static, plastic reel, Conforms to EIA-481-1

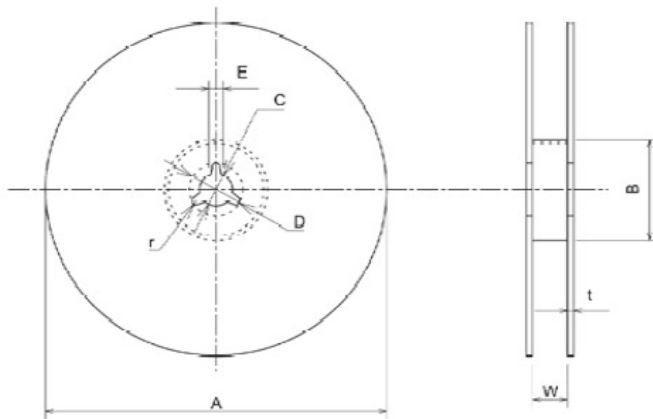


2、8mm Type Dimension:

A	B	W	F	E	P_1	P_2
3.6 ± 0.2	4.9 ± 0.2	12 ± 0.3	5.5 ± 0.05	1.75 ± 0.1	8.0 ± 0.1	2.0 ± 0.05

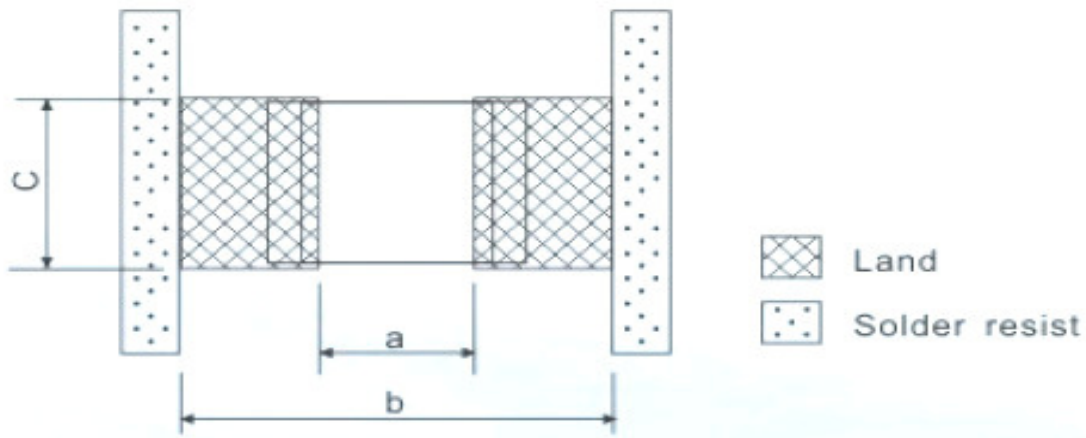
P_0	D_0	D_1	t_1	t_2
4.0 ± 0.1	$\Phi 1.5 \pm 0.1$	$\Phi 1.65 \pm 0.15$	0.30 ± 0.1	3.0 ± 0.2

3、Reel Dimension:Unit(mm)



A	$\Phi 330 \pm 2$
B	$\Phi 80 \pm 0.5$
C	$\Phi 13 \pm 0.5$
D	$\Phi 21 \pm 0.8$
E	2.0 ± 0.05
W	$\Phi 13.5^{+1.5}_{-0.5}$
t	1.6 ± 0.5
r	1

◆ Recommended Land Pattern



Soldering Moder	Dimensions(mm)		
	a	b	c
Reflow Soldering	2.7	6.5 to 8.5	3.4
Flow Soldering	2.9	6.5 to 9.5	3.6