



南京先正电子股份有限公司

Nanjing Shagon Electronics Co.,Ltd

MYG 型压敏电阻器产品规格书

Type MYG Zinc Oxide Varistors Specifications

产品规格 Type: MYG (普通型)

客户部品号 Customer Type:

客户 Customer :

拟制 CHECKED BY: 王鹏鹏 2018.03.09

审核 REVIEWED BY: 袁海兵 2018.03.09

批准 APPROVED: 周荣林 2018.03.09

南京先正电子股份有限公司

Nanjing Shagon Electronics Co.,Ltd

厂 址: 南京市中山科技园中鑫路 698 号

Address: No.698 ZHONGXIN ROAD,ZHONGSHAN SCIENCE AND TECHNOLOGY PARK, NANJING

电话 (Tel) :025-84824998 84822654

电传 (Fax) :025-84824707

邮政编码 (P.C.) :211500



1、适用范围 Scope

本规格书适用于南京先正电子股份有限公司生产的 MYG 压敏电阻器。This specification shall be applied to MYG VARISTORS produced by Nanjing Shagon Electronics CO.,LTD

2、一般的数据 General Date

2.1 在震动实验中,MYG 压敏电阻的阻体距离安装点为 $6 \pm 1\text{mm}$ 。In the Vibration test,the space from the body of the MYG Resistors to attachment point is about $6 \pm 1\text{mm}$.

2.2 一般的特性 General Characteristics

特性 Characteristics	规范 Specifications
压敏电压公差 Tolerance of visitor voltage	$\pm 10\%$
工作温度 Operating temperature	$-40 \sim +85^{\circ}\text{C}$
响应时间 Response time	$< 50\text{ns}$

2.3 南京先正电子股份有限公司设计 Nanjing Shagon Electronics CO.,LTD designation

MYG - 10 K 471 S
① ② ③ ④ ⑤

命名方法: Naming method:

①—产品代码 product code

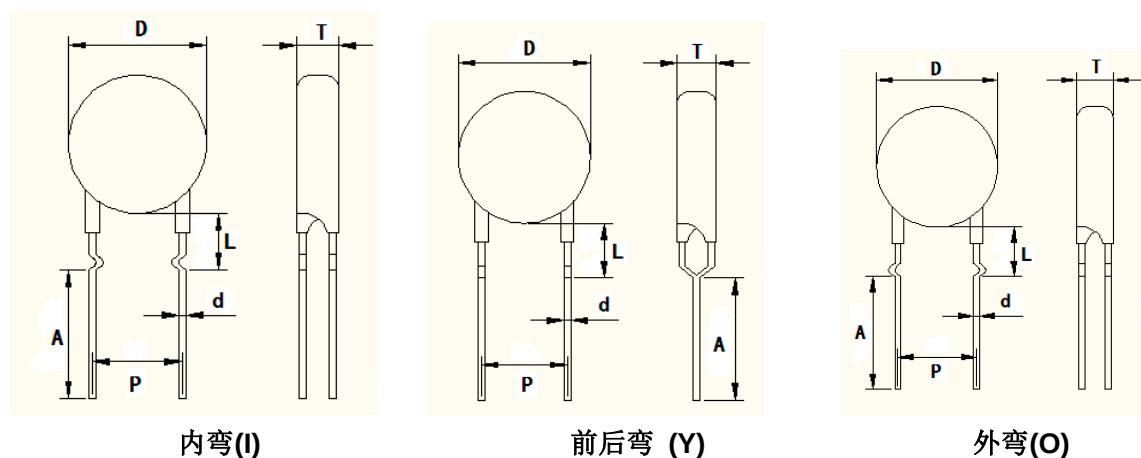
②—瓷片的直径: 10mm Ceramic chip diameter: 10 mm

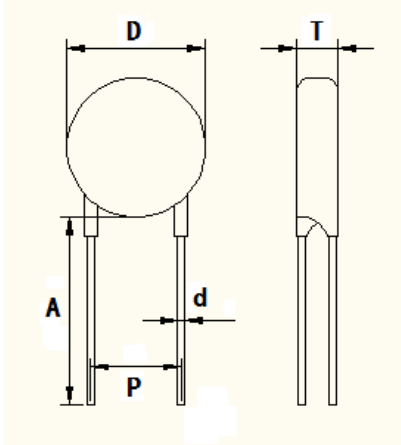
③—精度:10% Accuracy: 10%

④—压敏电压值:470V,最后一位代表47 后面0 的个数 The voltage-sensitive voltage value is: 470V, and the last one represents the number of 0 after 47.

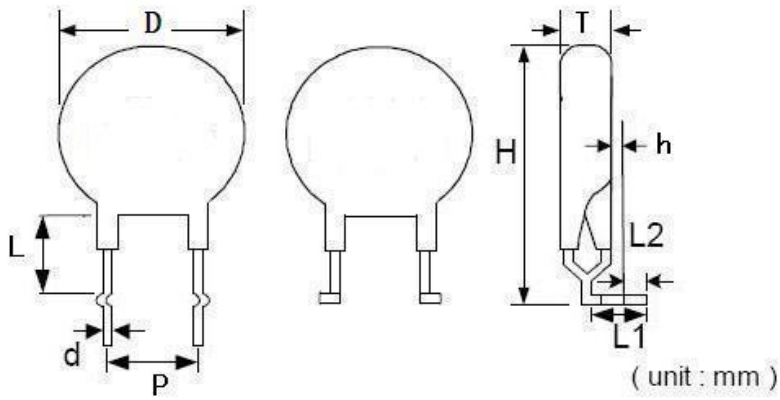
⑤—引脚外形 S: 直线 Pin shape S: straight line

2.4 尺寸 Dimensions (单位 Unite: mm)





直线(S)



卧式(OL)

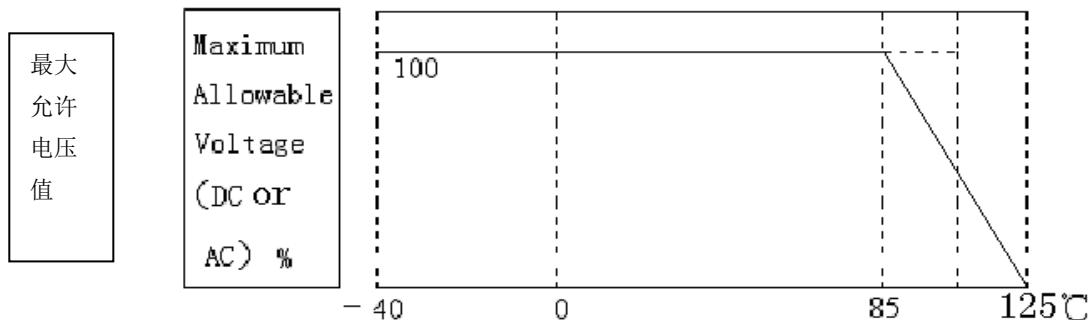
代码 Code	I	S	O	Y	L
形状 Shape	内弯 Inside bend lead	直线 Straight lead	外弯 Outside bend lead	前后弯 Y shape lead	直角弯 L shape lead

直线型尺寸:

代号 Code Name	类型和尺寸 Type and Dimensions				
	MYG—05	MYG—07	MYG—10	MYG—14	MYG—20
D _{MAX} (180-271)	7.0	8.2	11.5	15.5	22.5
D _{MAX} (331-471)	7.0	8.7	12.0	16.0	23.0
D _{MAX} (511-681)		9.0	12.3	16.3	23.2
D _{MAX} (751-182)			12.8	16.8	23.5
d(±0.1)	0.6	0.6	0.8	0.8	1.0
T _{MAX} (180-271)	4.0	4.2	4.5	5.0	5.5
T _{MAX} (331-471)	4.6	4.8	5.2	5.5	6.0
T _{MAX} (511-681)			7.2	7.5	8.0
T _{MAX} (751-182)			10.0	10.5	11.0
P(±1)	5.0	5.0	7.5	7.5	10.0
A _{1min}	25.0	25.0	25.0	23.0	23.0
L _{2MAX}	3.0	3.0	3.0	3.0	3.0



2.5 降功耗曲线 Derating Curve



3、电性能 Electrical Rating

MYG05K series

型号规格 Type	特 性 项 目 和 额 定 值								
	压敏电压 (V) V0.1mA (V)	最大连续工作电压 (V) Maximum Allowable Voltage (V)		等级电压 (V) Clamping Voltage (max.)	等级电流 (A) Clamping Current (max.)	最大峰值电流 (A) Maximum Peak Current (A)	能量 (10/1000 μ S) Energy (J)	漏电流 (uA) Drain Current (uA)	电容量 (参考值) (Typical) PF
	V	ACrms	D.C	Vc	I _p	(8/20μ S)	J	I _l	C
MYG05K820	82	50	65	145	5	600	4	≤10	250
MYG05K101	100	60	85	175	5	600	4	≤10	200
MYG05K121	120	75	100	210	5	600	5	≤10	170
MYG05K151	150	95	125	260	5	600	7	≤10	140
MYG05K201	200	130	170	355	5	600	9	≤10	80
MYG05K221	220	140	180	380	5	600	9	≤10	70
MYG05K241	240	150	200	415	5	600	11	≤10	70
MYG05K271	270	175	225	475	5	600	11	≤10	65
MYG05K361	360	230	300	620	5	600	16	≤10	50
MYG05K391	390	250	320	675	5	600	17	≤10	50
MYG05K431	430	275	350	745	5	600	20	≤10	45
MYG05K471	470	300	385	810	5	600	21	≤10	40
MYG05K511	510	320	410	845	5	600	30	≤10	40
MYG05K561	560	350	455	925	5	600	38	≤10	35
MYG05K621	620	380	505	1025	5	600	45	≤10	32
MYG05K681	680	420	560	1120	5	600	50	≤10	30



MYG07K series

型号规格 Type	特 性 项 目 和 额 定 值								
	压敏 电压 (V) V1mA (V)	最大连续工作 电压 (V) Maximum Allowable Voltage (V)		等级电压 (V) Clamping Voltage (max.)	等级电流 (A) Clamping Current (max.)	最大峰值电流 Maximum Peak Current (A)	能量 Energy(10/1000 μ S)	漏电流 (μ A) Drain Current (μ A)	电容量 (参考值) Capacitance (Typical) PF
	V	A • Cr ms	D.C	Vc	Ip	8/20 μ S	J	I _l	C
MYG07K820	82	50	65	135	10	1250	10	≤ 10	550
MYG07K101	100	60	85	165	10	1250	12	≤ 10	500
MYG07K121	120	75	100	200	10	1250	14	≤ 10	450
MYG07K151	150	95	125	250	10	1250	17	≤ 10	350
MYG07K201	200	130	170	340	10	1250	25	≤ 10	250
MYG07K221	220	140	180	360	10	1250	28	≤ 10	250
MYG07K241	240	150	200	395	10	1250	28	≤ 10	200
MYG07K271	270	175	225	455	10	1250	32	≤ 10	170
MYG07K361	360	230	300	595	10	1250	42	≤ 10	130
MYG07K391	390	250	320	650	10	1250	46	≤ 10	130
MYG07K431	430	275	350	710	10	1250	50	≤ 10	110
MYG07K471	470	300	385	775	10	1250	56	≤ 10	100
MYG07K511	510	320	410	845	10	1250	55	≤ 10	100
MYG07K561	560	360	460	925	10	1250	60	≤ 10	90
MYG07K621	620	385	505	1025	10	1250	65	≤ 10	85
MYG07K681	680	420	560	1120	10	1250	70	≤ 10	80
MYG07K751	750	460	615	1240	10	1250	75	≤ 10	70
MYG07K821	820	510	670	1290	10	1250	80	≤ 10	60



MYG10K series

型号规格 Type	特 性 项 目 和 额 定 值								
	压敏 电压 (V) V1mA (V)	最大连续工作 电压 (V) Maximum Allowable Voltage (V)		等级电压 (V) Clamping Voltage (max.)	等级电流 (A) Clamping Current (max.)	最大峰值电 流 Maximum Peak Current (A)	能量 Energy(10 /1000μ S)	漏电流 Drain Current (uA)	电容量 (pF) (参考值) Capacitance (Typical) PF
	V	A • Cr ms	D.C	Vc	Ip	8/20μ S	J	I _l	C
MYG10K820	82	50	65	135	25	2500	17	≤10	1800
MYG10K101	100	60	85	165	25	2500	18	≤10	1400
MYG10K121	120	75	100	200	25	2500	21	≤10	1100
MYG10K151	150	95	125	250	25	2500	25	≤10	900
MYG10K201	200	130	170	340	25	2500	42	≤10	500
MYG10K221	220	140	180	360	25	2500	46	≤10	450
MYG10K241	240	150	200	395	25	2500	50	≤10	400
MYG10K271	270	175	225	455	25	2500	57	≤10	350
MYG10K361	360	230	300	595	25	2500	74	≤10	300
MYG10K391	390	250	320	650	25	2500	81	≤10	270
MYG10K431	430	275	350	710	25	2500	88	≤10	250
MYG10K471	470	300	385	775	25	2500	94	≤10	230
MYG10K511	510	320	410	845	25	2500	95	≤10	210
MYG10K561	560	360	460	925	25	2500	100	≤10	190
MYG10K621	620	385	505	1025	25	2500	102	≤10	130
MYG10K681	680	420	565	1120	25	2500	102	≤10	130
MYG10K751	750	460	615	1240	25	2500	125	≤10	120
MYG10K781	780	485	640	1290	25	2500	125	≤10	120
MYG10K821	820	510	670	1355	25	2500	125	≤10	110
MYG10K911	910	550	745	1500	25	2500	133	≤10	100
MYG10K102	1000	625	825	1650	25	2500	140	≤10	90
MYG10K112	1100	680	895	1815	25	2500	155	≤10	80



MYG14K series

型号规格 Type	特 性 项 目 和 额 定 值								
	压敏 电压 (V) V1mA (V)	最大连续工作电 压 (V) Maximum Allowable Voltage (V)		等级电压 Clamping Voltage (max.) (V)	等级电流 Clamping Current (max.) (A)	最大峰值电 流 Maximum Peak Current (A)	能量 Energy(10 /1000 μ S)	漏电流 (μ A) Drain Current (μ A)	电容量 (pF) (参考值) Capacitance (Typical) PF
	V	A •Crms	D.C	Vc	Ip	8/20 μ S	J	I _l	C
MYG14K820	82	50	65	135	50	4500	29	≤ 10	2900
MYG14K101	100	60	85	165	50	4500	35	≤ 10	2400
MYG14K121	120	75	100	200	50	4500	42	≤ 10	1900
MYG14K151	150	95	125	250	50	4500	53	≤ 10	1500
MYG14K201	200	130	170	340	50	4500	80	≤ 10	1000
MYG14K221	220	140	180	360	50	4500	80	≤ 10	1000
MYG14K241	240	150	200	395	50	4500	84	≤ 10	900
MYG14K271	270	175	225	455	50	4500	99	≤ 10	750
MYG14K361	360	230	300	595	50	4500	130	≤ 10	550
MYG14K391	390	250	320	650	50	4500	140	≤ 10	500
MYG14K431	430	275	350	710	50	4500	155	≤ 10	450
MYG14K471	470	300	385	775	50	4500	175	≤ 10	440
MYG14K511	510	320	410	845	50	4500	190	≤ 10	350
MYG14K561	560	360	460	925	50	4500	190	≤ 10	340
MYG14K621	620	385	505	1025	50	4500	190	≤ 10	250
MYG14K681	680	420	565	1120	50	4500	190	≤ 10	250
MYG14K751	750	460	615	1240	50	4500	210	≤ 10	230
MYG14K781	780	485	640	1290	50	4500	210	≤ 10	230
MYG14K821	820	510	670	1355	50	4500	235	≤ 10	200
MYG14K911	910	550	745	1500	50	4500	255	≤ 10	180
MYG14K102	1000	625	825	1650	50	4500	280	≤ 10	150
MYG14K112	1100	680	895	1815	50	4500	310	≤ 10	150
MYG14K182	1800	1000	1465	2970	50	4500	510	≤ 10	100



MYG20K series

型号规格 Type	特 性 项 目 和 额 定 值								
	压敏 电压 (V) V1mA (V)	最大连续工作电 压 Maximum Allowable Voltage (V)		等级电压 Clamping Voltage (max.) (V)	等级电流 Clamping Current (max.) (A)	最大峰值电 流 Maximum Peak Current (A)	能量 Energy(10 /1000μ S)	漏电流 (uA) Drain Current (uA)	电容量 (pF) (参考值) Capacitance (Typical) PF
	V	A •Crms	D.C	Vc	Ip	8/20μ S	J	I _l	C
MYG20K820	82	50	65	135	100	6500	56	≤10	5500
MYG20K101	100	60	85	165	100	6500	70	≤10	4800
MYG20K121	120	75	100	200	100	6500	85	≤10	3800
MYG20K151	150	95	125	250	100	6500	106	≤10	3000
MYG20K201	200	130	170	340	100	6500	140	≤10	2000
MYG20K221	220	140	180	360	100	6500	155	≤10	2000
MYG20K241	240	150	200	395	100	6500	168	≤10	1800
MYG20K271	270	175	225	455	100	6500	190	≤10	1600
MYG20K361	360	230	300	595	100	6500	255	≤10	1200
MYG20K391	390	250	320	650	100	6500	275	≤10	1000
MYG20K431	430	275	350	710	100	6500	305	≤10	900
MYG20K471	470	300	385	775	100	6500	350	≤10	900
MYG20K511	510	320	410	845	100	6500	382	≤10	800
MYG20K561	560	350	455	945	100	6500	380	≤10	700
MYG20K621	620	385	505	1025	100	6500	380	≤10	500
MYG20K681	680	420	565	1120	100	6500	380	≤10	460
MYG20K751	750	460	615	1240	100	6500	420	≤10	420
MYG20K781	780	485	640	1290	100	6500	420	≤10	420
MYG20K821	820	510	670	1355	100	6500	460	≤10	400
MYG20K911	910	550	745	1500	100	6500	510	≤10	350
MYG20K102	1000	625	825	1650	100	6500	560	≤10	320
MYG20K112	1100	680	895	1815	100	6500	620	≤10	300
MYG20K182	1800	1000	1465	2970	100	6500	860	≤10	200

**4.电性能 Electrical Characteristics**

项目 Items	测试方法 Test Methods	规范 Specifications
测试条件 Standard Test Condition	测试温度为 5 ~35℃；相对湿度为<85% Electrical measurements (initial/after tests) shall be conducted at temperature of 5 to 35℃,relative humidity of maximum 85%	
压敏电压 Varistor Voltage	施加 0.1/1mA 的直流测试电流在电阻的引线两端测得的电压为压敏电压（测试尽可能的快避免温度的影响）。 The voltage between two terminals with the specified measuring current 0.1/1mA DC applied is called Varistor Voltage or $V_{0.1mA/V_{1mA}}$. The measurement shall be made as fast as possible to avoid heat affection.	按照规范要求 To meet the specified value.
最大允许电压 Maximum Allowable Voltage	连续施加的最大交流电压的有效值或者直流电压。The maximum sinusoidal RMS voltage or maximum DC voltage that can be applied continuously.	按照规范要求 To meet the specified value.
等级电压 Clamping voltage	施加(脉宽为 8/20μs) 的脉冲电流在电阻的引线两端测得的电压 The maximum voltage between two terminals with the specified standard impulse current (8/20μs).	按照规范要求 To meet the specified value.
引线拉伸强度 Terminal Pull Strength	对电阻的引线施加拉力（如下），维持 10±1 秒。引线没有可见损伤。 After gradually applying the force specified below and keeping the unit fixed for 10±1 seconds, the terminal shall be visually examined for any damage. 引线尺寸 拉力 Terminal diameter Force φ 0.6mm 9.8N(1.0kgf) φ 0.8mm,1.0mm 19.6N(2.0kgf)	没有明显的机械损伤 No remarkable mechanical damage
引线的弯曲强度 Terminal Bending Strength	引线被弯曲 90° 后恢复到原来的位置，然后在相反的方向再弯曲 90° 恢复到原来的位置，引线没有可见损伤。The terminal shall gradually be bent by, 90° in one direction, then 90° in the opposite direction, and again back to original position. The damage of the terminal shall be visually examined. 引线尺寸 拉力 Terminal diameter Force φ 0.6mm 4.9N(0.5kgf) φ 0.8mm,1.0mm 9.8N(1.0kgf)	没有明显的机械损伤 No remarkable mechanical damage
震动 Vibration	频率范围：10-55Hz，振幅：0.75mm 或 98M/S ² 方向，每个坐标方向震动 2 小时。然后进行外观检查。	没有明显的机械损伤 No remarkable mechanical



	Frequency range 10-55Hz, Amplitude:0.75mm or 98M/S ² , Direction:three mutually perpendicular directions for 2 hours each.Thereafter,the unit shall visually examined.	damage
可焊性 Solderability	焊接温度 solder temperature:245±5℃ 浸入深度 immersion depth:2+0/-0.5mm 浸入时间 Immersion time :2.0±0.5sec	浸入面积最少达 95% 以上 Approximately 95% of the terminals shall be covered with new solder uniformly.
耐焊接热 Resistance to Soldering Heat	浸入深度距端部 2.0 to 2.5mm Terminal except 2.0 to 2.5mm shall be immersed in the solder. 焊接温度 solder temperature:255±10℃ 浸入时间 Immersion time :10±1 sec(5D: 5±1s)	$\Delta V_{cmA}/V_{cmA} \leq \pm 5\%$. 没有明显的机械损伤 No remarkable mechanical damage
稳态湿热 ity(Steady State)	没有负载的情况下将产品放在温度为 40±2℃, 湿度为 90 到 95%, 1000 小时;然后将电阻放在室温中 1 到 2 小时后进行测 量。 The specimen shall be subjected to 40±2℃,90 to 95% RH for 1000 hours without load and then stored at room temperature and normal humidity for 1 to 2 hours. Thereafter , the change of V_{CmA} shall be measured.	$\Delta V_{cmA}/V_{cmA} \leq \pm 5\%$
容量 Capacitance	容量在 1kHz±10%,1V _{rms} max.(1MHZ±10% below 100pF),0V bias and 20±2℃条件下测量。 Capacitance shall be measured at 1kHz ± 10%,1V _{rms} max.(1MHZ±10% below 100pF),0V bias and 20±2℃	按照规范要求 To meet the specified value.
上限类别温度耐久性 High Temperature Load/Dry Heat Load	将连续施加最大允许电压的产品放在温度为 85±2℃, 1000 小 时;然后将电阻放在室温中 1 到 2 小时后进行测量。 After being continuously applied the Maximum Allowable Voltage at 85±2℃ for 1000 hours,the specimen shall be stored at room temperature and normal humidity for 1 to 2 hours. Thereafter , the change of V_{CmA} shall be measured.	$\Delta V_{cmA}/V_{cmA} \leq \pm 10\%$
高温储存 Dry Heat (High Temperature Storage)	将产品放在温度为 125±2℃容器中, 1000 小时;然后将电阻放 在室温中 1 到 2 小时后进行测量。 The specimen shall be subjected to 125±2℃ for 1000 hours in a thermostatic bath without load and then stored at room temperature and normal humidity for 1 to 2 hours. Thereafter , the change of V_{CmA} shall be measured.	$\Delta V_{cmA}/V_{cmA} \leq \pm 5\%$
下限类别温度耐久性 Low Temperature storage/Cold	将产品放在温度为-40±2℃, 1000 小时;然后将电阻放在室温 中 1 到 2 小时后进行测量。 The specimen shall be subjected to -40±2℃without load for 1000 hours and then stored at room temperature and normal humidity for 1 to 2	$\Delta V_{cmA}/V_{cmA} \leq \pm 5\%$

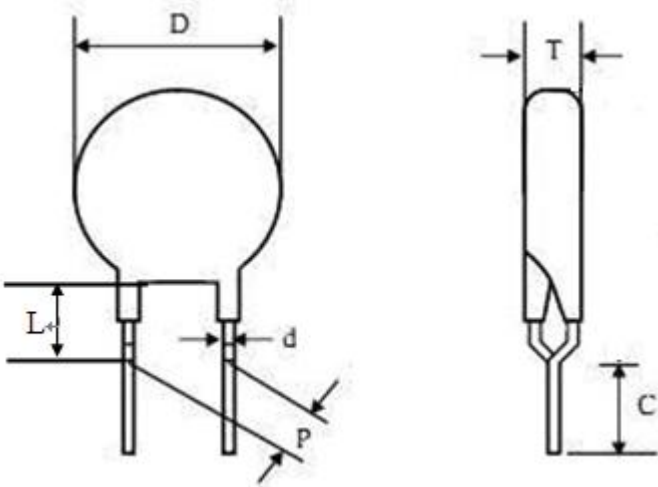


	hours. Thereafter , the change of V _{CmA} shall be measured.											
湿中负荷 Damp Heat Load/ Humidity Load	将施加最大允许电压产品放在温度为 40±2℃，相对湿度为 90 到 95%，1000 小时；然后将电阻放在室温中 1 到 2 小时后进行测量。 The specimen shall be subjected to 40±2℃,90 to 95% RH and the Maximum Allowable Voltage for 1000 hours and then stored at room temperature and normal humidity for 1 to 2 hours. Thereafter , the change of V_{CmA} shall be measured.	Δ V_{CmA}/V_{CmA}≤±10%										
温度循环 Temperature Cycle	将产品进行以下 5 个循环的冲击,然后将电阻放在室温中 1 到 2 小时后进行测量。 The temperature cycle shown below shall be repeated 5 cycles and then the specimen shall be stored at room temperature and normal humidity for 1to 2 hours, the change of V_{CmA} and mechanical damage shall be examined. <table><tr><td>温度 Temperature(℃)</td><td>周期 Period(minutes)</td></tr><tr><td>-40±3</td><td>30±3</td></tr><tr><td>室温 Room Temp</td><td>15±3</td></tr><tr><td>85±3</td><td>30±3</td></tr><tr><td>室温 Room Temp</td><td>15±3</td></tr></table>	温度 Temperature(℃)	周期 Period(minutes)	-40±3	30±3	室温 Room Temp	15±3	85±3	30±3	室温 Room Temp	15±3	Δ V_{CmA}/V_{CmA}≤±5% 没有明显的机械损伤 No remarkable mechanical damage
温度 Temperature(℃)	周期 Period(minutes)											
-40±3	30±3											
室温 Room Temp	15±3											
85±3	30±3											
室温 Room Temp	15±3											
①最大峰值电流（8/20 μS）Maximum Peak Current (Withstanding Surge Current)	施加脉冲宽度 8/20μS 的脉冲电流冲击 1 次。压敏电压变化率 ±10%范围内的最大峰值电流。The maximum current within the varistor voltage change of ±10% when a standard impulse current of 8/20 μS is applied 1 time.	Δ V_{CmA}/V_{CmA}≤±10% 没有明显的机械损伤 No remarkable mechanical damage										
②最大峰值电流（10/1000μS）Maximum Peak Current (Withstanding Surge Current)	施加 10/1000μS 的脉冲电流冲击 1 次。压敏电压变化率±10%范围内的最大峰值电流。The maximum current within the varistor voltage change of ±10% when a standard impulse current of 10/1000μS is applied 1 time.	Δ V_{CmA}/V_{CmA}≤±10% 没有明显的机械损伤 No remarkable mechanical damage										



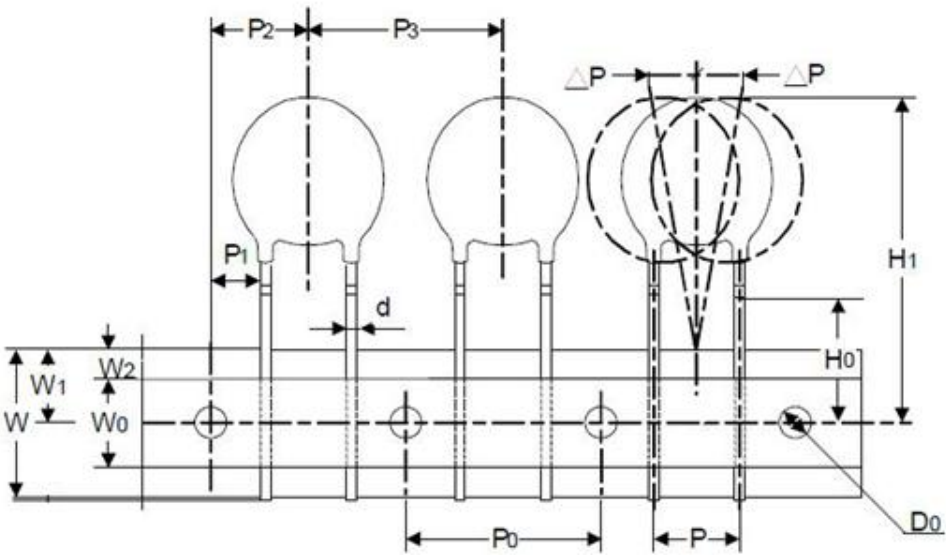
5.编带

5.1 05K 编带图纸



型号	DMAX	$d \pm 0.05$	TMAX	$P \pm 0.5$	Cmin	Lmax
MYG05K471 YT	7.5	0.6	5.5	5.0	20	4

编带尺寸:

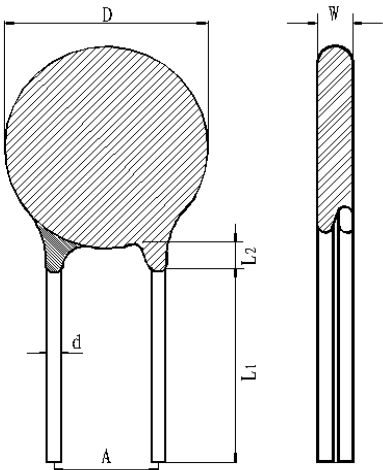


P0	P	P1	P2	P3	H0	H1	W0	W1	W2	W	ΔP	D0
± 0.3	± 0.5	± 1	± 1.3	± 1	± 2	Max	± 2	± 0.5	Max	± 0.5	MAX	± 0.2
12.7	5	3.85	6.35	12.7	16	28	10	9	2.0	18	2	4



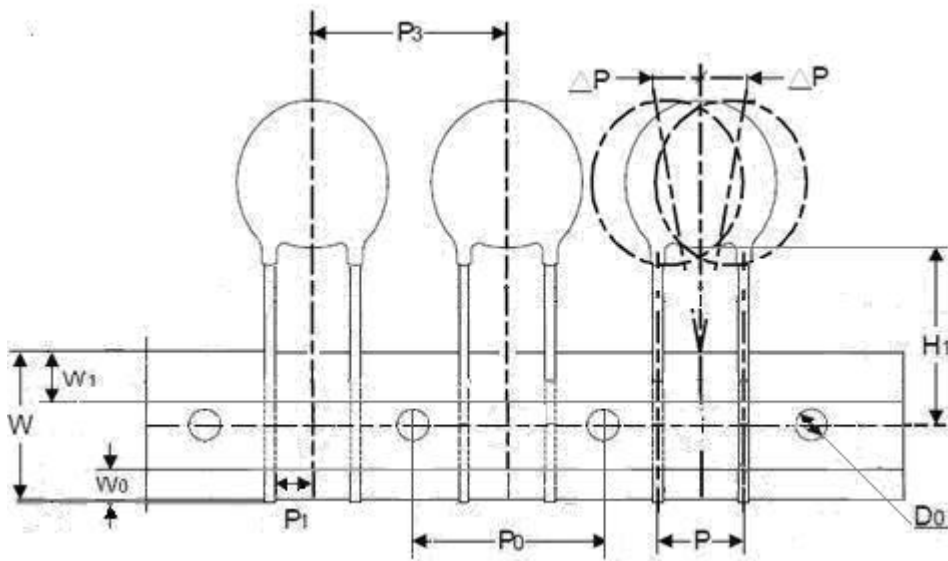
5.2 07K 编带图纸

电阻尺寸



Code Name	D_{MAX}	$d(\pm 0.05)$	W_{MAX}	$A(\pm 1.0)$	L_{1min}	L_{2MAX}
MYG07K471 ST	9.0	0.6	4.8	5.0	20	3.0

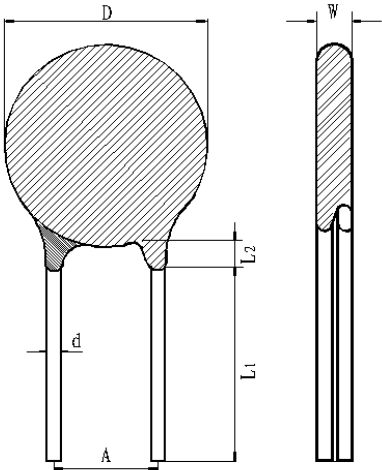
编带尺寸:



P0	P	P1	P3	H1	W0	W1	W	ΔP	D0
± 0.3	± 1.0	± 1	± 1	± 1.0	± 0.5	± 0.5	± 1	MAX	± 0.2
12.7	5	2.2	12.7	20	4	6	18	1	4

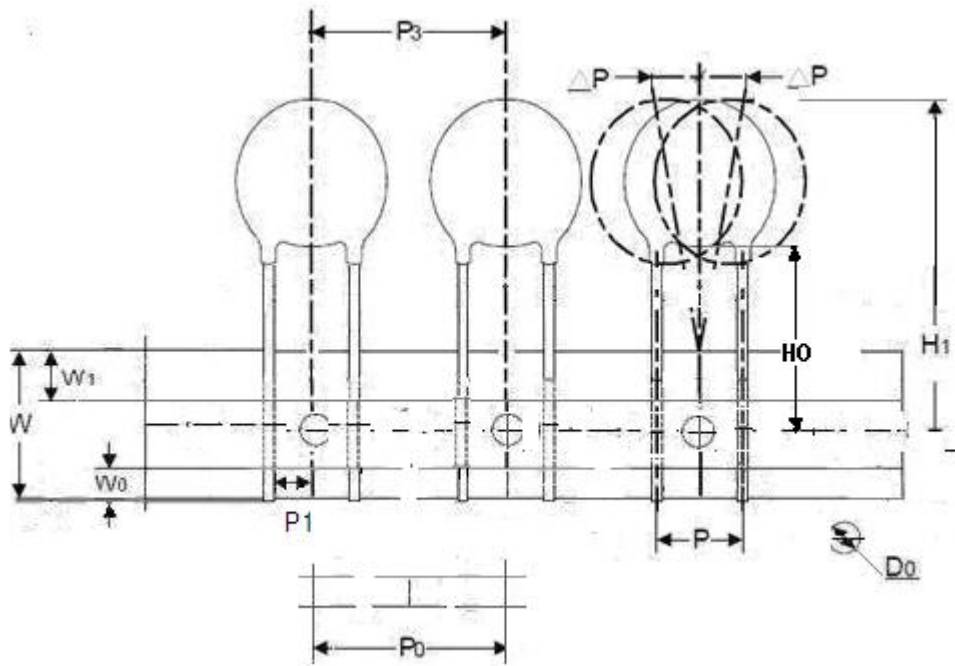


5.3 10K 编带图纸



Code Name	D _{MAX}	d(±0.02)	W _{MAX}	A(±0.5)	L _{1min}	L _{2MAX}
MYG10K621 ST	12.5	0.8	6.0	7.5	20	2.0

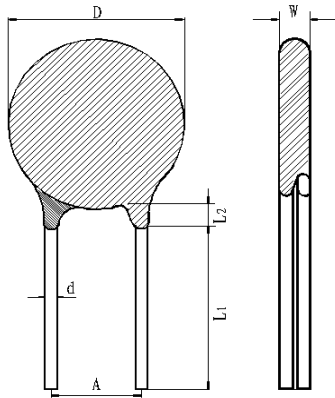
编带尺寸:



P0	P	P1	P3	H1	H0	W1	W0	W	ΔP	D0±0.2
±0.3	±0.5	±1	±1	Max	±2	±1	±1	±0.5	MAX	
12.7	7.5	3.2	12.7	38	20	6	4	18	1	4

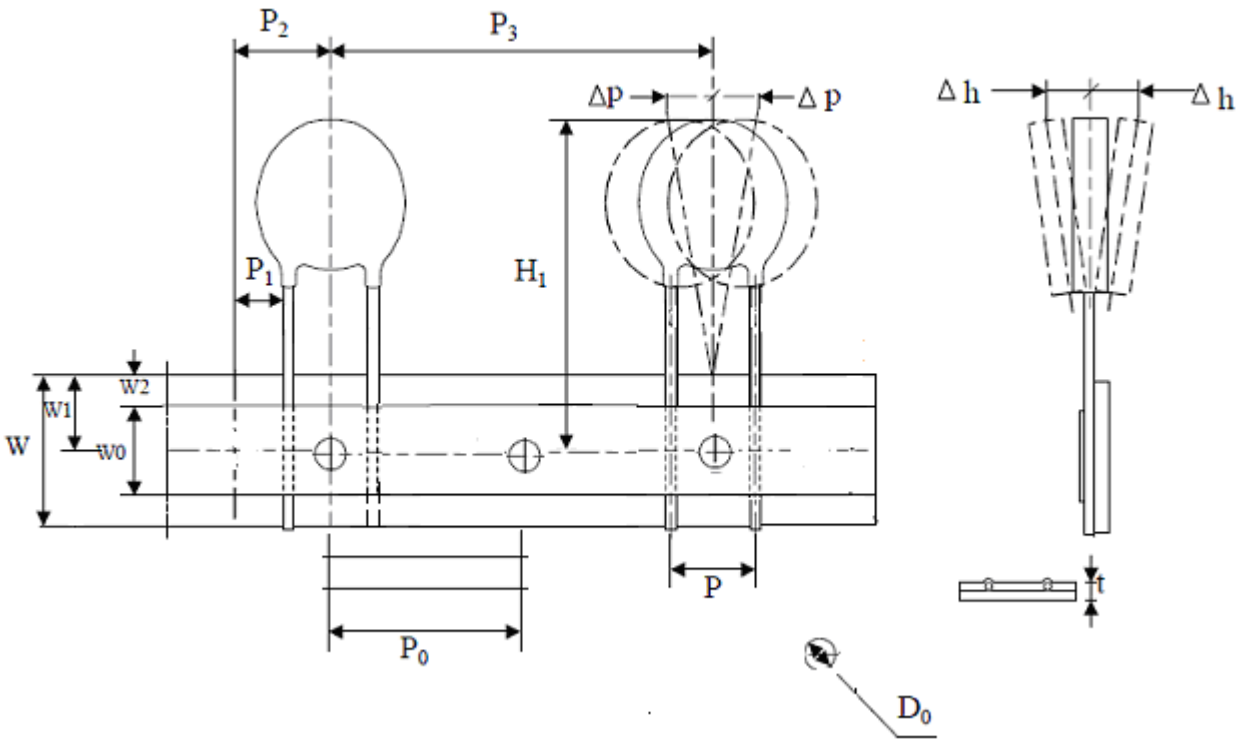


5.3 14K 编带图纸



Code Name	D _{MAX}	d(±0.02)	W _{MAX}	A(±0.5)	L _{1min}	L _{2MAX}
MYG14K471 ST	16.5	0.8	6.0	7.5	20	2.0

编带尺寸:



ITEM	P ₀	p	P ₁	P ₂	P ₃	H ₁ max	W ₀	W ₁	W ₂	W	Δ p max	Δ h max	D ₀	t
Nor.	12.7	7.5	2.2	6.35	25.4	41	8	9	0	18	1.0	2.0	4	0.6
ToL.	± 0.3	±1	±1	± 1.3	±1	---	±1	+0.75/ -0.5	+1	± 0.5	---	---	± 0.2	± 0.2