

二、MYG 压敏电阻器 (Varistor For Military Use)

MYG02、MYG04型压敏电阻器由于具有优良的压敏特性及高可靠性而广泛适用于军事领域。

Type MYG02、MYG04 Varistors are for military use. They have property and reliability meet the military standards.

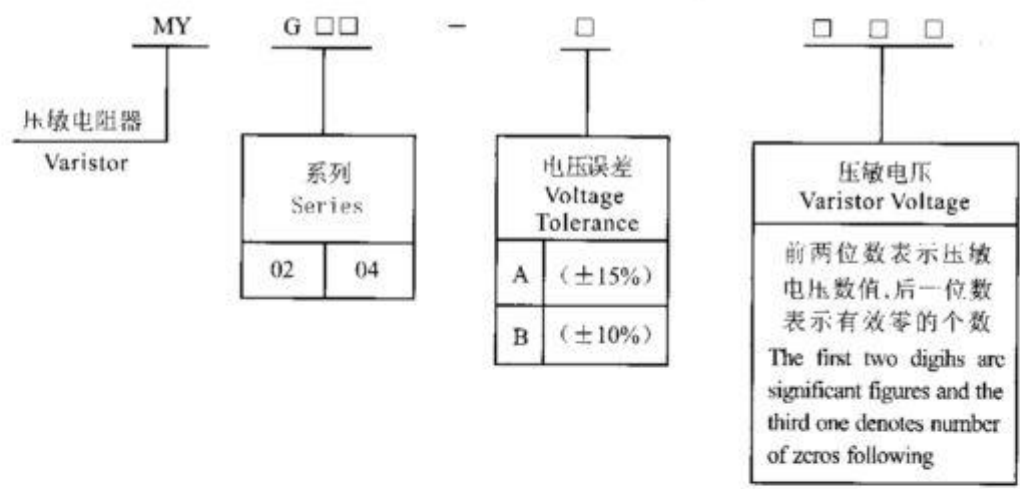
1. 特性 (Features)

- 电压范围宽 (10V~200V) Varistor voltage (10V~200V)
- 非线性系数大 Excellent non-linearity voltage
- 通流容量大 Great withstanding surge current
- 响应时间快 Fast response time

2. 主要用途 (Recommended Applications)

- 半导体器件保护 Protection of semiconductors
- 通信、测量、控制仪器浪涌电压保护 Surge protection of communication、measuring or controller instrument

3. 命名方法 (Explanation of Part numbers)



4. 产品规格及主要电器参数 Specification and Electrical Characteristics of Product

型号 MODEL NO.	压敏电压 VARISTOR VOLTAGE	最大连续工作电压 MAX. CONTINUOUS VOLTAGE		限制电压 CLAMPING VOLTAGE		电容量 (参考值) CAPACITANCE (REFERENCE) (1MHz)	额定能量 ENERGY (2ms)	通流容量 PEAK CURRENT (8 / 20 μ s)
	V	Ac rms (v)	Dc (v)	V	A	PF	J	A
MYG02-100A	10 (8.5-11.5)	4	6	27	5	22000	0.6	125
MYG02-120A	12 (10.2-13.8)	6	8	30	5	18500	0.8	125
MYG02-150A	15 (12.8-17.2)	8	10	32	5	17000	1.1	125
MYG02-180B	18 (16-20)	10	14	34	5	16000	1.5	250
MYG02-220B	22 (20-24)	14	18	43	5	11000	2.0	250
MYG02-270B	27 (24-30)	17	22	53	5	8000	2.5	250
MYG02-330B	33 (30-36)	20	26	64	5	6300	3.0	250
MYG02-390B	39 (35-43)	25	31	76	5	5200	3.5	250
MYG02-470B	47 (42-52)	30	38	89	5	4600	4.5	250
MYG02-560B	56 (50-62)	35	45	103	5	3750	5.5	250
MYG02-680B	68 (61-75)	40	56	123	5	2800	6.5	250
MYG04-820B	82 (74-90)	50	65	140	25	1200	8.0	1250
MYG04-101B	100 (90-110)	60	85	170	25	1000	10.0	1250
MYG04-121B	120 (108-132)	75	100	200	25	900	12.0	1250
MYG04-151B	150 (135-165)	95	125	250	25	750	16.0	1250
MYG04-181B	180 (162-198)	115	150	300	25	650	18.0	1250
MYG04-201B	200 (180-220)	125	160	340	25	500	20.0	1250

5. 产品外形尺寸 (Dimension)

产品外形尺寸 (Dimension)	尺寸 Dimensions(mm)				
	D max.	T max.	W \pm 1.0	d	
MYG02-100A	12.5	4.1	7.5	0.8	
MYG02-120A	12.5	4.2	7.5	0.8	
MYG02-150A	12.5	4.3	7.5	0.8	
MYG02-180B	12.5	4.5	7.5	0.8	
MYG02-220B	12.5	4.7	7.5	0.8	
MYG02-270B	12.5	4.9	7.5	0.8	
MYG02-330B	12.5	5.1	7.5	0.8	
MYG02-390B	12.5	4.9	7.5	0.8	
MYG02-470B	12.5	5.0	7.5	0.8	
MYG02-560B	12.5	5.1	7.5	0.8	
MYG02-680B	12.5	5.3	7.5	0.8	
MYG04-820B	12.5	4.5	7.5	0.8	
MYG04-101B	12.5	4.7	7.5	0.8	
MYG04-121B	12.5	4.9	7.5	0.8	
MYG04-151B	12.5	5.1	7.5	0.8	
MYG04-181B	12.5	5.3	7.5	0.8	
MYG04-201B	12.5	5.5	7.5	0.8	

三、UL、CCEE安全认证 (UL、CCEE Safety Certificate)

认证名称 Standard NO.	证件编号 FILE NO.	认证产品 Title	产品范围 Products Range
美国UL安全认证	E191293	MYG20型压敏电阻器	MYG20G-05K820-471 MYG20G-07K820-471 MYG20G-10K820-182 MYG20G-14K820-182 MYG20G-20K820-182
中国CCEE长城认证	CII0020818-97	MYG1型压敏电阻器 MYG20型压敏电阻器	MYG1-56~620 MYG20G-05K180-471 MYG20G-07K180-471 MYG20G-10K180-182 MYG20G-14K180-182 MYG20G-20K180-182

四、注意事项 (Precautions)

压敏电阻器应该在其额定的参数条件以内工作，否则有可能导致压敏电阻器发热、劣化甚至击穿的后果。压敏电阻器的失效模式主要为短路，也有可能出现开路。因此，用户在选用产品时应仔细阅读以下“必须遵守事项”和“保护措施”。

The varistor shall not be operated beyond the specified "Ratings" and "Environmental Conditions" in the Catalog or the Specifications to prevent them from deterioration, breakdown, flaming or glowing. Following Precautions for Safety and Application Notes shall be taken in your major consideration.

★ 必须遵守事项 (Precautions for Safety) :

- 压敏电阻器的工作环境温度应该在技术条件规定的范围以内。
- 压敏电阻器的工作电压（连续施加在压敏电阻器两端的电压）不能超过规格表中列出的“最大连续工作电压”值。
- 在浪涌脉冲重复产生的应用场合，通过压敏电阻器的浪涌峰值电流和浪涌能量不应超过“脉冲寿命特性”中的规定值。
- 当浪涌脉冲以很短的间歇重复施加于压敏电阻器时，设计师应计算此时的平均功率并应该使其低于规格表中列出的“最大静态功率”。
- 通过压敏电阻器的浪涌电流不应超过规格表或脉冲寿命特性中“最大峰值电流”值。
- 压敏电阻器不应该靠近发热或可燃元器件安装，最好要有大于 3 毫米的间隔，以免损坏其它元器件。
- The temperature of the working environment of the varistor must fall in the range required by technical conditions.
- The varistor shall not be operated exceeding the specified Maximum Allowable Voltage in the Catalog or the Specification.
- In case of application to repeated surge/overvoltages, the varistor shall not be subjected to surge currents and energy levels above the specified maximum ratings in "Pulse Lifetime Rating" in the Catalog or the Specifications.
- The varistor shall not be operated beyond the "Maximum Peak Current Ratings" in the Catalog.
- It is recommended that the varistor shall be located 3mm away from other heat generating or combustible components.

★ 警告 (Warning) :

- 若压敏电阻器被联接于设备的带电部份和金属外壳之间时，必须采取以下的防范措施以免造成人员的触电事故：
 - A) 设备的金属外壳必须有可靠的接地线与大地相联接。
 - B) 在设备中要安装漏电保护装置或紧贴压敏电阻器安装热熔断路器，并串接在压敏电阻回路中，以确保万一出现故障时，断开电路。
 - C) 设备的带电部份应该安装保护罩以防止触电事故。
- When the varistor are applied between a live part and a metallic chassis of equipment, following safety countermeasures shall be taken to protect human from electric shock
 - A) The metallic chassis shall be earthed to the ground
 - B) A protective device against electric leakage must be installed in the equipment, or alternatively, a thermal type fuse should be attached closely to the varistor and series connected within its circuit.
 - C) The live part shall be equipped with a protective cover for preventing electric shock

★ 保护措施 (Applicative Notes)

● 对压敏电阻器加装保险装置, 可免除由外界不确定因素对压敏电阻器和装置造成的不利后果。

1) 压敏电阻器接在电源线之间时, 在火线进线处可串联一保险丝(见图1)。

2) 压敏电阻器接在火线与大地之间时, 由于存在接地电阻, 出现故障时电流型保险丝有可能不被熔断, 导致压敏电阻器烧毁。改进措施是:

a) 在进线中接入漏电开关, 当电路中出现漏电流时, 及时切断电路。

b) 紧贴压敏电阻器安装热熔断器, 并串联在回路中, 当压敏电阻器过热时, 热熔断器断开, 切断电路。

● Protective Devices for varistors

Precause measures are to be taken against the accident damage

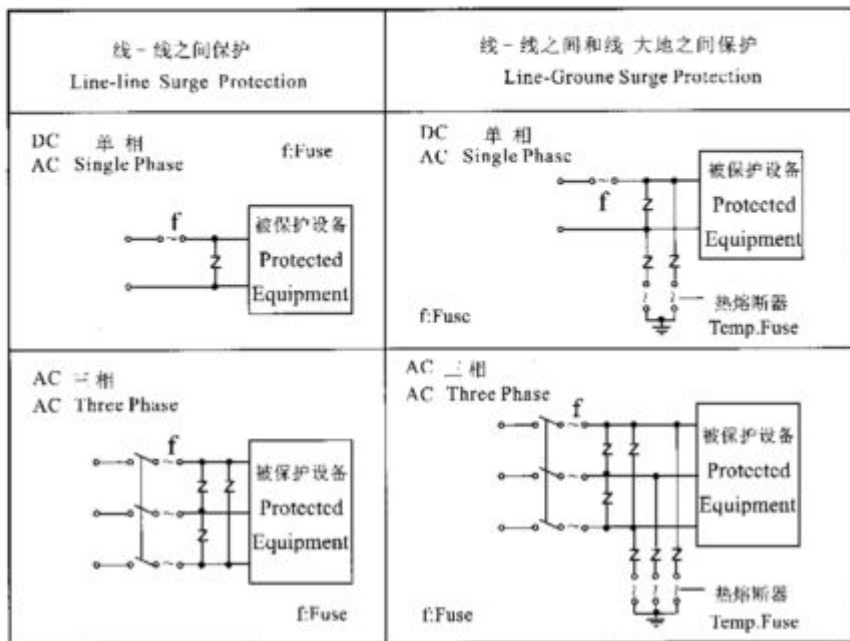
1) In case of "Across the Line Use", the Varistor shall be protected by connecting a ground fault circuit interrupter or fusing in series to the devices (See Figure 1)

2) In case of "Line to Ground Use", the short-circuit of the varistor may not blow the current type fuse due to the grounding resistance (Between Line and Ground) Which may cause flaming or burnout of the devices in the worst case. Following safety countermeasures (A or B) are recommended.

A) Connecting a "leakage current circuit breaker" in series to the varistor to be protected.

B) Use current type fuses and a thermal type fuse which are thermally coupled with the varistor each other (See Figure 1)

图 · (Figure1)



● 压敏电阻器压敏电压的选定 (Selection of Varistor Voltage Rating)

1) 基本观点: 如何选择合适的压敏电阻器的压敏电压, 并对设备进行有效的保护, 以下两个基本观点应该充分考虑:

A) 在实际电路中的最大工作电压, 必须低于规格表中列出的“最大连续工作电压”值。

B) 要充分考虑到电网(或电路)工作电压的波动幅度, 特别是要考虑在工频电网中, 由于各相负荷不平衡, 火线与中性线瞬时短路, 容性(或感性)负荷中的的开关操作引起的 LC 共振导致电压临时波动的因素, 选取压敏电阻器压敏电压时, 要留有余量。

2) 线——线之间保护

在工频电网中进行线——线之间保护时, 针对各档电压推荐的压敏电阻器的压敏电压值如表1。

注: 某些工作于相电压的电器设备, 设计时要求能耐受短期线电压试验, 此时请选用打*号的压敏电阻器。

3) 线——大地之间保护

在工频电网中进行火线与大地之间保护时, 针对各档电压推荐的压敏电阻器的压敏电压值如表1。

表1 (Table1)

线-线之间保护 Line-line Surge Protection		线-大地之间保护 Line-Ground Surge Protection	
工作电压 Nominal Line Voltage	压敏电阻器型号 Part Number of varistor	工作电压 Nominal Line Voltage	压敏电阻器型号 Part Number of varistor
AC100V	MYG20-G□□K271	AC100V	MYG20-G□□K821
AC120V	MYG20-G□□K331	AC120V	MYG20-G□□K821
AC220V	MYG20-G□□K471 MYG20-G□□K511 MYG20-G□□K561 MYG20-G□□K681*	AC220V	MYG20-G□□K182
AC380V	MYG20-G□□K821 MYG20-G□□K911	AC380V	MYG20-G□□K182

注: □□可选择05K、07K、10K、14K、20K系列。

Notes: □□:varistor diameter:05, 07, 10, 14, 20.

1) General Precautions

In selection of Varistor Voltage Rating for line protection, following general precautions shall be taken in your consideration.

A) Maximum operating voltage shall be lower than the specified "Maximum Allowable voltage" of the varistor applied.

B) In selection of the varistor, reasonable margin is required against fluctuation of the primary line (or circuit) voltage. Special consideration must be given to load unbalance of separately wired loads, short circuit between the live line and the neutral line or LC resonance at switching for a capacitive or inductive load.

2) Across-the-Line Use (Line to Line Surge Protection) Select the varistor recommended in Table 1.

Notes:

For some electric equipments working under the phase voltage, the endurance of the short-time line voltage shall be taken into consideration during the design, and for such case, please select the varistor with "*".

3) Line to Ground Use (Line to Ground Surge Protection) select the varistor recommended in Table 1.

● 保险丝的选择 (Selection of Fuse Ratings):

保险丝的安装方式如图1, 对应不同系列的压敏电阻器, 推荐下列规格的保险丝 (表2):

The recommended fuse locations are shown in Figure 1. For varistor protection, it is recommended to select suitable fuse in Table 2.

表2 (Table 2)

压敏电阻器系列 Varistor series	05K	07K	10K	14K	20K
推荐保险丝规格 Recommended Fuse Ratings	1-2A	2-4A	3-5A	4-8A	6-10A

● 环境条件

1) 压敏电阻器不应暴露在露天或户外工作。

2) 压敏电阻器的环境温度不能超过技术条件规定的范围, 不要被阳光直接照射, 也不要靠近设备中的发热零部件。

3) 压敏电阻器应避免在风、雨、水蒸气等高温高湿的条件下工作。

4) 压敏电阻器应避免在沙尘、盐雾、有害气体(体的条件下工作。

● 装配中的注意事项

1) 不要用丙酮等溶剂清洗压敏电阻器, 以免破坏包封层环氧树脂。

2) 安装时应避免敲击、弯折压敏电阻器, 以免造成机械损伤。

● 长期存放

- 1) 压敏电阻器不能在高温高湿的条件下存放,应在温度40℃以下,相对湿度75%以下的室内存放。存放期不应超过一年。
- 2) 压敏电阻器不能和腐蚀性气体在一起存放。
- 3) 存放在库房中的压敏电阻器不要被阳光直射。

● 压敏电阻器的固有电容

压敏电阻器的固有电容已经在规格表中列出,供设计师在高频电路中选用时参考。

● Enviromental Conditions

- 1) The varistor shall not be exposed outdoors, because of being designed for indoor use.
- 2) The varistor shall not be operated beyond the Specified Operating Temperature Range and shall not be exposed to direct sunlight and heating part of equipment.
- 3) The varistor shall not be operated under severe conditions of high temperatures and high humidities such as places exposed to rain, wind and vapour.
- 4) The varistor shall be free from dust, salty wind and atomospheres polluted by corrosive gas .

● Precautions for Assemblies and Handlings

- 1) Organic solvents such as thinner and acetone etc, shall not be applied to varistor for preventing deterioration of external coating or molding resin.
- 2) Abnormalmechanical stresses beyond the specified values such as strong falling shocks, ribrations and bending forces, shall be kept minimun to prevent electrical failures of the devices.

● Long Term Storage

- 1) The varistor shall not be stored under severe conditions of high temperatures and high humidities. Store them indoors under 40C max and 75%RH max. Use them within one year, if stored beyond the limit, check the solder bility before use.
- 2) The varistor shall not be stored under corrosive atomospheres such as hydrogen sulfide, sulfurous acid, chlorine and ammonia.
- 3) The varistor shall not be exposed to direct sunlight and shall not be stored under dew formation.

● Parallel Capacitance of the Varistor

The Parallel Capacitance of the Varistor is listed in the specification Table, for the designer' s reference in high frequency circuit.

五、技术资料

下表的参数试验中,除非有特别要求,所有电参数都是按照GB/T10194—GB/T10195—1997 IDT IEC1051—2:1991QC 420100规定的测试方法和条件进行试验。室温测试条件规定为:温度:25±1℃;相对湿度:48—52%;大气压力:86—106Kpa。

参数	试验方法	判定依据
压敏电压	通过规定电流时,压敏电阻器两端的电压用Vc来表示,05K系列规定通过的电流为0.1mA,07K、10K、20K系列规定通过的电流为1mA。	达到规格表中数值
最大连续工作电压	在规定的温度范围内可以连续施加在压敏电阻器两端的最大交流(有效值)或直流电压。	达到规格表中数值
限制电压	对压敏电阻器施加规定的标准波形(8/20μs)和规定电流时(如图),压敏电阻器两端的最大电压。 <div style="text-align: center;"> </div>	达到规格表中数值
额定功率	在规定的环境温度下所能消耗的最大功率。	
能量耐量	一次单脉冲电流冲击的最大能量,以10/1000μ或2ms方波波形,其电流、电压与时间的积(J=K·Vp·Ip·T, K为系数)即为能量耐量。且压敏电压的变化率仍在±10%以内。	达到规格表中数值

参数	试验方法		判定依据
最大峰值电流	1次：以8/20μs标准波形电流作一次冲击的最大电流值，此时，压敏电压的变化率仍在±10%以内。		达到规格表中数值
	2次：以8/20μs标准波形电流作二次冲击的最大电流值，两次冲击之间间隔5分钟，此时压敏电压的变化率仍在±10%以内。		
压敏电压温度系数	$\frac{V_c(+85^\circ\text{C}) - V_c(+25^\circ\text{C})}{V_c(+25^\circ\text{C})} \times \frac{1}{60} \times 100\%$		0~-0.05%/℃
固有电容	测试条件：1KHz±10%，1Vrms（小于100pF时测试频率为1MHz±10%）		达到规格表中数值 误差范围±20% （仅供参考）
绝缘强度	将样品的两端连在一起为一电极，用金属球包围样品的环氧封装体为另一电极，施加规定的电压1分钟（见下表）。		无击穿
	压敏电压	试验电压（AC）	
	V _c ≤330V	1000Vrms	
	V _c >330V	2000Vrms	
脉冲寿命	脉冲强度和宽度如脉冲寿命图，按冲击次数选择相应曲线，冲击次数为10-1000次时，冲击间隔为2分钟，冲击次数≥10 ⁴ 次时，冲击间隔10秒钟		ΔV _c /V _c ≤ ±10%
引线拉力强度	逐渐增加压敏电阻器两条引线端点的负荷直至下表的重量，然后保持10秒，目视检查有无损伤。		无明显机械损伤
	引线直径	拉力	
	Φ0.6mm, Φ0.8mm	10N	
	Φ1.0mm	20N	
引线弯折强度	将样品固定，使引线垂直向上，然后以轴向施加力如下表。引线被逐渐向一个方向弯折90°，最后再朝原方向弯折90°，目视检查有无损伤。		无明显机械损伤
	引线直径	拉力	
	Φ0.6mm, Φ0.8mm	5N	
	Φ1.0mm	10N	
振动	对样品施加简谐振动（振幅0.75mm），频率10-55Hz，每1分钟为1个频率变化周期（10Hz-55Hz-10Hz），三个轴向分别施加2小时，然后目视检查有无损伤。		无明显机械损伤
可焊性	将引线浸入锡槽距产品封装层2mm处，锡槽温度235±5℃，浸焊时间2±0.5秒，目视检查焊接均匀度。		约95%的引线表面被焊锡覆盖

参数	试验方法	判定依据					
耐焊接热	将引线浸入锡槽距产品包封层2-2.5mm处，锡槽温度 $260 \pm 5^\circ\text{C}$ ，浸焊时间 10 ± 1 秒（05K系列 5 ± 1 秒），然后在室内放置1-2小时，再测试压敏电压变化率和目视检查有无损伤。	$\Delta V_c/V_c \leq \pm 5\%$ 无明显机械损伤					
高温存放试验	样品在 $125 \pm 2^\circ\text{C}$ 的烘箱中无负荷存放1000小时，然后取出在室内放置1-2小时，再测试压敏电压变化率。	$\Delta V_c/V_c \leq \pm 5\%$					
湿热试验	样品在 40°C ，相对湿度90-95%的环境中无负荷放置1000小时，然后取出在室内放置1-2小时，再测试压敏电压变化率。	$\Delta V_c/V_c \leq \pm 5\%$					
温度循环试验	每一次温度循环的步骤如下表，重复五次，然后取出在室内放置1-2小时，再测试压敏电压变化率，并目视检查有无损伤。						$\Delta V_c/V_c \leq \pm 5\%$ 无明显机械损伤
	步骤	温度($^\circ\text{C}$)	时间(分)	步骤	温度($^\circ\text{C}$)	时间(分)	
	1	-40 ± 3	30 ± 3	3	125 ± 2	30 ± 3	
	2	室温	15 ± 3	4	室温	15 ± 3	
高温负荷试验	样品在 $85 \pm 2^\circ\text{C}$ 环境下施加最大连续工作电压1000小时，然后取出在室温放置1-2小时，再测试压敏电压变化率。						$\Delta V_c/V_c \leq \pm 10\%$
湿热负荷试验	样品在 $40 \pm 2^\circ\text{C}$ ，相对湿度90--95%的环境下施加最大连续工作电压1000小时，然后取出在室温放置1-2小时，再测试压敏电压变化率。						$\Delta V_c/V_c \leq \pm 10\%$
低温负荷试验	样品在 $-40 \pm 2^\circ\text{C}$ 的环境下无负荷放置1000小时，然后取出在室温放置1-2小时，再测试压敏电压变化率。						$\Delta V_c/V_c \leq \pm 5\%$

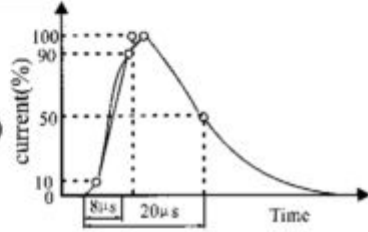
● 敬告用户

若需特殊尺寸要求、形状要求、电参数要求、其它高性能要求……可按供需双方协议订做、生产。

Technical Data

In the following experiments, all the characteristics, are experimented and obtained in compliance with the method and terms of GB/T 10194-GB/T 10195-1997 idt IEC 1051-2:1991 QC 420100. Specified indoor temperature: $25 \pm 5^\circ\text{C}$, comparative humidity: 45-85%. Atmospheric pressure: 86-106KPa.

Characteristics		Test Methods	Specifications
Varistor Voltage		The voltage between two leads of the varistor which is measured under the specified current, 05K series s specified current: 0.1mA, 07K、10K、14K、20K series s specified current: 1mA	To meet the specified value
Maximum Allowable Voltage		The maximum sinusoidal RMS voltage or maximum DC voltage that can be applied continuously in the specified operating temperature range.	
Clamping Voltage		The maximum voltage between two terminals with the specified standard impulse current (8/20 μ s) illustrated below applied	To meet the specified value
Rated power		The maximum power that can be applied within the specified ambient temperature.	
Maximum Energy		Maximum energy from one or a burst of impulse. It is the value within the varistor voltage change of ± 10% when one impulse of 10/1000 μ s or 2ms is applied	
Maximum Peak Current	1 time	The maximum current within the varistor voltage change of ± 10% when a single standard impulse current of 8/20 μ s is applied	To meet the specified value
	2 time	The maximum current within the varistor voltage change of ± 10% when a standard impulse current of 8/20 μ s is applied two times with an interval of 5 minutes	
Temperature Coefficient of varistor voltage		$\frac{V_c (+85^\circ\text{C}) - V_c (+25^\circ\text{C})}{V_c (+25^\circ\text{C})} \times \frac{1}{60} \times 100\%$	0~-0.05%/°C
Capacitance		Testing Condition: 1KHz ± 10%. 1Vrms. (1MHz ± 10% below 100pF)	To meet the specified value
Insulation Strength (Body Insulation)	The specified voltage shall be applied between both terminals of the specimen connected together and metal foil closely wrapped round its body for 1 minute.		No breakdown
	Varistor voltage	Testing Voltage(ΔC)	
	$V_c \leq 330\text{v}$	1000Vrms	
	$V_c > 330\text{v}$	2000Vrms	
Impulse Life		The change of V_c shall be measured after the impulse current listed in "Pulse Lifetime Ratings" with the interval of 2 min when 10~1000 impulses are applied or the 10 second interval when 10000-100000 impulses are applied	$\Delta V_c / V_c < \pm 10\%$



Terminal Pull Strength	After gradually applying the load specified below and keeping the load fixed for 10 seconds. The change shall be measured and meet the requirement with no outstanding damage.					No Outstanding Damage	
	Terminal diameter		Force				
	0.6mm,0.8mm		10N				
	1.0mm		20N				
Terminal Bending Strength	The unit shall be secured with its terminal kept vertical and the weight specified below be applied in the axial direction. The terminal shall gradually be bent by 90° in one direction, then 90° in the opposite direction, and again back to the original position. The change shall be measured and meet the requirement with no outstanding damage					No Outstanding Damage	
	Terminal diameter		Force				
	0.6mm,0.8mm		5N				
	1.0mm		10N				
Vibration	Subjected to simple harmonic motion of 0.75 mm amplitude 1.5mm maximum total excursion between limits of 10-55Hz. Frequency scan shall be traversed in one minute. This motion shall then be applied for period of two hours in each of three mutually perpendicular directions. The change shall be measured and meet the requirement with no outstanding damage.					No Outstanding Damage	
Solderability	After dipping the terminal to a depth of approximately 2mm from the body in a soldering bath of $235 \pm 5^\circ\text{C}$ for $2 \pm 0.5\text{sec}$. The terminations shall be uniformly tinned.					Approximate 95% of the terminals shall be covered with new solder uniformly	
Resistance to Soldering Heat	The terminal shall be dipped into a soldering bath with temperature of $260 \pm 5^\circ\text{C}$ to a point of 2-2.5 mm from the body for $10 \pm 1\text{sec}$. (05K shall be $5 \pm 1\text{sec}$.) And then stored at room temperature and humidity for 1-2 hours. The change of Vc shall be measured and meet the requirement with no outstanding damage.					$\Delta V_c/V_c < \pm 5\%$ NO Outstanding Damage	
High Temperature Storage/Dry Heat	The specimen shall be subjected to $125 \pm 2^\circ\text{C}$ for 1000 hours in a drying oven without load and then stored at room temperature for 1-2 hours. The change of c shall be measured and meet the requirement with no outstanding damage.					$\Delta V_c/V_c < \pm 5\%$	
Humidity	The specimen shall be subjected to 40C, 90 to 95%R.H. for 1000 hours without load and then stored at room temperature for 1-2 hours. The change of Vc shall be measured and meet the requirement with no outstanding damage.					$\Delta V_c/V_c < \pm 5\%$	
Temperature Cycle	Temperature cycle operation of the following table shall be repeated 5 times continuously. And then the specimen shall be left at room ambient for 1-2 hours. The change of Vc shall be measured and meet the requirement with no outstanding damage.					$\Delta V_c/V_c < \pm 5\%$ NO Outstanding Damage	
	Steps	Temperature(°C)	Time(min)	Steps	Temperature(°C)		Time(min)
	1	-40 ± 3	30 ± 3	3	125 ± 2		30 ± 3
	2	Room Temperature	15 ± 3	4	Room Temperature	15 ± 3	

High Temperature Load/Dry Heat Load	After being continuously applied the maximum allowable voltage at $85 \pm 2^\circ\text{C}$ for 1000 hours, the specimen shall be stored at room temperature and humidity for 1-2 hours. The change shall be measured and meet the requirement with no outstanding damage.	$\Delta V_c/V_c < \pm 10\%$
Damp Heat Load/Humidity Load	After being continuously applied the maximum allowable voltage at $40 \pm 2^\circ\text{C}$, 90-95%R. H for 1000 hours, the specimen shall be stored at room temperature and humidity for 1-2 hours. The change of V_c shall be measured and meet the requirement with no outstanding damage.	$\Delta V_c/V_c < \pm 10\%$
Low Temperature Storage/Cold	Specimen shall be subjected to an ambient of $-40 \pm 2^\circ\text{C}$ for 1000 hours. And after the specimen shall be left at room ambient for 1-2 hours. The change of V_c shall be measured and meet the requirement with no outstanding damage.	$\Delta V_c/V_c < \pm 5\%$

Advice to Customers

According to the agreed contract, ordered production can be provided to meet the customer's demand for product specialty in size, shape, electronic parameter and other characteristics.

