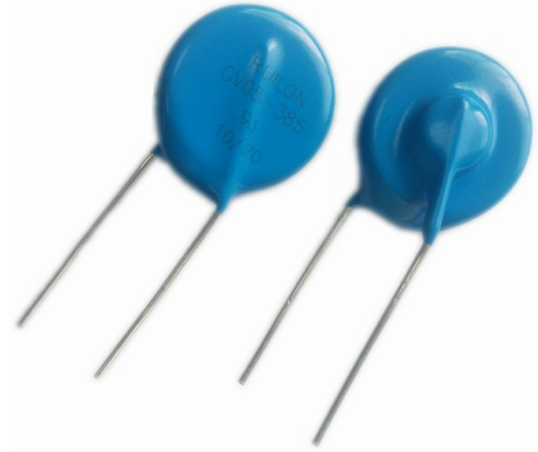


**Description**

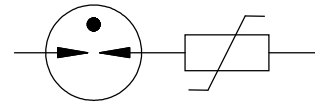
GV10 series product is a kind of hybrid component, which is made of ultra-thin discharge tube and varistor. It solves the problems of follow current of discharge tube and leakage current of varistor. The safety of use is greatly improved, and the hidden troubles of power frequency short circuit and thermal stability are basically eliminated.

Surge protection for power products such as LED lighting power supplies, linear power supplies, low-power switching power supplies, security power supplies, and power adapters can provide safer and more reliable surge protection.

GV10 series products are small in size, powerful in anti-surge energy, space saving, safe and reliable; and can be used as a basic unit, freely combined into a variety of different surge protection schemes and finished products.



**Electrical Circuit**



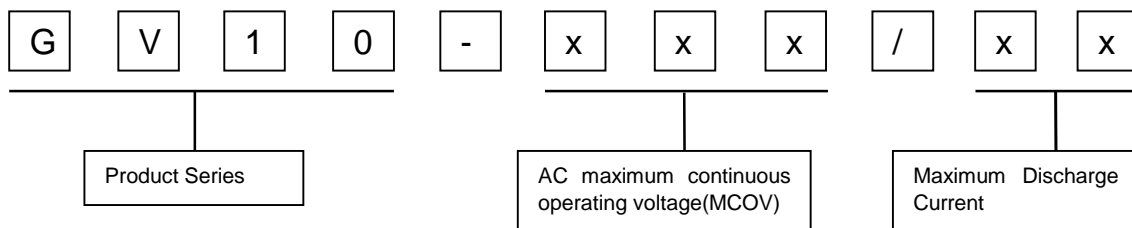
**Features**

- I Hybrid design
- I No leakage current
- I No follow current
- I Stable thermal performance
- I Large Impulse current capability
- I Low capacitance
- I RoHS and REACH compliant

**Applications**

- AC Line Protection
- I White goods
  - I Power line communications
  - I Smoke alarm systems
  - I High value consumer goods
  - I UL 1449 SPD
- DC Line Protection
- I Solar inverters
  - I Power supplies
  - I Distribution systems

**Part Number Code**



**Maximum Ratings (@T<sub>A</sub>=25°C unless otherwise noted)**

Parameter	Symbol	Value	Unit
Operating Temperature	T <sub>OPR</sub>	-40 to +80	°C
Storage Temperature	T <sub>STG</sub>	-40 to +125	°C

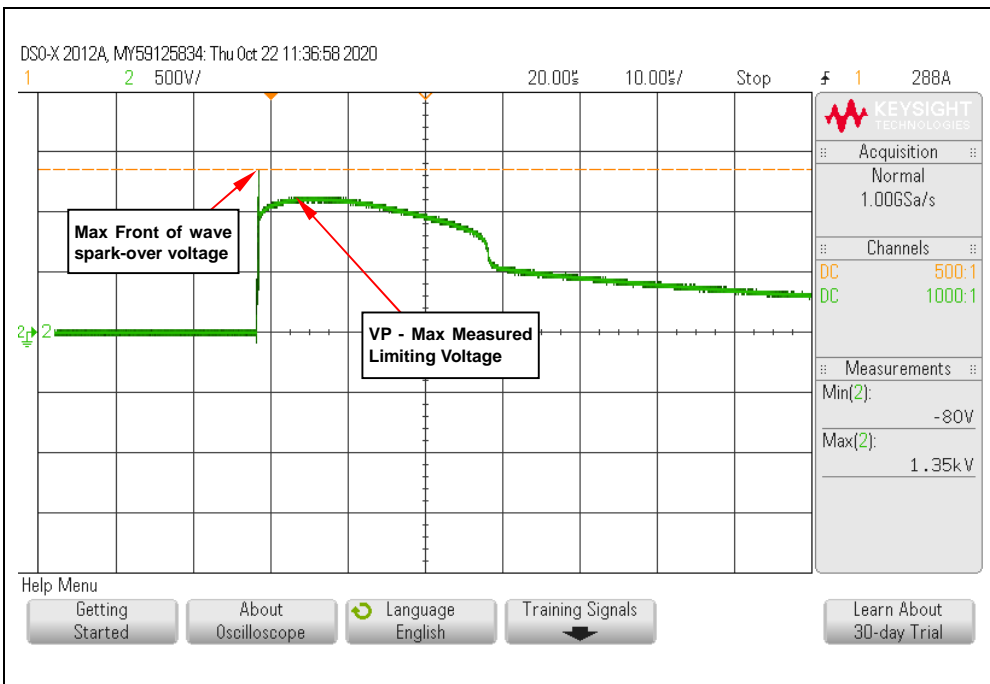
Electrical Characteristics(@T<sub>A</sub>=25°C unless otherwise noted)

Part Number	MCOV		Min Insulation Resistance		Max Capacitance	In UL1449/4th.	I <sub>max</sub>	Max Measured Limiting Voltage	Max Front of wave spark-over voltage	Nominal Discharge Voltage
	V <sub>AC</sub> <sup>1)</sup>	V <sub>DC</sub>	IR	Test Voltage	@1MHz	15 operations	1 operation	V <sub>P</sub> <sup>2)</sup> 1.2/50μS @6KV	1.2/50μS <sup>2)</sup> @6KV	U <sub>oc</sub>
	V	V	GΩ	V	pF	KA	KA	V	V	KV
GV10-060	60	85	1	50	4	10	20	500	1000	10
GV10-110	110	155	1	50	4	10	20	600	1200	10
GV10-220	220	310	1	100	4	10	20	900	1800	10
GV10-277	277	390	1	100	4	10	20	1100	2000	10
GV10-320	320	450	1	100	4	10	20	1300	2000	10
GV10-385	385	540	1	250	4	10	20	1500	2000	10
GV10-440	440	620	1	250	4	10	20	2000	2300	10
GV10-490	490	690	1	250	4	10	20	2300	2500	10

<sup>1)</sup> Frequency 50-60Hz.

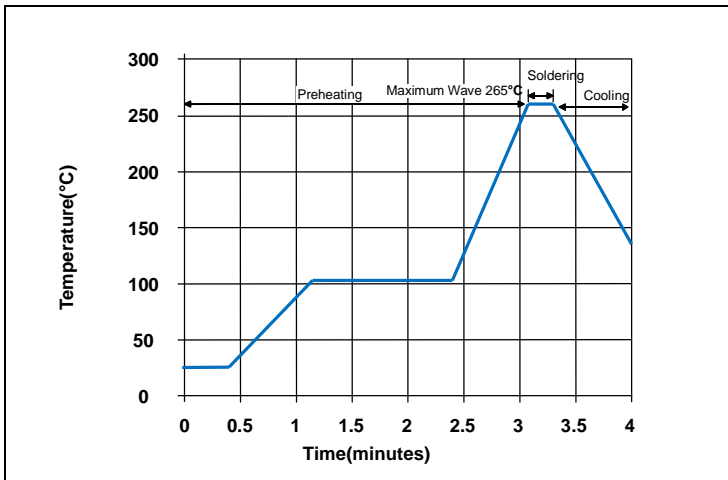
<sup>2)</sup> See 1.2/50μS 6KV typical discharge waveform.

1.2/50μS 6KV typical discharge waveform(@T<sub>A</sub>=25°C unless otherwise noted)



**Soldering Recommendation**

**Wave Lead Free Soldering Recommendation**

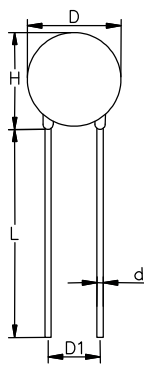


Item	Conditions
Peak Temperature	265°C
Dipping Time	10 seconds (max.)
Soldering	1 time

**Recommendation Reworking Conditions with Soldering Iron**

Item	Conditions
Temperature of Soldering Iron-tip	360°C (max.)
Soldering Time	3 seconds (max.)
Distance from CPC	2mm (min.)

**Dimensions**



Symbol	Millimeters	Inches
H(max)	26.0	1.024
L(min)	15.0	0.591
D(max)	23.0	0.906
D1(±1.0)	10.0	0.394
T(max)	TABLE 2	
d(±0.1)	1.0	0.039

Packaging Quantity: 250pcs/bag

TABLE 2 - T(max.)

Model	Millimeters	Inches	Model	Millimeters	Inches
GV05-060	10.5	0.413	GV05-320	12.0	0.472
GV05-110	11.0	0.433	GV05-385	12.5	0.492
GV05-220	11.5	0.453	GV05-440	12.5	0.492
GV05-277	12.0	0.472	GV05-490	13.0	0.512