

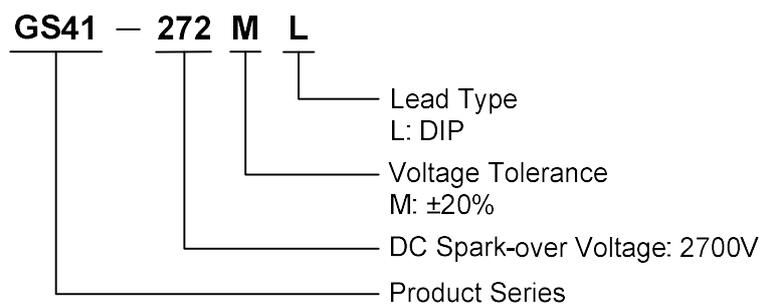
Features

- Approximately zero leaking current before clamping voltage
- Less decay at on/off state
- High capability to withstand repeated lightning strikes
- Low electrode capacitance($\leq 1.0\text{pF}$) and high isolation($\geq 100\text{M}\Omega$)
- Bilateral symmetrical
- Temperature, humidity and lightness insensitive
- RoHS compliant
- Meets MSL level 1, per J-STD-020
- Operating temperature: $-40^{\circ}\text{C} \sim +85^{\circ}\text{C}$
- Storage temperature: $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$

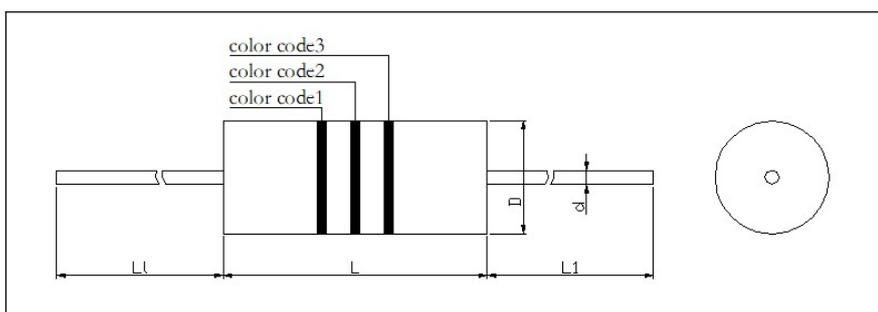
Applications

- Power Supplies
- Motor sparks eliminating
- Relay switching spark absorbing
- Data line pulse guarding
- Telephone/Fax/Modem
- High frequency signal transmitters/receivers
- Satellite antenna
- Radio amplifiers
- Alarm systems
- Cathode ray tubes in Monitors/TVs

Part Number Code



Dimensions

	Symbol	Dimensions(mm)
	L	
L1		28.0 ± 3.0
D		4.1 ± 0.5
d		0.5 ± 0.05

Color Code

Part Number	Color Code 1	Color Code 2	Color Code 3
GS41-102ML	Brown	Black	Red
GS41-152ML	Brown	Green	Red
GS41-182ML	Brown	Gray	Red
GS41-202ML	Red	Black	Red
GS41-242ML	Red	Yellow	Red
GS41-272ML	Red	Purple	Red
GS41-302ML	Orange	Black	Red
GS41-362ML	Orange	Blue	Red
GS41-402ML	Yellow	Black	Red

Electrical Characteristics (T_A=25°C)

Part Number	DC Spark-over Voltage	Minimum Insulation Resistance		Maximum Capacitance (1KHz-6V _{MAX})	Surge Current Capacity	AC Withstanding Voltage
	V _S	Test Voltage	IR _{OHM}	C	@8/20μs	
GS41-102ML	1000V±20%	500V	100MΩ	1.0pF	1500A	-
GS41-152ML	1500V±20%	500V	100MΩ	1.0pF	1500A	-
GS41-182ML	1800V±20%	500V	100MΩ	1.0pF	1500A	-
GS41-202ML	2000V±20%	500V	100MΩ	1.0pF	1500A	-
GS41-242ML	2400V±20%	500V	100MΩ	1.0pF	1500A	AC1200V, 3sec.
GS41-272ML	2700V±20%	500V	100MΩ	1.0pF	1500A	AC1200V, 3sec.
GS41-302ML	3000V±20%	500V	100MΩ	1.0pF	1500A	AC1500V, 3min.
GS41-362ML	3600V±20%	500V	100MΩ	1.0pF	1500A	AC1800V, 3sec.
GS41-402ML	4000V±20%	500V	100MΩ	1.0pF	1500A	AC1800V, 3sec.

Test Methods and Results

Items	Test Method	Standard
DC Spark-over Voltage	the DC spark-over voltage ascend up within 500V/s. Test current is 0.5mA max.	Meet specified value
Minimum Insulation Resistance	across the terminal at regular voltage. But the test voltage doesn't over the DC spark-over voltage.	Meet specified value
Maximum Capacitance	by applying a voltage of less than 6V (at 1KHz) between terminals.	Meet specified value
Surge Current Capacity	8/20 μ s, 1500A, \pm 5 times, interval 60s.	No crack and no failures
Cold Resistance	-40 \pm 3 $^{\circ}$ C (1000hrs) / room temp., normal humidity(4hrs) , measure the properties.	Features are conformed to rated spec.
Heat Resistance	125 \pm 2 $^{\circ}$ C (1000hrs) / room temp., normal humidity(4hrs) , measure the properties.	Features are conformed to rated spec.
Humidity Resistance	After 85 \pm 2 $^{\circ}$ C, 85% RH (1000hrs)/room temp., normal humidity(4hrs) cycle, measure the properties.	Features are conformed to rated spec.
Temperature Cycle	25 times repetition of cycle -40 \pm 3 $^{\circ}$ C(30Min.), room temp., (4 Min.), 125 \pm 2 $^{\circ}$ C(30 Min.), room temp., normal humidity (4hrs) .	Features are conformed to rated spec.
Solder Ability	Apply flux and immerse in molten solder, up to the point of 3mm from the body, for 5 sec. (265 \pm 5 $^{\circ}$ C). Wash the lead wire and check for soldering adhesion.	Lead wire is evenly covered by solder
Solder Heat	Lead wire is dipped up to the point of 2mm from the body, into 265 \pm 5 $^{\circ}$ C solder for 10 \pm 1 sec. And measure the properties.	Conformed to rated spec.
Pull Strength	Apply 2.5kg load for 10sec.	Lead shall not pull out to snap
Flexural Strength	Bend lead wire at the point of 2mm from body under 0.25 load and back to its original point. Repeat 1 time.	Lead shall not pull out to snap

Recommended Soldering Conditions

Flow Soldering		Hand Soldering
		<p>Solder iron temperature: 350±5°C Heating time: 3 seconds max.</p> <p>General attention to soldering</p> <ul style="list-style-type: none"> • High soldering temperatures and long soldering times can cause leaching of the termination, decrease in adherence strength, and the change of characteristic may occur. • For soldering, please refer to the soldering curves above. However, please keep exposures to temperatures exceeding 200 °C to fewer than 50 seconds. • Please use a mild flux (containing less than 0.2wt% Cl). Also, if the flux is water soluble, be sure to wash thoroughly to remove any residue from the underside of components that could affect resistance.

- 1) Time shown in the above figures is measured from the point when chip surface reaches temperature.
- 2) Temperature difference in high temperature part should be within 110°C.
- 3) After soldering, do not force cool, allow the parts to cool gradually.

Cleaning

When using ultrasonic cleaning, the board may resonate if the output power is too high. Since this vibration can cause cracking or a decrease in the adherence of the termination, we recommend that you use the conditions below.

Frequency: 40kHz max.

Output power: 20W/liter

Cleaning time: 5 minutes max.

Packaging Specification

Tape	Symbol	Dimension (mm)	
	W	52.0±1.5	
	P	10.0±0.5	
	L1-L2	1.0max.	
	T	6.0±1.0	
	Z	1.2max.	
	R	Terminals must not project from tape	
	t	3.2max.	
	S	0.8max.	
	D	Φ4.6max.	
	D1	Φ0.5±0.05	
	L	10.5max.	
	Inner Box	A	75.0±5.0
		B	114.0±5.0
		C	250.0±5.0
		Quantity: 1000pcs	