

Composite Surge Protection Device(GMOV)

Description

The composite surge protector GMOV is a type of surge protector that combines Switch type protective components and Voltage limiting protective components. GMOV achieves high performance as a long life protector with low capacitance and, most importantly, very low leakage. GMOV is ideally suited for any number of AC and DC power applications where a high level of performance is required over time, improving the overall stability of the system.

Features

- ◆ Wide operating voltages ranging from 50Vrms to 420Vrms(AC)
- ◆ Low leakage
- ◆ Fast response time
- ◆ High energy absorption capability
- ◆ High surge current handling capability
- ◆ Low clamping voltages and no follow current
- ◆ Low capacitance values, providing digital switching circuitry protection
- ◆ High insulation resistance

Applicable

- ◆ AC Power Protection
- ◆ DC Power Protection
- ◆ Surge protection in consumer electronics
- ◆ Surge protection in industrial electronics
- ◆ Surge protection in electronic home appliances
- ◆ Relay and electromagnetic valve surge absorption

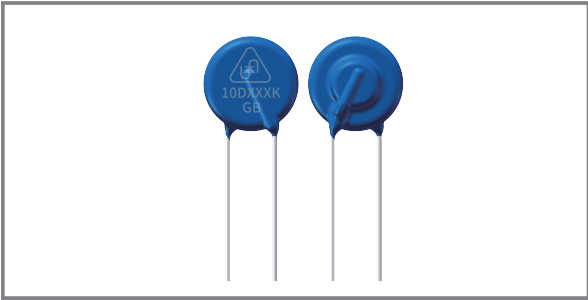
Part Numbering

1 0 - D - XXX - K - G - B  
( 1 ) ( 2 ) ( 3 ) ( 4 ) ( 5 ) ( 6 )

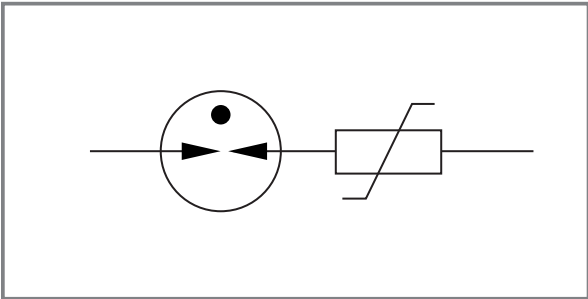
- (1) Size(mm) : 10mm
- (2) Type : D: Disk
- (3) Varistor Voltage : 820(82\*10<sup>0</sup>=82V) , 471( 47\*10<sup>1</sup>=470V)
- (4) Tolerance : K±10%
- (5) Model Name Abbreviation : G : GMOV
- (6) Pin Type : B-Two Pins



www.unsemi.com.tw



Circuit Diagram



General Characteristics Definition

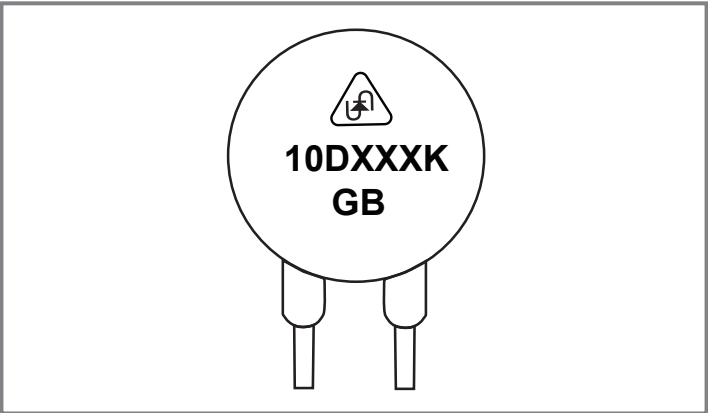
- ◆ Operating Temperature: -40°C~ +105°C
- ◆ Storage Temperature: -40°C~ +125°C
- ◆ Insulation Resistance: > 100MΩ
- ◆ Coating (Epoxy Resin): Flame-Retardant to UL 94V-0

Electrical Characteristics (@ 25°C Unless Otherwise Specified )

Part Number	Maximum Continuous Operating Voltage MCOV		Maximum Leakage @MCOV	Typical Platform Voltage <sup>(1)</sup>	Typical Impulses Peak Voltage <sup>(2)</sup>	Withstanding Surge Current	Maximum Surge Current @1 time	Maximum Energy	Typical Capacitance (Reference)
	V <sub>AC</sub> (V)	V <sub>DC</sub> (V)	I <sub>R</sub> (μA)	V <sub>p</sub> (V)	V <sub>I</sub> (V)	1.2/50us & 8/20us combination of wave, 4KV/2KA sub 0,90,180, 270 four phases,each phases of positive and negative 5 times Total	I <sub>max</sub> (A)	10/1000μs (J)	@1KHz (pf)
10D820K-GB	50	65	<1	150	700	40	3000	17	5
10D121K-GB	75	100	<1	220	700	40	3000	21	5
10D241K-GB	150	200	<1	435	1200	40	3000	42	5
10D271K-GB	175	225	<1	501	1200	40	3000	49	5
10D331K-GB	210	275	<1	605	1200	40	3000	58	5
10D431K-GB	275	350	<1	781	1200	40	3000	80	5
10D471K-GB	300	385	<1	853	1200	40	3000	85	5
10D511K-GB	320	415	<1	930	1200	40	3000	90	5
10D561K-GB	350	460	<1	1012	1200	40	3000	92	5
10D621K-GB	385	505	<1	1128	1200	40	3000	95	5
10D681K-GB	420	560	<1	1320	1200	40	3000	98	5

Notes:  
(1) V<sub>p</sub> is defined as the reference data tested under the condition of I<sub>P</sub>=25A.  
(2) V<sub>I</sub> defined as me asured with 10% of peak current in accordance with IEC 61051-1.

Part Marking



Marking	
Trademark	UN logo
Part No.	10DXXXK
G	GMOV
B	B-Two Pins

## Packaging Information

Unit:Pcs

Dimension	Part No.	Bag	Small Carton	Carton
10DXXXK-GB	820K to 681K	500	5000	10000

## Package Dimensions Unit: mm

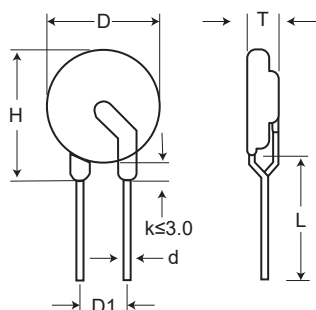


TABLE1

Symbol	Dimension
H(max.)	16.5
L(min.)	20.0
D(max.)	12.5
D1(±0.8)	7.5
T(max.)	TABLE2
d(±0.05)	0.8

TABLE2

Model	T(max.)
820K	7.5
121K	7.5
241K	8.0
271K	8.0
331K	8.0
431K	8.5
471K	8.5
511K	8.5
561K	9.0
621K	9.5
681K	9.5

## Disclaimer

UNSEMI RESERVES THE RIGHT TO MAKE CHANGE ON OUR PRODUCTS , PRODUCTS SPECIFICATION AND DATA WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

UN SEMICONDUCTOR LIMITED its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "UNSEMI") does not give any representations or warranties for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

In no event shall UNSEMI be liable for any indirect, incidental, punitive, special or consequential damages (including any and all implied warranties, warranties of fitness for particular purpose, non-infringement and merchantability.) whether or not such damages are based on tort (including negligence), warranty, breach of contract or any other legal theory.

Statements regarding the suitability of products for certain types of applications are based on UNSEMI knowledge of typical requirements that are often placed on UNSEMI products in generic applications. Such statements are not binding, statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify UNSEMI's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Unless otherwise agreed in writing, UNSEMI product is not designed, authorized or warranted to be suitable for use in medical life-saving, or life-sustaining application , nor in applications where failure or malfunction of a UNSEMI product can reasonably be expected to result in personal injury, death or severe property or environmental damage. UNSEMI and its suppliers accept no liability for inclusion or use of UNSEMI products in such equipment or applications and therefore such inclusion and/or use is at the customer's own risk.

All referenced brands, product names, service names and trademarks are the property of their respective owners.