

**Surface Mount, 2-Electrode Gas Discharge Tube  
B2G5050 Series**
**Descriptions**

The Gas Discharge Tube (GDT) operates as a symmetrical voltage-dependent switch. Features as very high surge current handling capability, very high insulation resistance and ultra-low capacitance meet almost perfectly all requirements made on a protective element.

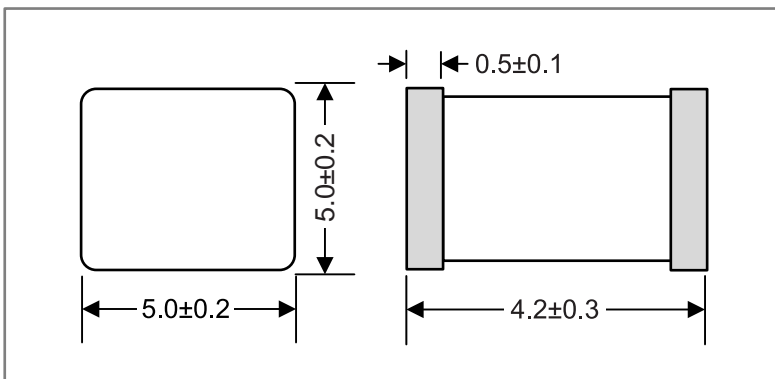
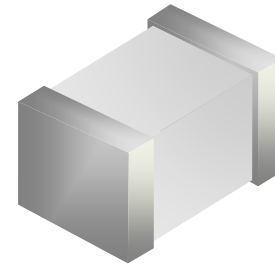
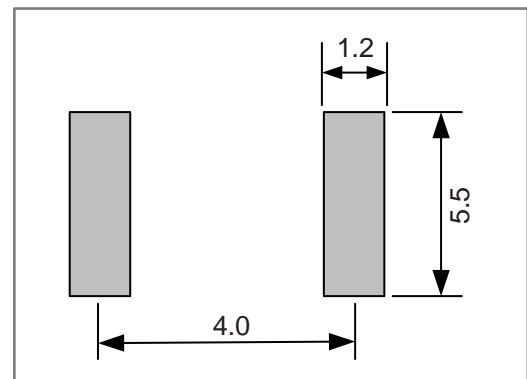
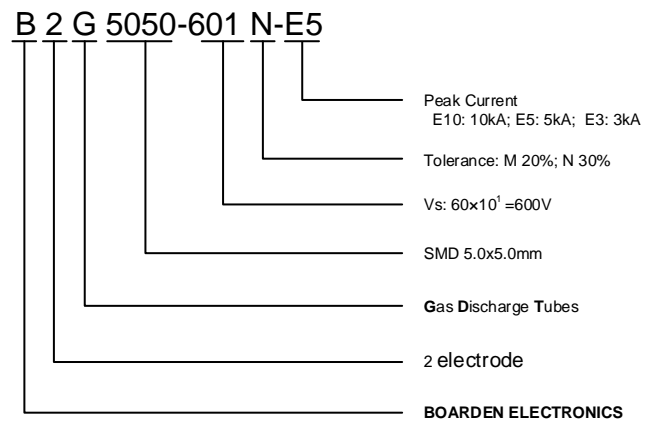
The B2G5050 Series are 2-pole GDTs designed for protection of power lines. Low insertion loss is also perfectly suited to broadband equipment applications.

**Features**

- 2-electrode arrester
- Very small size
- Rugged Ceramic-Metal construction
- Stable performance over life
- Extremely low capacitance ( $\leq 0.8\text{pF}$ )
- High insulation resistance

**Applications**

- PCI cards
- Modem
- Splitter
- Line cards
- Applications with limited space

**Product Dimensions (mm)**
**Dimension**

**Recommended Pad Size**

**Part Numbering System**

**Order information**

Device	Qualities	Size
B2G5050 Series	1000/R	13 Inch

**Electrical Characteristics (TA=25°C unless otherwise noted)**

Part Number	V <sub>S</sub> <sup>1),2)</sup> @100V/s	V <sub>SS</sub>		IMDC			ACDC	IR <sup>3)</sup>	C
		100V/μs	1kV/μs	8/20μs ±5 times	8/20μs 1 time	10/1000μs 300 times	@50Hz 1s 5 times		1MHz
		Max.	Max.	Nom.	Max.	Min.	Nom.	Min	Max
		V	V	V	kA	kA	A	A	GΩ
B2G5050-750N-E5	75 ± 30%	500	600	5	10	100	5	1	0.8
B2G5050-900N-E5	90 ± 30%	500	600	5	10	100	5	1	0.8
B2G5050-151N-E5	150 ± 30%	500	600	5	10	100	5	1	0.8
B2G5050-201N-E5	200 ± 30%	600	700	5	10	100	5	1	0.8
B2G5050-231N-E5	230 ± 30%	600	700	5	10	100	5	1	0.8
B2G5050-301N-E5	300 ± 30%	750	850	5	10	100	5	1	0.8
B2G5050-351N-E5	350 ± 30%	800	900	5	10	100	5	1	0.8
B2G5050-401N-E5	400 ± 30%	850	950	5	10	100	5	1	0.8
B2G5050-421N-E5	420 ± 30%	850	950	5	10	100	5	1	0.8
B2G5050-471N-E5	470 ± 30%	900	1000	5	10	100	5	1	0.8
B2G5050-601N-E5	600 ± 30%	1100	1200	5	10	100	5	1	0.8
B2G5050-801N-E5	800 ± 30%	1200	1400	5	10	100	5	1	0.8
Glow voltage at 10mA.....					~60V				
Arc voltage at 1A.....					~10V				
Glow to Arc transition current.....					<0.8A				
Weight.....					~0.42g				
Operation and storage temperature.....					-40 ~ +90°C				
Climatic category (IEC 60068-1).....					40/90/21				
Marking.....					Blank				

1) At delivery AQL 0.65 level II, DIN ISO 2859

2) In ionized mode

3) Insulation resistance measuring voltage: 75V at 25Vdc; 90~150V at 50Vdc; other at 100Vdc

Terms in accordance with ITU-T Rec.K.12, IEC 61643-311, GB/T 9043

**Electrical Characteristics (TA=25°C unless otherwise noted)**

Part Number	V <sub>s</sub> <sup>1),2)</sup> @100V/s	V <sub>SS</sub>		IMDC			ACDC	IR <sup>3)</sup>	C
		100V/μs	1kV/μs	8/20μs ±5 times	8/20μs 1 time	10/1000μs 300 times	@50Hz 1s 5 times		1MHz
		Max.	Max.	Nom.	Max.	Min.	Nom.	Min	Max
		V	V	V	kA	kA	A	A	GΩ
B2G5050-750N-E10	75±30%	500	600	10	12	100	10	1	0.8
B2G5050-900N-E10	90±30%	500	600	10	12	100	10	1	0.8
B2G5050-151N-E10	150±30%	500	600	10	12	100	10	1	0.8
B2G5050-201N-E10	200±30%	600	700	10	12	100	10	1	0.8
B2G5050-231N-E10	230±30%	600	700	10	12	100	10	1	0.8
B2G5050-301N-E10	300±30%	750	850	10	12	100	10	1	0.8
B2G5050-351N-E10	350±30%	800	900	10	12	100	10	1	0.8
B2G5050-401N-E10	400±30%	850	950	10	12	100	10	1	0.8
B2G5050-421N-E10	420±30%	850	950	10	12	100	10	1	0.8
B2G5050-471N-E10	470±30%	900	1000	10	12	100	10	1	0.8
B2G5050-601N-E10	600±30%	1100	1200	10	12	100	10	1	0.8
Glow voltage at 10mA.....				~60V					
Arc voltage at 1A.....				~10V					
Glow to Arc transition current.....				<0.8A					
Weight.....				~0.42g					
Operation and storage temperature.....				-40 ~ +90°C					
Climatic category (IEC 60068-1).....				40/90/21					
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**Electrical Characteristics (TA=25°C unless otherwise noted)**

Part Number	V <sub>s</sub> <sup>1),2)</sup> @100V/s	V <sub>SS</sub>		Glow Voltage @10mA	AC Withstand Voltage @5mA	IMDC		ACDC	IR <sup>3)</sup>			
		100V/μs	1kV/μs			8/20μs ±5 times	8/20μs 1 time	@50Hz 1s 5 times				
		Max.	Max.			Typ.	Min.	Nom.		Max.	Nom.	Min
		V	V			V	V	kA		kA	A	GΩ
B2G5050-102M-E3	1000 ± 20%	1600	1800	160	500	3	5	3	1			
B2G5050-122M-E3	1200 ± 20%	1800	2000	160	600	3	5	3	1			
B2G5050-152M-E3	1500 ± 20%	2300	2500	235	750	3	5	3	1			
B2G5050-202M-E3	2000 ± 20%	2800	3000	260	1000	3	5	3	1			
B2G5050-252M-E3	2500 ± 20%	3300	3600	260	1300	3	5	3	1			
B2G5050-272M-E3	2700 ± 20%	3500	3800	260	1500	3	5	3	1			
B2G5050-302M-E3	3000 ± 20%	4000	4200	260	1600	3	5	3	1			
B2G5050-362M-E3	3600 ± 20%	4700	5000	260	1900	3	5	3	1			
Capacitance @ 1MHz.....					≤0.8pF							
Arc voltage at 1A.....					15~20V							
Glow to Arc transition current.....					~0.3A							
Weight.....					~0.42 g							
Operation and storage temperature.....					-40 ~ +90°C							
Climatic category (IEC 60068-1).....					40/90/21							
Marking.....					Blank							

1) At delivery AQL 0.65 level II, DIN ISO 2859

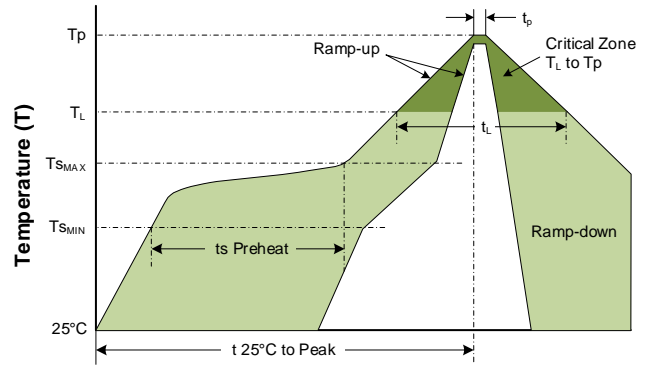
2) In ionized mode

3) Insulation resistance measuring voltage at 100Vdc

Terms in accordance with ITU-T Rec.K.12, IEC 61643-311, GB/T 9043

## Soldering Parameters

Profile Feature	Lead-Free Assembly
Average Ramp-up Rate ( $T_{S_{MAX}}$ to $T_p$ ) Average Ramp-down Rate ( $T_p$ to $T_L$ )	3°C/second max. 6°C/second max.
<b>Preheat</b> • Temperature Min ( $T_{S_{MIN}}$ ) • Temperature Max ( $T_{S_{MAX}}$ ) • Time ( $t_s$ Preheat)	150°C 200°C 60-180 seconds
<b>Time maintained above:</b> • Temperature ( $T_L$ ) • Time ( $t_L$ )	217°C 60-150 seconds
<b>Peak/Classification Temperature</b> • Temperature ( $T_p$ )	260 <sup>+0/-5</sup> °C
<b>Time within 5°C of actual Peak</b> Time ( $t_p$ )	20-40 seconds
<b>Time 25°C to peak Temperature</b>	8 minutes max
<b>Do not exceed</b>	280 °C



### Flow/Wave Soldering (Solder Dipping)

<b>Peak Temperature :</b>	265 °C
<b>Dipping Time :</b>	10 seconds
<b>Soldering :</b>	1 time

## Cautions and warnings

- Gas Discharge Tubes must not be operated directly in power supply networks.
- Gas Discharge Tubes may become hot in case of longer periods of current stress (danger of burning).
- Gas Discharge Tubes may be used only within their specified values. In case of overload, the head contacts may fail or the component may be destroyed.
- Damaged Gas Discharge Tubes must not be re-used.

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Specifications are subject to change without notice.

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