BORN SEMICONDUCTOR

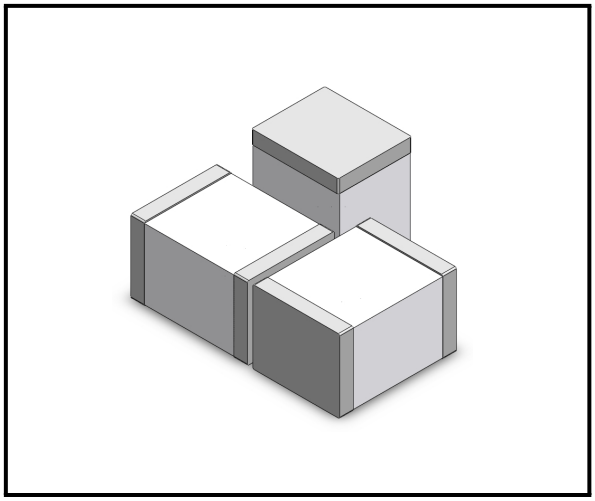
BTCxxxN

GDT Protection Component

Features

- High insulation resistance
- Ultra low capacitance (<1pF)
- 2KA /1KA surge capability tested with 8/20us pulse as defined by IEC61000-4-5
- 6KV 10/700μs maximum surge rating in accordance with ITU-TK.21
- Surface mounted gas arrester
- Size 4532(1812)
- Storage and operating temperature: -40°C ~ +125°C

Package



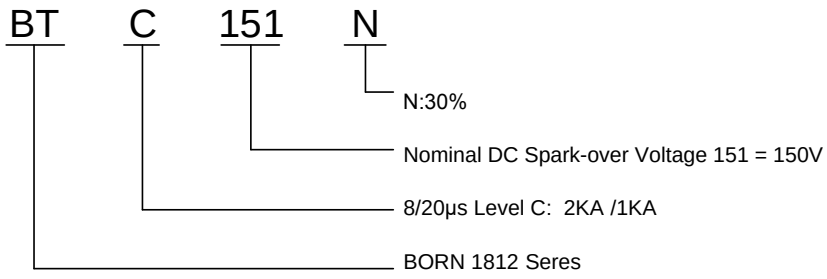
Applications

- Communication equipment
- CATV equipment
- Test equipment
- Data lines
- Power supplies
- Telecom SLIC protection

Applications

- Broadband equipment
- ADSL equipment, including ADSL2+
- XDSL equipment
- Satellite and CATV equipment
- General telecom equipment

Part Numbering



Ordering information

Order code	Package	Base qty	Delivery mode
BTCxxxN	1812	2500	Tape and Reel

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Revision: 2026-8-26-C

BTCxxxN

GDT Protection Component

Absolute Maximum Ratings (T_A=+25°C, unless otherwise noted)

Part Number	DC Sparkover Voltage	Maximum Impulse Spark-over Voltage	Minimum Insulation Resistance		Max. Capaci-tance	Impulse withstanding Voltage Capacity	Nominal Impulse Discharge Current
	100V/S	1KV/us	(GΩ)	Test DC Voltage	1MHZ	10/700us ±5times	8/20us ±5times
	(V)	(V)		(V)	(pF)	(KV)	(KA)
BTC750N	75±30%	600	1	25	1	6	2
BTC900N	90±30%	700	1	25	1	6	2
BTC151N	150±30%	700	1	25	1	6	2
BTC201N	200±30%	750	1	100	1	6	2
BTC231N	230±30%	750	1	100	1	6	2
BTC301N	300±30%	900	1	100	1	6	2
BTC351N	350±30%	950	1	100	1	6	2
BTC401N	400±30%	1000	1	100	1	6	2
BTC471N	470±30%	1000	1	250	1	6	2
BTC501N	500±30%	1100	1	250	1	6	2
BTC601N	600±30%	1200	1	250	1	6	1
BTC801N	800±30%	1600	1	250	1	6	1
BTC102N	1000±30%	1800	1	250	1	6	1

Electrical Parameters

Items	Test Condition/Description	Requirement
DC Spark-over Voltage	The voltage is measured with voltage ramp dv/dt=100V/s.	To meet the specified value
Maximum Impulse Spark-over Voltage	The maximum impulse spark-over voltage is measured with voltage ramp dv/dt=1000V/us.	
Insulation Resistance	The resistance of gas tube shall be measured between two electrodes.	
Capacitance	The capacitance of gas tube shall be measured between two electrodes. Test frequency: 1MHz	
Nominal Impulse Discharge Current	The maximum current applying a waveform of 8/20μs that can be applied across the terminals of the gas tube. One hour after the test is completed, retesting of the DC spark-over voltage does not exceed ±40% of the nominal DC spark-over voltage. Dwell time between pulses is 3 minutes.	

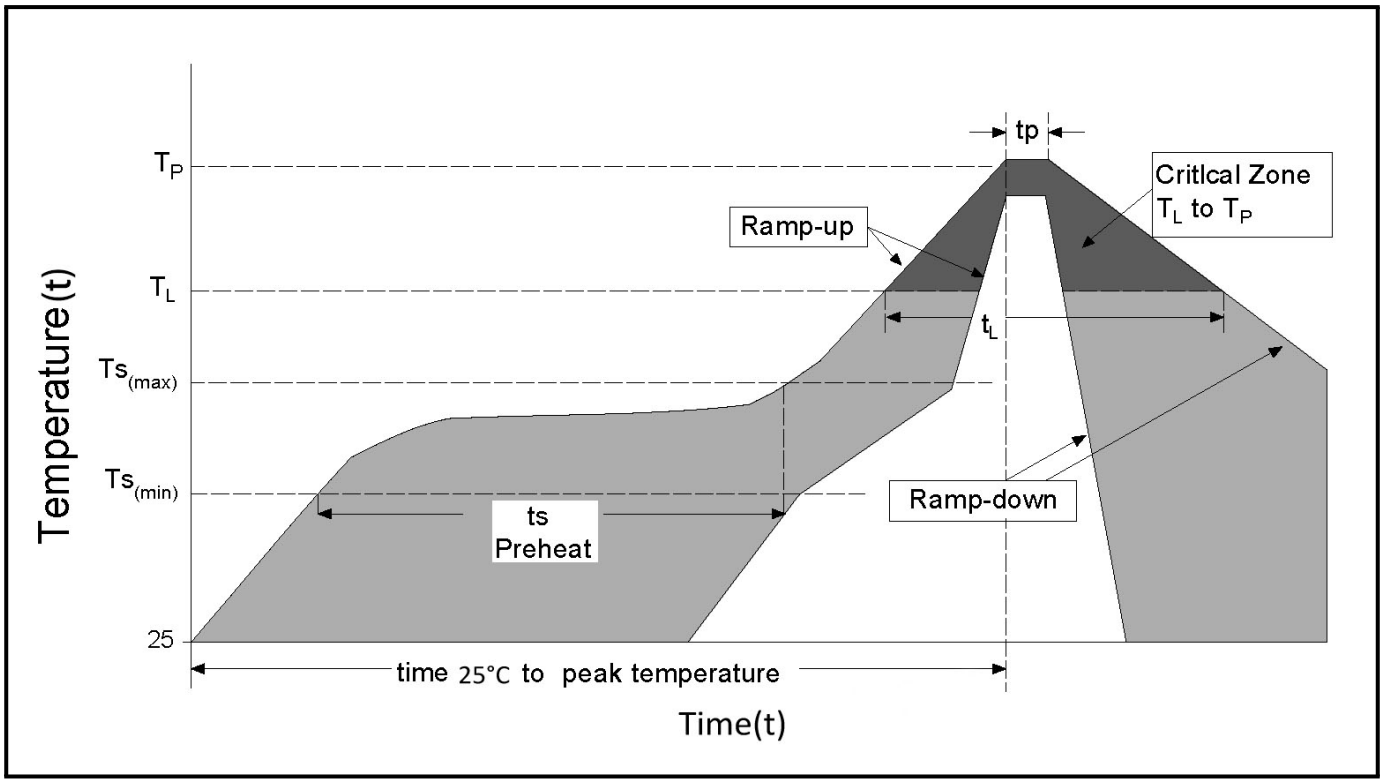
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BTCxxxN

GDT Protection Component

Soldering Parameters



Reflow Condition		Lead-free assembly
Pre Heat	- Temperature Min (T_S(min))	150°C
	- Temperature Max (T_S(max))	200°C
	- Time (min to max) (t_S)	60 - 180 secs
Average ramp up rate (Liquidus Temp (T_L) to peak)		3°C/second max
T_S(max) to T_L - Ramp-up Rate		5°C/second max
Reflow	- Temperature (T_L) (Liquidus)	217°C
	- Time (t_L)	60 -150 secs
Peak Temperature (T_P)		$260^{+0/-5°C}$
Time within 5°C of actual peak Temperature (t_p)		10 – 30 secs
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (t)		8 minutes Max.
Do not exceed		260°C

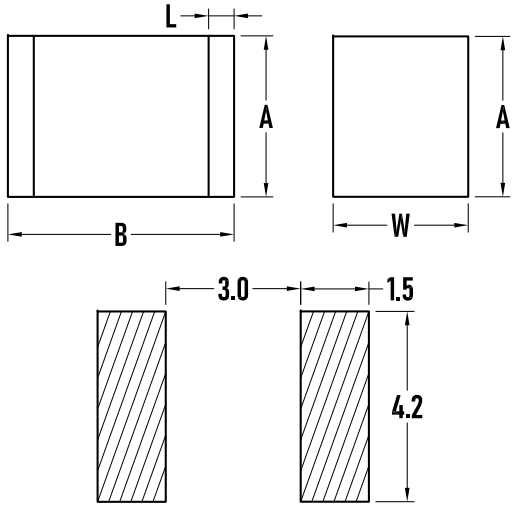
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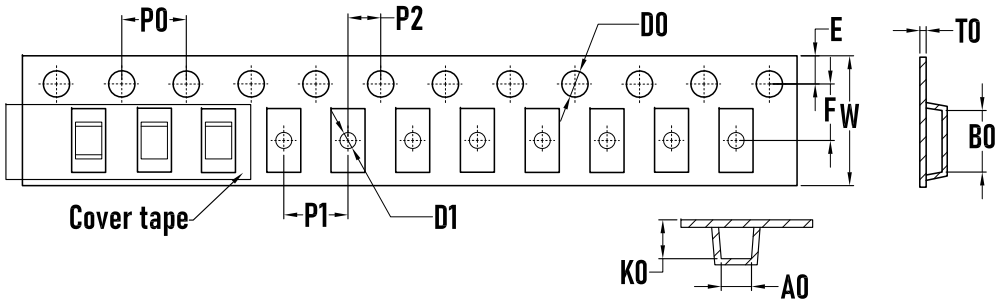
GDT Protection Component

Outline Drawing -1812



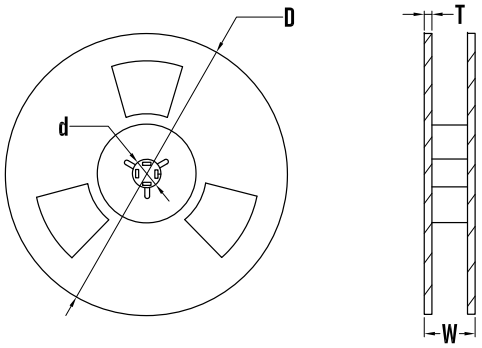
Dim.	Millimeters		
	MIN.	NOW.	MAX.
A	2.9	3.2	3.5
B	4.2	4.5	4.8
W	2.4	2.7	3.0
L	0.4	0.5	0.6

Packaging Tape



SYMBOL	MILLIMETER
A0	3.80±0.10
B0	4.90±0.10
D0	1.45±0.10
D1	1.00±0.10
E	1.75±0.10
F	5.50±0.10
K0	3.20±0.10
P0	4.00±0.10
P1	8.00±0.20
P2	2.00±0.10
W	12.00±0.20
T0	0.40±0.10

Packaging Reel



SYMBOL	MILLIMETER
D	330±2.0
d	13.00±0.5
T	2.0±0.2
W	16.0±0.2
Quantity	2500PCS

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Cautions and warnings

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

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