



**Gas Discharge Tube
Features**

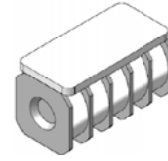
- High Current Handling Capability 20,000A @ 8/20 μ s
- Low Capacitance and Insertion Loss
- Fast Response and Long Service Life
- Moisture sensitivity level: Level 1

Application information

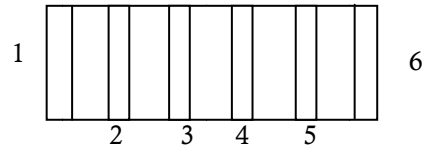
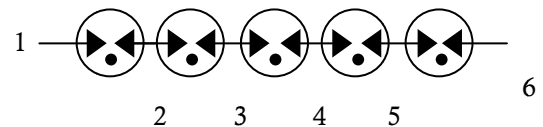
- DC-48V Power Port

Agency Approvals

Icon	Description
RoHS	Compliance with 2011/65/EU
HF	Compliance with IEC61249-2-21:2003
	Mean lead free
	Compliance with UL1449, Certificated E337906

Exterior


Note: The product body and the chip are stucked with glue.

Package (Top View)

Schematic Symbol

Electrical Parameter

DC Breakdown Voltage ^{1) 2)} (pin1-6)	100V/s	840-1440	V
DC Breakdown Voltage ^{1) 2)} (pin1-2,pin2-3,pin3-4,pin4-5,pin5-6)	100V/s	192-288	V
Impulse Spark-Over Voltage (pin1-6)	1.2/50 μ s -8/20 μ s: 6KV/3KA	\leq 2300	V
Impulse Spark-Over Voltage (pin1-2,pin2-3,pin3-4,pin4-5,pin5-6)	1.2/50 μ s -8/20 μ s: 6KV/3KA	for 99 % of measured values \leq 650	V
		Typical values of distribution \leq 600	V
Impulse Discharge Current ⁴⁾	8/20 μ s, \pm 5times	10	KA
	10/350 μ s, \pm 5times	1.5	KA
Impulse Discharge Current	8/20 μ s, \pm 5times ³⁾	20	KA
Insulation Resistance (pin1-6)	DC100V	\geq 1G	Ω
Maximum DC Working Voltage		60	V
Co (1MHz)	V _{DC} =0.5V	\leq 1	pF
Arc Voltage	At 100 A	>60	V
The welding surface coplanarity		\leq 0.15	mm
Operating and storage Temperature		-40-90	$^{\circ}$ C
Weight		\sim 5.35	g
Marking		Without	

1) At delivery AQL 0.65 level II, GB/T 2828.1-2003

2) In ionized mode

3) Terms and current waveforms in accordance with ITU-T Rec. K. 12; IEC 61643-21. After this test: DC Breakdown Voltage^{1) 2)}: pin1-6 (756V-1440), pin1-2/pin2-3/pin3-4/pin4-5/pin5-6 (176V-316V)

4) Before this test: With 100PF capacitor trigger, the product discharge at 600V@1.2/50 μ S and Impulse Spark-Over Voltage at 6KV@1.2/50 μ S lower than 900V. Arc voltage will higher than 60V at 100A. After this test: With 100PF capacitor trigger, the product discharge at 650V@1.2/50 μ S and Impulse Spark-Over Voltage at 6KV@1.2/50 μ S lower than 950V. Arc voltage will higher than 55V at 100A and 58V at 50A.

Part Numbering System

BD 122 -1
 (1) (2) (3)

- (1) Bencent Multi-pole Arrester Stack
 (2) DC Breakdown Voltage, e.g., 122=12×10²=1200V
 (3) 8.3mm×9.5mm×16.5mm

Product Characteristics

Lead Material	Copper
Body Material	Ceramics
Terminal Finish	100% Matte-Tin Plated

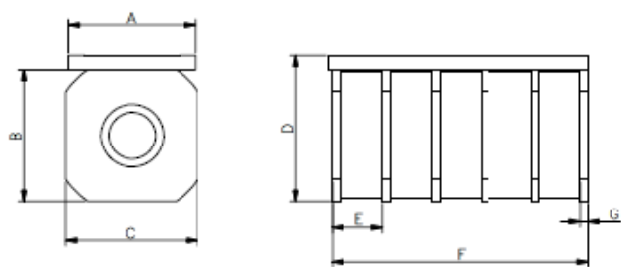
Environmental Reliability Characteristics

Testing items	Technical standards
High Temperature Storage Test	Temperature: 90℃ Time: 2H
Low Temperature Storage Test	Temperature: -40℃ Time: 2H
Vibration	Frequency: 10-500Hz Amplitude: 0.15mm Time: 45min
Resistance of soldering heat	Temperature: 260±5℃ Time of dip soldering: 10s, 1times

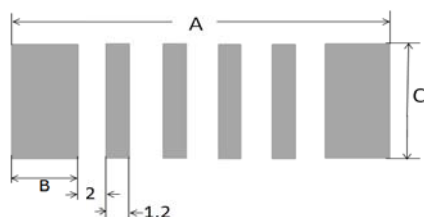
Note: Up-screen program can be specified by customer's request via contacting Bencent service

Solderability Test

Solderability	Solder Pot Temperature:	245℃±5℃	Lead-Free Recommendation
	Solder Dwell Time:	4-6 seconds	

Product Dimensions


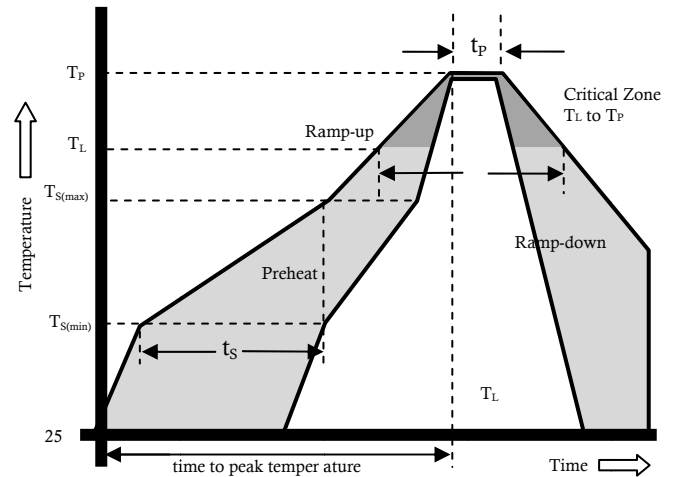
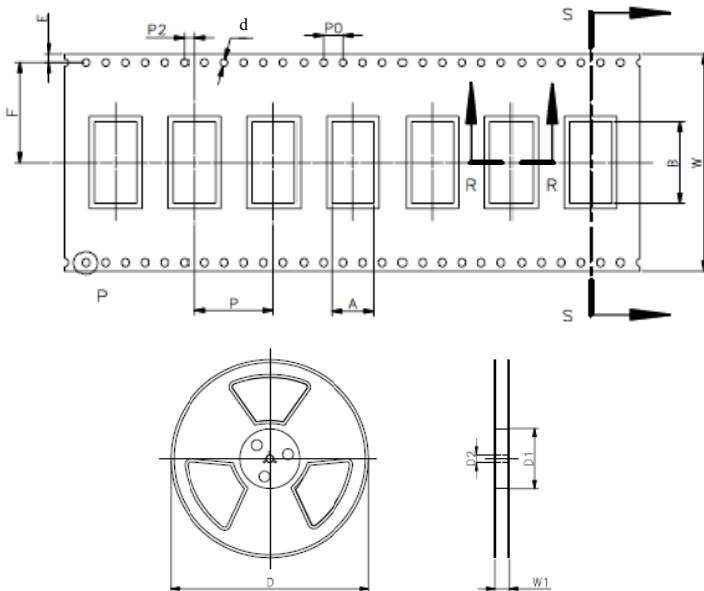
REF	mm	inch
A	8±0.2	0.315±0.008
B	8.3±0.2	0.327±0.008
C	8.3±0.2	0.327±0.008
D	9.5±0.2	0.374±0.008
E	3.2±0.2	0.126±0.008
F	16.5±0.5	0.65±0.02
G	0.5±0.05	0.02±0.002

Recommended Soldering Pad


REF	mm	inch
A	23	0.906
B	4.1	0.161
C	8.5	0.335

Reflow Profile

Reflow Condition		Pb-Free assembly
Pre Heat	Temperature Min	150°C
	Temperature Max	200°C
	Time (min to max)	60 – 180 secs
Average ramp up rate (Liquidus)		3°C/second max
Tamp (T _L) to peak		3°C/second max
T _S (max) to T _L - Ramp-up Rate		3°C/second max
Reflow	- Temperature (T _L) (Liquidus)	217°C
	- Temperature (T _L)	60 – 150 seconds
Peak Temperature (T _p)		260+0/-5 °C
Time within 5°C of actual peak Temperature (t _p)		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T _p)		8 minutes Max.
Do not exceed		260°C


Package Reel Information


REF	mm	inch
W	44±0.3	1.733±0.012
A	8.6±0.1	0.339±0.004
B	16.8±0.1	0.661±0.004
P	16±0.1	0.63±0.004
P0	4±0.1	0.157±0.004
P2	2±0.1	0.079±0.004
d	Φ1.5 ^{+0.1} ₋₀	Φ0.059 ^{+0.004} ₋₀
E	1.75±0.1	0.069±0.004
F	20.25±0.1	0.797±0.004
W1	48±2.0	1.89±0.079
D	Φ330.2	Φ13
D1	Φ100±1	Φ3.94±0.039
D2	Φ13±0.15	0.512±0.006

OUTLINE	BOX/REEL (PCS)	INSIDE CARTON (PCS)	PER CARTON (PCS)	CARTON SIZE(mm)		
				L	W	H
TAPING	250	250	750	360	360	220