

BF102M

Order Code:

Version: A0

# Features

Gas Discharge Tube

- Small Size Design 4.2×5.0×5.0mm Current
- Handling Capability 3,000A @ 8/20 μ s
- Low Capacitance and Insertion Loss
- Fast Response and Long Service Life
- Moisture sensitivity level: Level 1

#### Exterior

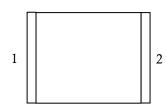


**SMD** 

### Application information

AC Power

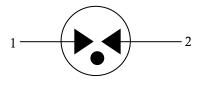




# Agency Approvals

Icon	Description		
RoHS	Compliance with 2011/65/EU		
HF	Compliance with IEC61249-2-21:2003		
<b>⊗</b>	Mean lead free		
IR.	UL Certificated E232249		

### Schematic Symbol



#### **Electrical Parameter**

DC Breakdown Voltage 1)2)	100V/s	800-1200	V
Impulse Charle ever Voltage	At 1kV/µs	for 99 % of measured values ≤ 1800	V
Impulse Spark-over Voltage	At 1kV/µs	Typical values of distribution ≤ 1700	V
Impulse Discharge Current 3)	8/20µs	3,000	A
Arc Voltage	At 1A	~15	V
Insulation Resistance	DC=100V	≥1	GΩ
Capacitance at 1MHz	VDC=0.5V	≤1.0	pF
Weight		~0.5	g
Operating And Storage Temperature		-40-90	$^{\circ}$
Marking		Without	

- 1) At delivery AQL 0.65 level II GB/T 2828.1-2003
- 2) In ionized mode
  3) Terms and waveforms in accordance with ITU-T Rec. K. 12; IEC 61643-21





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# Part Numbering System

BF 102 M (1) (2) (3)

(1)Bencent Gas Discharge Tube

(2) Series: DC Breakdown Voltage,

e.g.:  $102=10\times10^2=1000V$ 

(3) Tolerance of DC Breakdown Voltage, M=+-20%,

N=+-30%, the Specific tolerance is decided by the table

of "Electrical Parameter"

#### **Product Characteristics**

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

### **Environmental Reliability Characteristics**

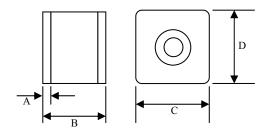
Testing items	Technical standards
High Temperature Storage Test	Temperature: 85°C Time:2H
Low Temperature Storage Test	Temperature: -40°C Time:2H
Vibration	Frequency: 10-500Hz Amplitude: 0.15mm Time: 45min
Resistance of soldering heat	Temperature: 260±5°C Time of dip soldering: 10s, 1time

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

# Solderability test

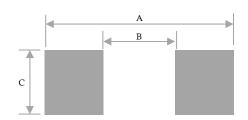
Solderability	Solder Pot Temperature:	245°C ±5°C
	Solder Dwell Time:	4-6 seconds

#### **Product Dimensions**



REF	mm	inch
A	0.5±0.1	0.020±0.004
В	4.2±0.3	0.165±0.012
С	5.0±0.2	0.197±0.008
D	5.0±0.2	0.197±0.008

# Recommended Soldering Pad



REF	mm	inch
A	4.95	0.195
В	3.0	0.118
С	5.5	0.217





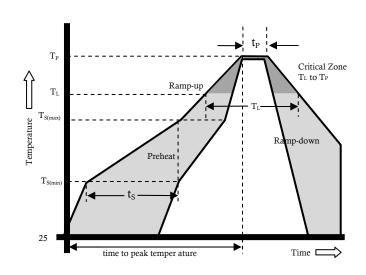
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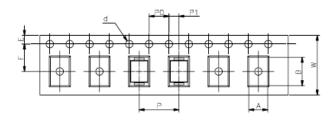
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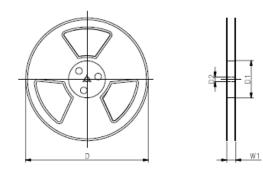
# Reflow Profile

Reflow Condition			Pb-Free assembly	
Ъ	Temperature Min		150°C	
Pre Heat	Те	emperature Max	200°C	
пеаі	Ti	me (min to max)	60 – 180 secs	
Average ramp up rate (Liquids) Tamp $(T_L)$ to peal			3°C/second max	
T <sub>S</sub> (max) to T <sub>L</sub> - Ramp-up Rate		L - Ramp-up Rate	3°C/second max	
Reflow		- Temperature (T <sub>L</sub> ) (Liquids)	217°C	
		- Temperature (T <sub>L</sub> )	60 – 150 seconds	
Peak Temperature (T <sub>P</sub> )		ature (T <sub>P</sub> )	260+0/-5 °C	
Time within 5°C of actual peak Temperature (tp)		•	~10 seconds	
Ramp-down Rate		Rate	6°C/second max	
Time 25°C to peak Temperature (T <sub>P</sub> )		peak Temperature (T <sub>P</sub> )	8 minutes Max.	
Do not exceed		d	260°C	



# Package Reel Information





REF	mm	inch		
A	5.3±0.1	0.209±0. <b>004</b>		
В	4.5±0.2	0.177±0.008		
đ	Ф1.5±0.1	Ф0.059±0.004		
P0	4.0±0.1	0.157±0.004		
P1	2.0±0.1	0.079±0.004		
P	12.0±0.1	0.472±0.004		
Е	1.75±0.1	0.069±0.004		
F	7.5±0.1	0.295±0. <b>00</b> 4		
W	16.0±0.3	0.630±0.012		
D	Ф 330.0	Ф13.0		
D1	Ф50Min	Ф1.97Min		
D2	Φ13±0.5	0.512±0.020		
W1	16.8±2.0	0.661±0.079		

	Reel		Reel Diameter (mm)	Carton Size(mm)		
	(PCS) (PCS)	(PCS)		L	W	Н
TAPING	1,000	16,000	330	360	360	380