

B3D090M-C-2

Order Code: B3D090M-C-2

Gas Discharge Tube

Version: A0 2015-08-31

Features

- Surface Mounting Design 7.8×5.0×5.0mm
- High Current Handling Capability 10,000A @ 8/20 μ s
- Low Capacitance and Insertion Loss
- Quick Response and Long Service Life
- Moisture sensitivity level: Level 1

Application information

- RS485/232/422
- Ethernet

Agency Approvals

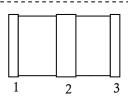
Icon	Description			
RoHS	Compliance with 2011/65/EU			
HF	Compliance with IEC61249-2-21:2003			
®	Mean lead free			
.71	UL Certificated E232249			

Exterior

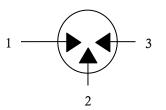


SMD

Package (Top View)



Schematic Symbol



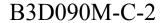
Electrical Parameter

DC Breakdown Voltage 1)2)4)	100V/s 72-108		V
	A+ 100V/a	for 99 % of measured values ≤ 450	V
Impulse Spark-over Voltage ⁴⁾	At 100V/μs	Typical values of distribution ≤ 350	V
impuise spark-over voltage —	A , 11 T7 /	for 99 % of measured values ≤ 600	V
	At 1kV/μs	Typical values of distribution ≤ 500	V
Image Dischause Comment 5)	$8/20\mu s \pm 5 \text{ times}$	10,000	A
Impulse Discharge Current 5)	10/350μs 1 time	1,000	A
AC Discharge Current ⁵⁾	10A, 1S	10	Times
Arc Voltage ⁴⁾ At 1A		~10	V
Insulation Resistance ⁴⁾	e^{4} DC=50V ≥ 1		GΩ
Capacitance at 1MHz ⁴⁾	Capacitance at 1MHz ⁴⁾ VDC=0.5V		pF
Weight		~1.0	g
Operating And Storage Temperature		-40-90	°C
Marking	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 and IEC 61643-21
- 4) Tip electrode "1" or "3" to center electrode "2"
- 5) Total Currents through center electrode 2, half value through each Tip electrode"1" "3"..



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Part Numbering System

B3D 090 M - C-2 (1) (2) (3) (4)

- (1) Bencent 3-Electrode SMD Gas Discharge Tube 7.8×5.0×6.0mm
- (2) DC Breakdown Voltage, e.g., 090=90V
- (3) Surge Rating @8/20 μ s, M=10,000A (Total Impulse Discharge Current 10,000A @ 8/20 μ s)
- (4) "-C-2" Means it is Suitable for the round structure

Product Characteristics

 Lead Material
 Copper

 Body Material
 Ceramics

 Terminal Finish
 100% Matte-Tin Plated

Environmental Reliability Characteristics

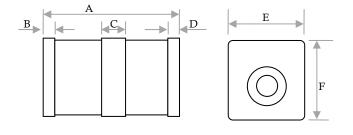
Testing items	Technical standards		
High Temperature Storage Test	Temperature: 90°C Time:2H		
Low Temperature Storage Test	Temperature: -40°C Time:2H		
Vibration	Frequency: 10-500Hz Amplitude: 0.15mm Time: 45min		
Resistance of soldering heat	Temperature: 260±5°C Time of dip soldering: 10s, 1time		

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

Solderability Test

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

Product Dimensions



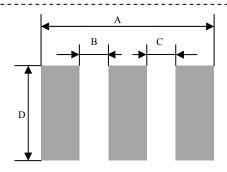
REF	mm	inch		
A	7.8±0.3	0.307±0.012		
В	0.5±0.2	0.020±0.008		
С	1.6±0.2	0.063±0.008		
D	0.5±0.2	0.020±0.008		
Е	5.0±0.2	0.197±0.008		
F	5.0±0.2	0.197±0.008		

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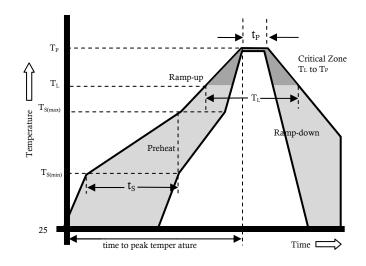
Recommended Soldering Pad



REF	mm	inch		
A	9.6	0.378		
В	1.5	0.059		
С	1.5	0.059		
D	5.0	0.197		

Reflow Profile

Reflow Condition			Pb-Free assembly		
Pre	Temperature Min		150°C		
	Те	emperature Max	200°C		
Heat	Ti	me (min to max)	60 – 180 secs		
Average ramp up rate (Liquids) Tamp (T_L) to peal			3°C/second max		
T _S (max) t	o T	L - Ramp-up Rate	3°C/second max		
Reflow		- Temperature (T _L) (Liquids)	217°C		
	- Temperature (T _L)		60 – 150 seconds		
Peak Temperature (T _P)		ature (T _P)	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 _P)		peak Temperature (T _P)	8 minutes Max.		
Do not exceed		d	260°C		





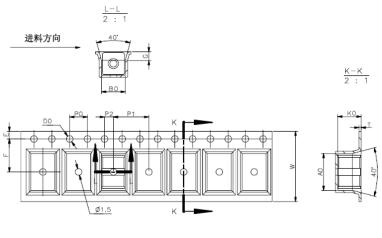
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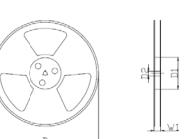


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Package Reel Information





REF	mm	inch		
A0	8.4±0.2	0.331±0.008		
В0	5.4±0.2 0.216±0.008			
P0	4.0±0.2	0.157±0.008		
P1	8.0±0.2	0.315±0.008		
P2	2.0±0.2	0.079±0.008		
Е	1.75±0.2	0.069±0.008		
F	7.5±0.2	0.295±0.008		
W	16.0±0.3	0.630± 0.012		
K0	5.3±0.2	0.209±0.008		
Т	0.5±0.2	0.020±0.008		
G	2	0.079		
D0	Ф1.5±0.2 Ф0.059±0.0			
D	Ф 330.0	Ф13.0		
D1	Ф50Min	Ф1.97Min		
D2	Ф13±0.15	0.512±0.006		
W1	16.8±2.0	0.661±0.079		

Outline	Reel Per Carton (PCS) (PCS)	Per Carton	Reel Diameter (mm)	Carton Size(mm)		
		(PCS)		L	W	Н
TAPING	1,000	16,000	330	360	360	385