


**Features**

- Small Size Design EIA 1206 3.2×1.6×1.6mm
- Current Handling Capability 500A @ 8/20 μ s
- Low Capacitance and Insertion Loss
- Fast Response and Long Service Life
- Reliable to Protect Electrostatic Surge
- Moisture sensitivity level: Level 1

**Application information**

- Ethernet

**Agency Approvals**

Icon	Description
<b>RoHS</b>	Compliance with 2011/65/EU
<b>HF</b>	Compliance with IEC61249-2-21:2003
	Mean lead free

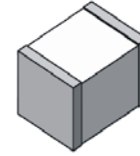
**Electrical Parameter**

DC Breakdown Voltage <sup>1)2)</sup>	100V/s	360-560	V
Impulse Spark-over Voltage	At 1kV/μs	for 99 % of measured values ≤ 1000	V
	At 1kV/μs	Typical values of distribution : ≤ 850	V
Impulse Discharge Current <sup>3)</sup>	10/700μs ± 5 times	6,000	V
	8/20μs ± 5 times	500	A
Arc Voltage	At 1A	~8	V
Insulation Resistance	DC=100V	≥1	GΩ
Capacitance at 1MHz	VDC=0.5V	≤0.6	pF
Weight		~0.04	g
Operating And Storage Temperature		-40-90	℃
Marking		Without	

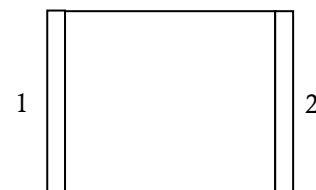
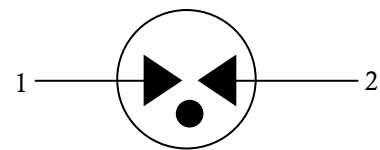
1) At delivery AQL 0.65 level II GB/T 2828.1-2003

2) In ionized mode

3) Terms and waveforms in accordance with ITU-T Rec. K. 12 and IEC 61643-21

**Exterior**


SMD

**Package (Top View)**

**Schematic Symbol**


Gas Discharge Tube

Version: A1 2014-08-26

**Part Numbering System**

- BS 401 N +  
(1) (2) (3) (4)
- (1) Bencent Gas Discharge Tube  
(2) Series: DC Breakdown Voltage,  
e.g.: 401=40×10<sup>1</sup>=400V  
(3) Tolerance of DC Breakdown Voltage, N=+-30%, the Specific tolerance is decided by the table of “Electrical Parameter”  
(4) “+” means that the DC Breakdown Voltage of BS401N+ is different from BS401N.

**Product Characteristics**

Lead Material	Fe-Ni Alloy
Body Material	Ceramics
Terminal Finish	100% Matte-Tin Plated

**Environmental Reliability Characteristics**

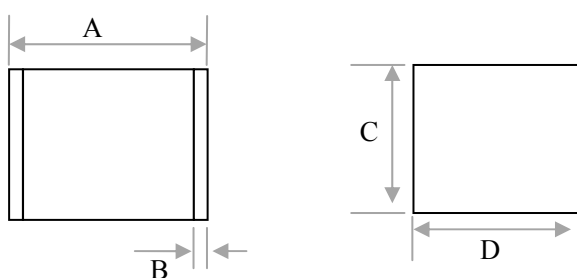
Testing items	Technical standards
High Temperature Storage Test	Temperature: 85°C Time: 2H
Low Temperature Storage Test	Temperature: -40°C Time: 2H
Vibration	Frequency: 10-500Hz Amplitude: 0.15mm Time: 45min
Resistance of soldering heat	Temperature: 260±5°C Time of dip soldering: 10s, 1time

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

**Solderability Test**

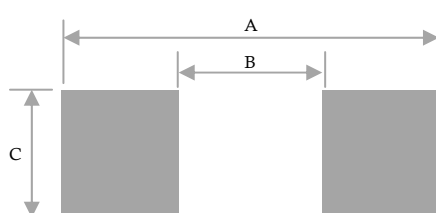
Solderability	Solder Pot Temperature:	245°C ± 5°C
	Solder Dwell Time:	4-6 seconds

**Product Dimensions**



REF	mm	inch
A	3.2±0.3	0.126±0.013
B	0.3±0.2	0.013±0.008
C	1.6±0.2	0.063±0.008
D	1.6±0.2	0.063±0.008

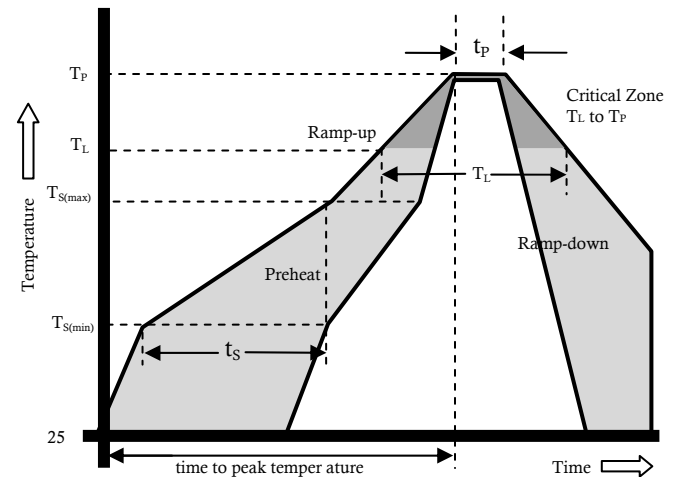
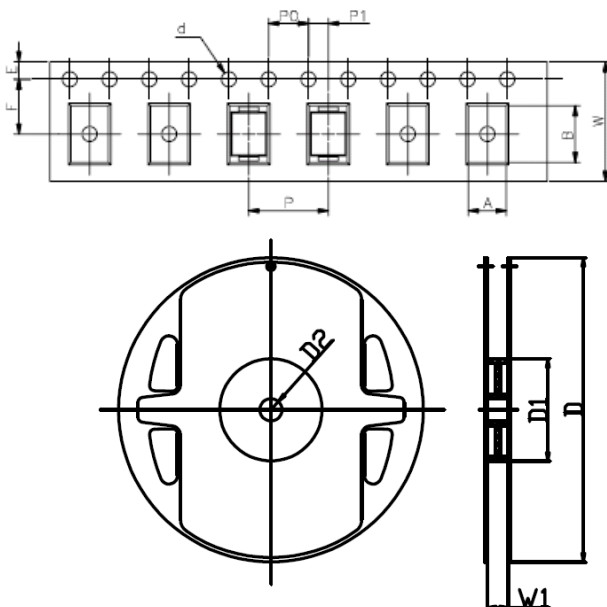
**Recommended Soldering Pad**



REF	mm	inch
A	4.5	0.177
B	2.0	0.079
C	1.8	0.070

**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 (Liquids) T <sub>amp</sub> (T <sub>L</sub> ) to peak		3°C/second max
T <sub>S</sub> (max) to T <sub>L</sub> - 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> )		260+0/-5 °C
Time within 5°C of actual peak Temperature (t <sub>p</sub> )		~6 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature (T <sub>p</sub> )		8 minutes Max.
Do not exceed		260°C


**Package Reel Information**


REF	mm	inch
A	1.9±0.2	0.074±0.008
B	3.6±0.2	0.141±0.008
d	Φ1.5±0.2	Φ0.059±0.008
P0	4.0±0.2	0.157±0.008
P1	2.0±0.2	0.079±0.008
P	4.0±0.2	0.156±0.008
E	1.75±0.2	0.069±0.008
F	5.5±0.2	0.217±0.008
W	12.0±0.2	0.472±0.008
D	Φ178±2	Φ7.008±0.079
D1	Φ 50Min	Φ 1.97Min
D2	Φ13±2	0.512±0.079
W1	12.6±2	0.496±0.079

Outline	Reel (PCS)	Per Carton (PCS)	Reel Diameter (mm)	Carton Size(mm)		
				L	W	H
TAPING	2,000	60,000	178	390	370	220