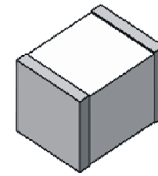
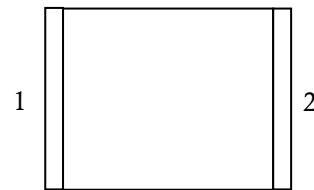



**Gas Discharge Tube
Features**

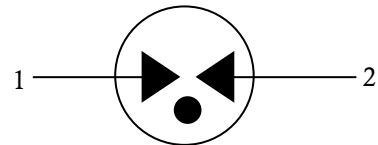
- Small Size Design EIA1210 3.2×2.5×2.5mm
- Current Handling Capability 1,000A @ 8/20 μ s
- Low Capacitance and Insertion Loss
- Fast Response and Long Service Life
- Reliable to Protect Electrostatic Surge
- Moisture sensitivity level: Level 1

Exterior

SMD
Application Information

- RS485/232/422
- Internet

Package (Top View)

Agency Approvals

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

Schematic Symbol

Electrical Parameter

| | | | |
|-----------------------------------|----------------------------------|--------------------------------|-------|
| DC Breakdown Voltage 1)2) | 100V/s | 240-360 | V |
| Impulse Spark-over Voltage | At 1kV/μs | for 99 % of measured values | ≤850 |
| | At 1kV/μs | Typical values of distribution | ≤ 750 |
| Impulse Discharge Voltage 3) | 10/700μs | 6,000 | V |
| | 10 operation[5 × (+) & 5 × (-)] | | |
| Impulse Discharge Current 3) | 8/20μs | 1,000 | A |
| | 10 operation[5 × (+) & 5 × (-)] | | |
| Arc Voltage | At 1A | ~10 | V |
| Insulation Resistance | DC=100V | ≥1 | GΩ |
| C(1MHz) | VDC=0.5V | ≤0.5 | pF |
| Weight | | ~0.094 | g |
| Operating And Storage Temperature | | -40-125 | °C |
| Marking | | Without | |

1) At delivery AQL 0.65 level II ISO 2859

2) In ionized mode

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

Gas Discharge Tube

Version: A2 2019-05-31

Part Numbering System

BZ 301 M

(1) (2) (3)

(1) Bencent Gas Discharge Tube

(2) Series: DC Breakdown Voltage,

 e.g.: $301=30 \times 10^1=300V$

 (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 |

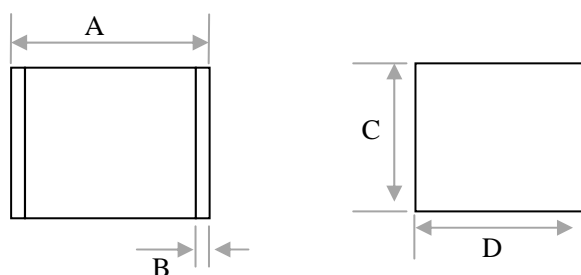
Environmental Reliability Characteristics

| Testing items | Technical standards |
|-------------------------------|---|
| High Temperature Storage Test | Temperature: 125°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 |

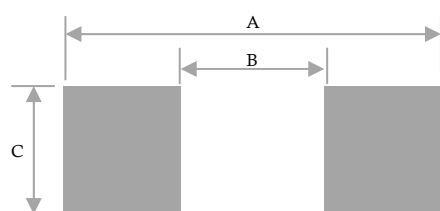
Note: Up-screen program can be specified by customer's request via contacting Bencent service

Solderability Test

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

Product Dimensions


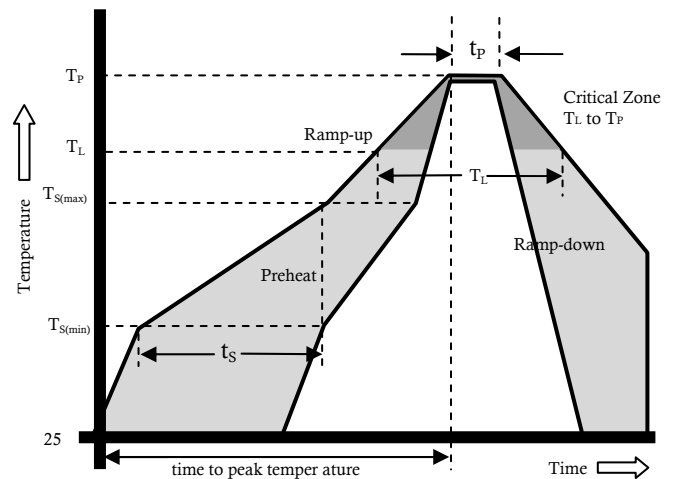
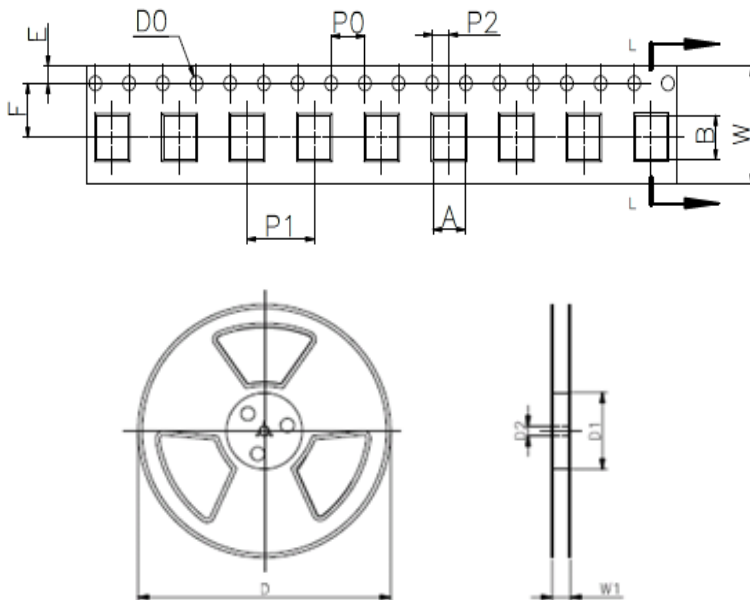
| REF | mm | inch |
|-----|---------|-------------|
| A | 3.2±0.3 | 0.126±0.013 |
| B | 0.3±0.2 | 0.013±0.008 |
| C | 2.5±0.2 | 0.098±0.008 |
| D | 2.5±0.2 | 0.098±0.008 |

Recommended Soldering Pad


| REF | mm | inch |
|-----|-----|-------|
| A | 4.5 | 0.177 |
| B | 2.0 | 0.079 |
| C | 2.8 | 0.110 |

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 _{amp} (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) (Liquids) | 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) | | ~10 seconds |
| Ramp-down Rate | | 6°C/second max |
| Time 25°C to peak Temperature (T _P) | | 8 minutes Max. |
| Do not exceed | | 260°C |


PackageReelInformation


| REF | mm | inch |
|-----|-----------|---------------|
| A | 2.8±0.1 | 0.110±0.004 |
| B | 3.5±0.1 | 0.138±0.004 |
| D0 | Φ 1.5±0.1 | Φ 0.059±0.004 |
| P0 | 4.0±0.1 | 0.157±0.004 |
| P2 | 2.0±0.1 | 0.079±0.004 |
| P1 | 8.0±0.1 | 0.315±0.004 |
| E | 1.75±0.1 | 0.069±0.004 |
| F | 5.5±0.1 | 0.217±0.004 |
| W | 12.0±0.2 | 0.472±0.008 |
| D | Φ 330.0 | Φ 13.0 |
| D1 | Φ 50Min | Φ 1.97Min |
| D2 | Φ 13±0.15 | 0.512±0.006 |
| W1 | 16.8±2.0 | 0.661±0.079 |

| Outline | Reel (PCS) | Per Carton (PCS) | Reel Diameter (mm) | Carton Size(mm) | | |
|---------|------------|------------------|--------------------|-----------------|-----|-----|
| | | | | L | W | H |
| TAPING | 2,500 | 40,000 | 330 | 360 | 360 | 385 |

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