



Features

- Small size design EIA 1812 4.5×3.2×2.7mm current
- Handling capability 2,000A @ 8/20μ 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 |
|---|--|
| RoHS | Compliance with 2011/65/EU |
| HF | Compliance with IEC61249-2-21:2003 |
|  | Mean lead free |
|  | Compliance with UL497B, Certificated E232249 |

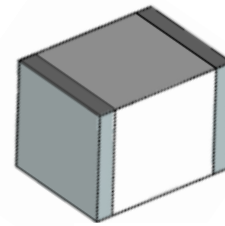
Electrical Parameter

| | | | |
|-----------------------------------|-----------|--------------------------------|--------|
| DC Breakdown Voltage 1)2) | 100V/s | 420-780 | V |
| Impulse Spark-over Voltage | At 1kV/μs | for 99 % of measured values | ≤ 1200 |
| | At 1kV/μs | Typical values of distribution | ≤ 1100 |
| Impulse Discharge Current 3) | 8/20μs | 2,000 | A |
| Arc Voltage | At 1A | ~15 | V |
| Insulation Resistance | DC=100V | ≥1 | GΩ |
| Capacitance at 1 MHz | VDC=0.5V | ≤1.0 | pF |
| Weight | | ~0.20 | g |
| Operating and Storage Temperature | | -40-90 | °C |
| Marking | | Without | |

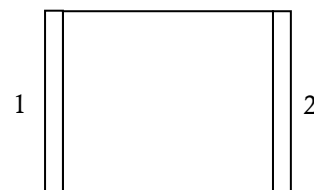
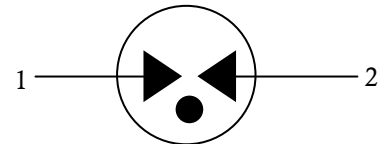
1) At delivery AQL 0.65 level II ISO 2859

2) In ionized mode

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

Exterior


SMD

Package (Top View)

Schematic Symbol


Part Numbering System

BC 601 N
(1) (2) (3)

- (1) Bencent Gas Discharge Tube
 (2) Series: DC Breakdown Voltage, e.g.: 151=15×101=150V
 (3) Tolerance of DC Breakdown Voltage, $M=\pm 20\%$,
 $N=\pm 30\%$, the Specific Tolerance is decided by the table of
 “Electrical Parameter”

Product Characteristics

| | |
|-----------------|-----------------------------|
| Lead Material | Copper or iron nickel alloy |
| Body Material | Ceramics |
| Terminal Finish | 100% Matte-Tin plated |

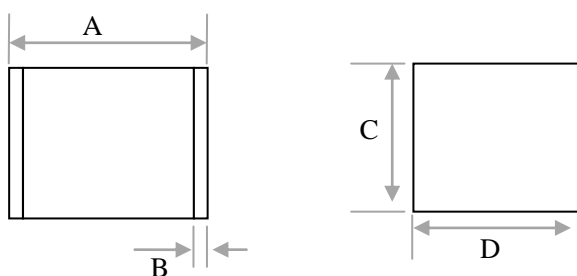
Environmental Reliability Characteristics

| 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: 45mins |
| Resistance of Soldering Heat | Temperature: 260±5°C Time of dip soldering: 10s, 1time |

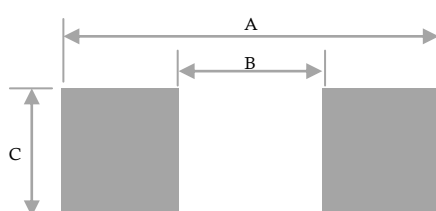
Note: Up-screen program can be specified by customer's request via contacting Bencent service

Solderability Test

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

Product Dimensions


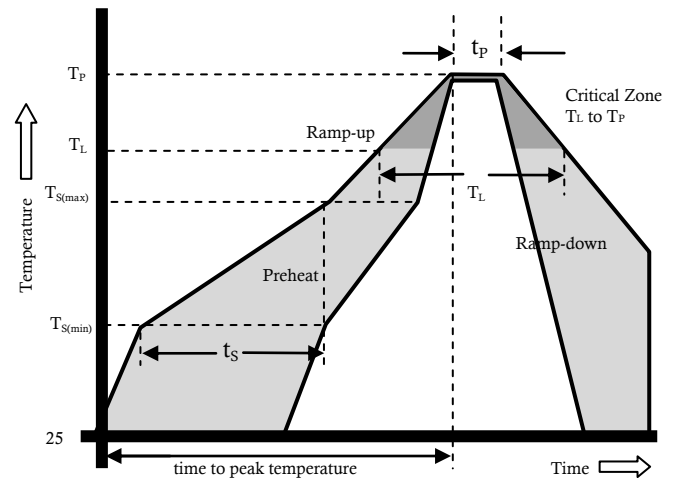
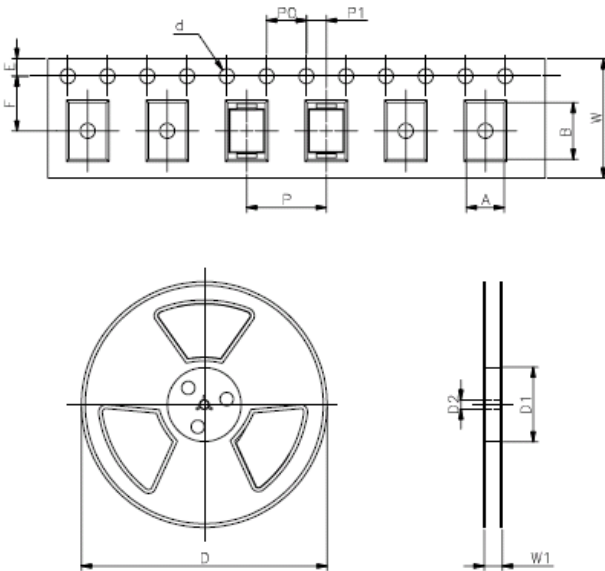
| REF | mm | inch |
|-----|---------|-------------|
| A | 4.5±0.3 | 0.177±0.012 |
| B | 0.5±0.2 | 0.020±0.008 |
| C | 2.7±0.2 | 0.106±0.008 |
| D | 3.2±0.2 | 0.126±0.008 |

Recommended Soldering Pad


| REF | mm | inch |
|-----|-----|-------|
| A | 5.5 | 0.217 |
| B | 3.5 | 0.138 |
| C | 3.5 | 0.138 |

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 Temp (T_L) to peak) | | 3 °C/sec. Max |
| T_S (max) to T_L - Ramp-up Rate | | 3 °C/sec. Max |
| Reflow | - Temperature (T_L) (Liquidus) | 217 °C |
| | - Temperature (T_L) | 60 – 150 sec. |
| Peak Temp (T_P) | | 260±0/-5 °C |
| Time within 5 °C of actual Peak Temp (t_p) | | 8 – 20 secs. |
| Ramp-down Rate | | 6 °C/sec. Max |
| Time 25 °C to peak Temp (T_P) | | 8 mins. Max |
| Do not exceed | | 260 °C |


Package Reel Information


| REF | mm | inch |
|-----|-----------|---------------|
| A | 3.7±0.2 | 0.146±0.008 |
| B | 5.0±0.1 | 0.197±0.004 |
| d | Φ 1.5±0.1 | Φ 0.059±0.004 |
| E | 1.75±0.1 | 0.069±0.004 |
| F | 5.5±0.1 | 0.217±0.002 |
| P | 8.0±0.1 | 0.315±0.004 |
| P0 | 4.0±0.1 | 0.157±0.004 |
| P1 | 2.0±0.1 | 0.079±0.004 |
| W | 12.0±0.2 | 0.472±0.008 |
| D | Φ330.0 | Φ13.0 |
| D1 | Φ50Min | Φ1.97Min |
| D2 | Φ13±0.5 | 0.512±0.02 |
| W1 | 16.8±2.0 | 0.661±0.079 |

| Outline | Reel (pcs) | Per Carton (pcs) | Reel Diameters (mm) | Carton Size(mm) | | |
|---------|------------|------------------|---------------------|-----------------|-----|-----|
| | | | | L | W | H |
| Taping | 2,500 | 40,000 | 330 | 360 | 360 | 380 |

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