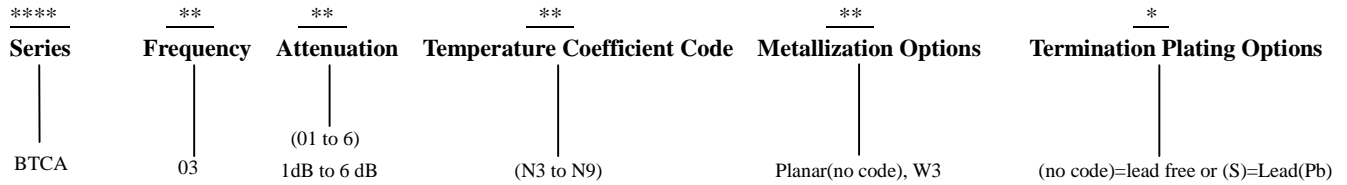


**Broadcast (CATV) Temperature Compensation Attenuator DC~3GHz 75Ω 2W 1~6dB N3~N9**
**Part No. Descriptions**


| Part No.   | Frequency Range (GHz) | Attenuation (dB) | Temperature Coefficient Code | Temperature Coefficient of Attenuation (dB/dB/°C) | Max. VSWR (:1) @1GHz@25°C | Max. Input Power (W) | Attenuation Accuracy (dB) |
|------------|-----------------------|------------------|------------------------------|---|---------------------------|----------------------|---------------------------|
| BTCA0601N* | DC-3                  | 1                | N3~N9                        | -0.003~ -0.009                                    | 1.2                       | 2                    | ±0.5                      |
| BTCA0602N* | DC-3                  | 2                | N3~N9                        | -0.003~ -0.009                                    | 1.2                       | 2                    | ±0.5                      |
| BTCA0603N* | DC-3                  | 3                | N3~N9                        | -0.003~ -0.009                                    | 1.2                       | 2                    | ±0.5                      |
| BTCA0604N* | DC-3                  | 4                | N3~N9                        | -0.003~ -0.009                                    | 1.2                       | 2                    | ±0.5                      |
| BTCA0605N* | DC-3                  | 5                | N3~N9                        | -0.003~ -0.009                                    | 1.2                       | 2                    | ±0.5                      |
| BTCA0606N* | DC-3                  | 6                | N3~N9                        | -0.003~ -0.009                                    | 1.2                       | 2                    | ±0.5                      |

**General Specifications**

- Frequency Range DC to 3GHz
- Attenuation 3dB
- Attenuation Accuracy at 25°C ±0.5dB@1GHz
- VSWR 1.20:1 Max. @1GHz at 25°C
- Nominal Impedance 75Ohms
- Power Rating 2 Watts CW
- Power Derating 100% @ 125°C  
Derates to 0% @ 150°C
- Operating Temperature -55°C to +150°C
- Temperature Coefficient over Operating Temperature Range: See Table Above.  
Temperature Coefficient Tolerance: ±0.001dB/dB/°C.
- Substrate: Alumina (Al<sub>2</sub>O<sub>3</sub>)
- Resistive material: Thick film
- Terminal material: Thick film, Nickel barrier with pure tin plate (lead free) or with tin (Sn90) plate (10% lead contained)
- Protective Coating: Thick film (ethyl acetate)
- Package Outline: See Sheet 3.
- Workmanship: per MIL-PRF-55342.
- Electrostatic Discharge Control: per MIL-STD-1686.

**Unit Marking** dB Value (XX), Direction of Shift (N) and TCA Shift (X), Lead free (F).  
Legibility and Permanency: per MIL-STD-130.

**Quality Assurance**

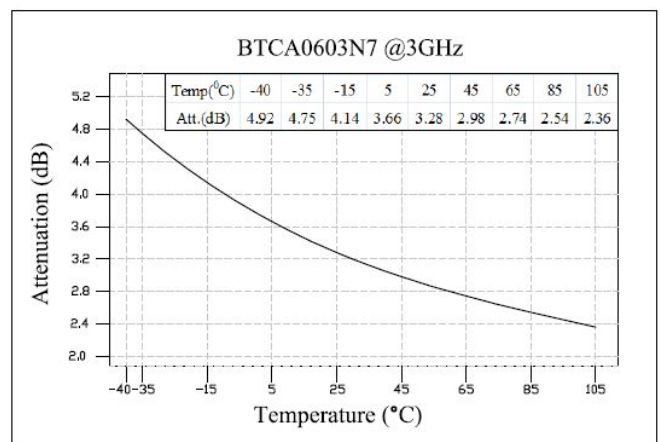
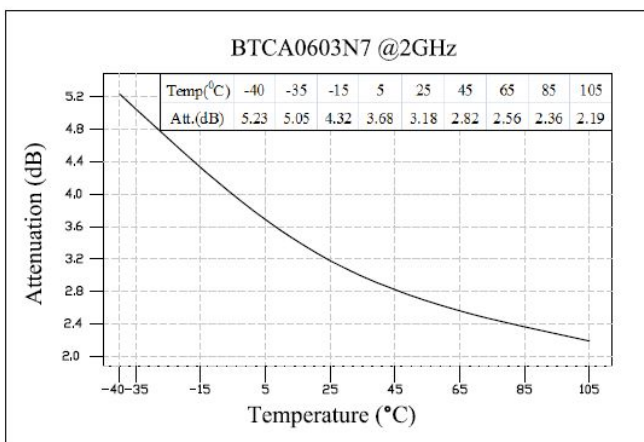
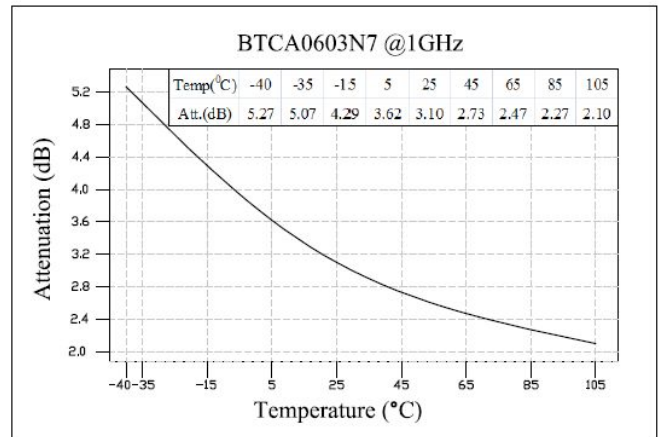
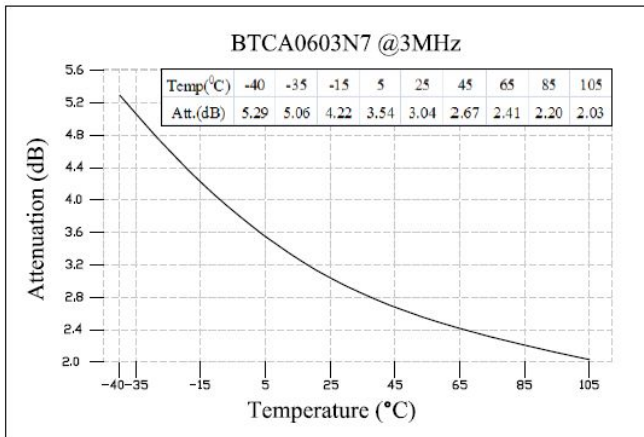
- Sample inspect per ANSI/ASQC Z1.4 general inspection, LEVEL II, AQL = 1.0.
  - 1.1 Visual and mechanical examination for conformance to outline package requirements.
- Select five (5) Units from lot measure attenuation from DC to 3GHz every 20°C over the temperature range -55°C to +125°C.
  - 2.1 Calculate, using linear regression, the slope of the curve.
  - 2.2 Calculate TCA using the following formula: TCA = Slope / Attenuation @ 25°C.
- Test data required for customer.

**Yantel Corporation**

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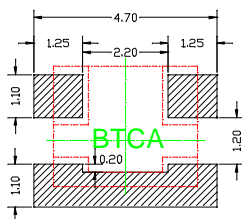
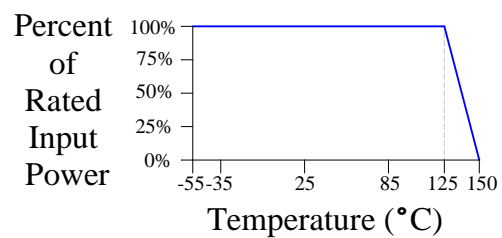
 For detailed performance specs & shopping online see Yantel web site : [www.yantel-corp.com](http://www.yantel-corp.com)

**BTCA Response**


| Temp(°C) \ ATT(dB) | 3MHz | 1GHz | 2GHz | 3GHz |
|--------------------|------|------|------|------|
| -40                | 5.29 | 5.27 | 5.23 | 4.92 |
| -35                | 5.06 | 5.07 | 5.05 | 4.75 |
| -15                | 4.22 | 4.29 | 4.32 | 4.14 |
| 5                  | 3.54 | 3.62 | 3.68 | 3.66 |
| 25                 | 3.07 | 3.10 | 3.18 | 3.28 |
| 45                 | 2.67 | 2.73 | 2.82 | 2.98 |
| 65                 | 2.41 | 2.47 | 2.56 | 2.74 |
| 85                 | 2.20 | 2.27 | 2.36 | 2.54 |
| 105                | 2.03 | 2.10 | 2.19 | 2.36 |

**Recommended Layout**

All dimensions shown in mm unless stated otherwise


**Power Rating & Derating Curve**


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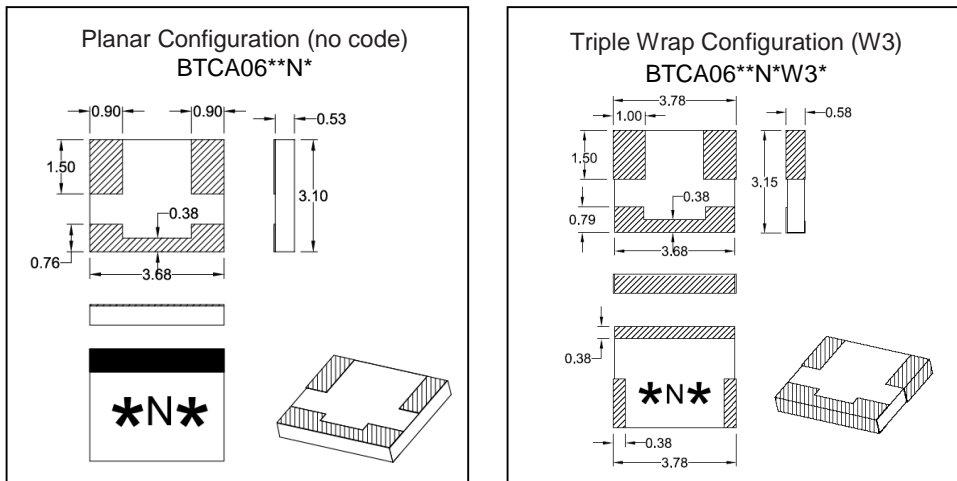
Tel: 86-755-8355-1886 Fax: 86-755-8355-2533

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### Package Outlines

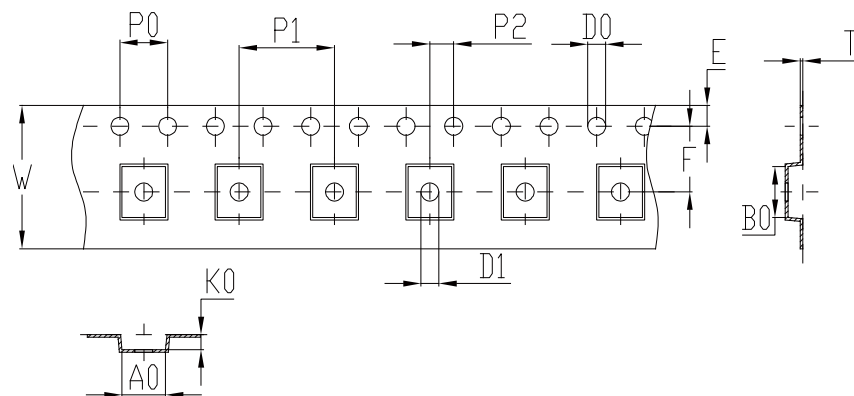
All dimensions shown in mm unless stated otherwise

Note: Dimension tolerance in  $\pm 0.10$  otherwise mention. \* represents number



### Tape & Reel Drawing

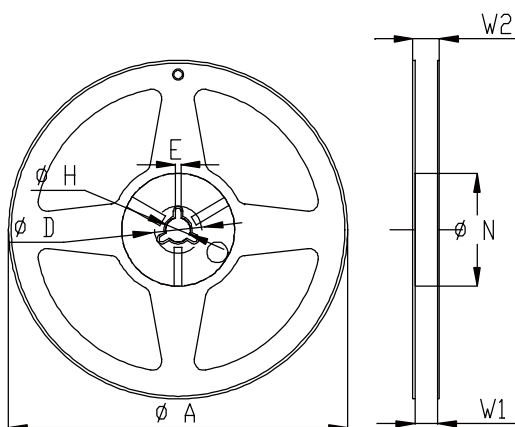
All dimensions shown in mm unless stated otherwise



Notice:

- A.10 Sprocket hole pitch cumulative tolerance is 0.2mm.
- B. Carrier camber shall be not more than 1mm per 100mm through a length of 250mm.
- C. All dimensions meet EIA-418-B requirements.
- D. A0 & B0 measured as indicated.
- E. K0 measured from a place on the inside bottom of the pocket to top surface of carrier.
- F. Material: PE 100
- G. Thickness:  $0.23 \pm 0.05$ mm
- H. 1500 units (maximum) / T&R

|        |                |                 |                |               |                          |                |
|--------|----------------|-----------------|----------------|---------------|--------------------------|----------------|
| symbol | A0             | B0              | K0             | P0            | P1                       | P2             |
| spec   | $3.65 \pm 0.1$ | $4.25 \pm 0.1$  | $1.25 \pm 0.1$ | $4.0 \pm 0.1$ | $8.0 \pm 0.1$            | $2.0 \pm 0.1$  |
| symbol | W              | T               | E              | F             | D0                       | D1             |
| spec   | $12.0 \pm 0.3$ | $0.23 \pm 0.05$ | $1.75 \pm 0.1$ | $5.5 \pm 0.1$ | $\Phi 1.5^{+0.1}_{-0.0}$ | $\Phi 1.5$ min |



| Symbol | Dimensions(mm) |
|--------|----------------|
| A      | $180^{+0/-3}$  |
| N      | $60^{+1/-0}$   |
| W1     | $12.0 \pm 0.3$ |
| W2     | $14 \pm 1.0$   |
| D      | $25 \pm 0.8$   |
| H      | $13 \pm 0.2$   |
| E      | $3 \pm 0.5$    |

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