Broadcast(CATV)Temperature Compensation Attenuator DC~3GHz 75Ω 2W 1~6dB N3~N9

Part No. Descriptions

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Series	**Frequency**	**Attenuation**	**Temperature Coefficient Code**	**Metallization Options**	**Termination Plating Options**
BTCA	03	(01 to 6) 1dB to 6 dB	(N3 to N9)	Planar(no code), W3	(no code)=lead free or (S)=Lead(Pb)

Part No.	Frequency Range (GHz)	Attenuation (dB)	Temperature Coefficient Code	Temperature Coefficient of Attenuation (dB/dB/℃)	Max. VSWR (:1) @1GHz@25℃	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

1. Frequency Range — DC to 3GHz
2. Attenuation — 2dB
3. Attenuation Accuracy — at 25℃ ±0.5dB@1GHz
4. VSWR — 1.20:1 Max. @1GHz at 25℃
5. Nominal Impedance — 75Ohms
6. Power Rating — 2 Watts CW
7. Power Derating — 100% @ 125℃
   Derates to 0% @ 150℃
8. Operating Temperature — -55℃ to +150℃
9. Temperature Coefficient over Operating Temperature Range: See Table Above.
   Temperature Coefficient Tolerance:±0.001dB/dB/℃.
10. Substrate: Alumina (Al2O3)
11. Resistive material: Thick film
12. Terminal material: Thick film, Nickel barrier with pure tin plate (lead free) or with tin (Sn90) plate (10% lead contained)
13. Protective Coating: Thick film (ethyl acetate)
14. Package Outline: See Sheet 3.
15. Workmanship: per MIL-PRF-55342.
16. Electrostatic Discharge Control: per MIL-STD-1686.

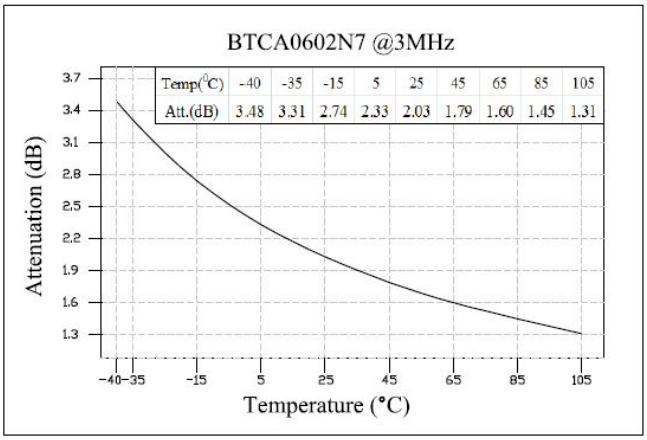
Unit Marking

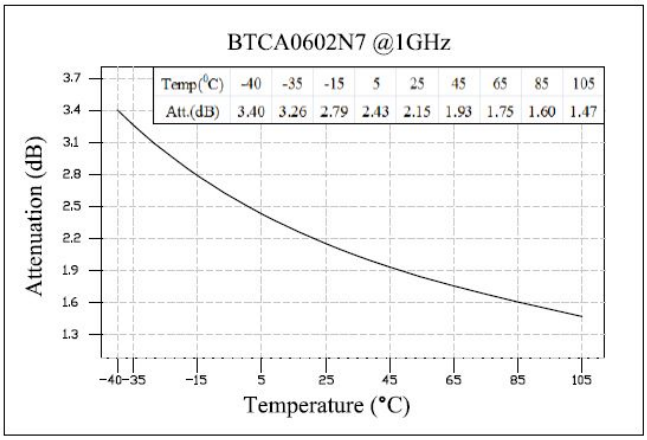
dB Value (XX), Direction of Shift (N) and TCA Shift (X), Lead free (F).
Legibility and Permanency: per MIL-STD-130.

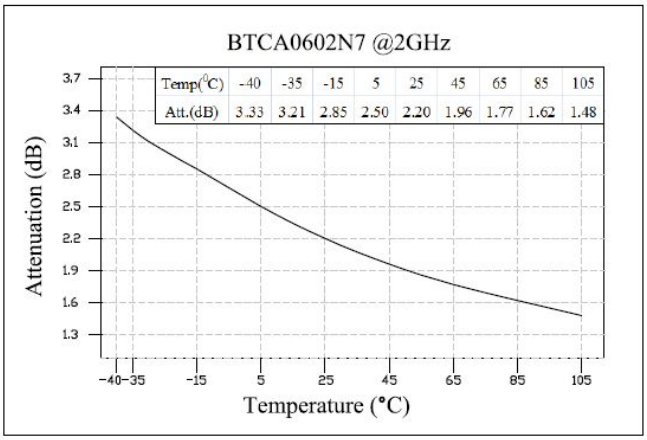
Quality Assurance

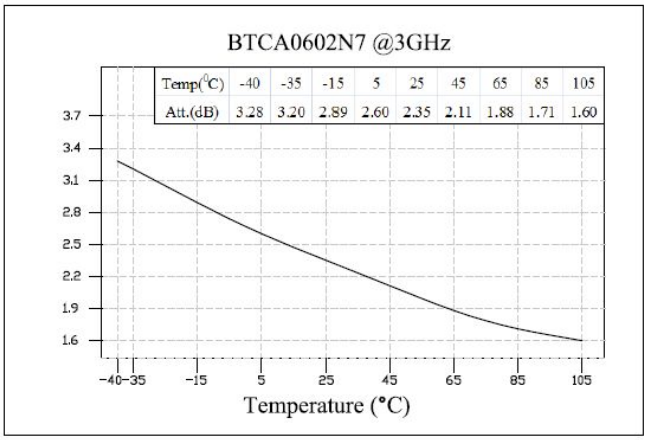
1. Sample inspect per ANSI/ASQC Z1.4 general inspection, LEVEL II, AQL = 1.0.
   1.1 Visual and mechanical examination for conformance to outline package requirements.
2. Select five (5) Units from lot measure attenuation from DC to 3GHz every 20°C over the temperature range -55°C to +125°C.
   2.1 Calculate,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

BTCA Response





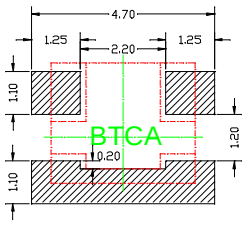




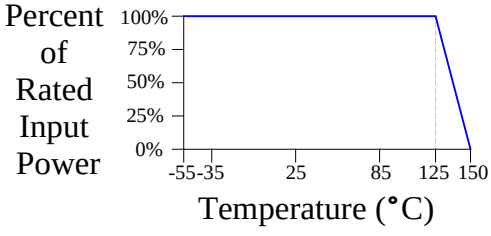
Statistical Table of Attenuation(typ.) VS Temperature				
ATT(dB) / Temp(℃)	3MHz	1GHz	2GHz	3GHz
-40	3.48	3.40	3.33	3.28
-35	3.31	3.26	3.21	3.20
-15	2.74	2.79	2.85	2.89
5	2.33	2.43	2.50	2.60
25	2.03	2.15	2.20	2.35
45	1.79	1.93	1.96	2.11
65	1.60	1.75	1.77	1.88
85	1.45	1.60	1.62	1.71
105	1.31	1.47	1.48	1.60

Recommended Layout

All dimensions shown in mm unless stated otherwise



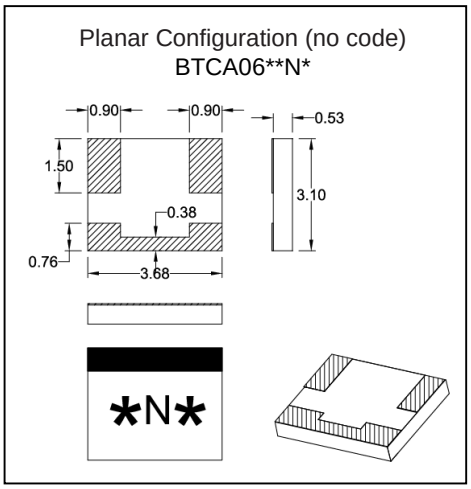
Power Rating & Derating Curve

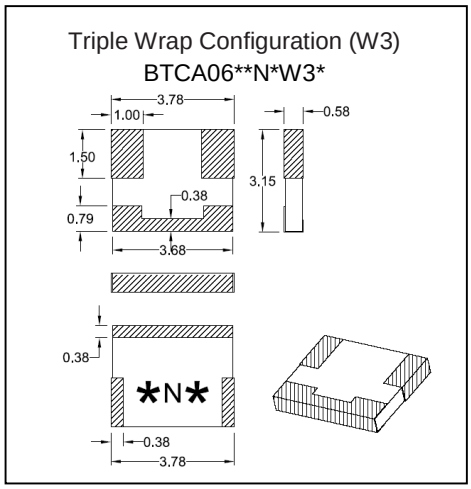


Package Outlines

All dimensions shown in mm unless stated otherwise

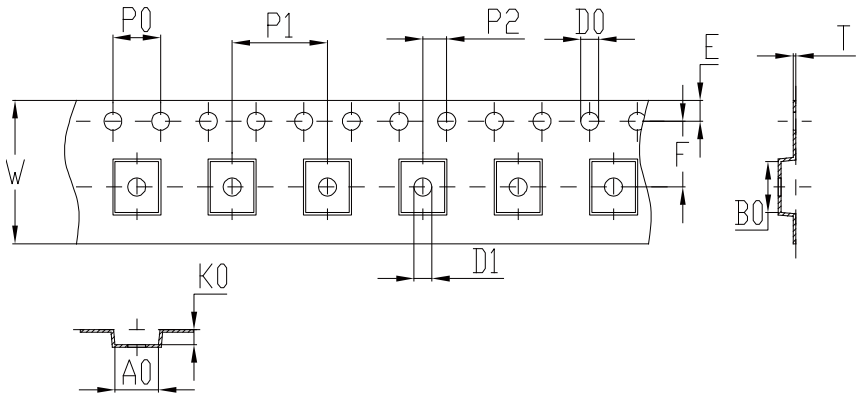
Note: Dimension tolerance in ±0.10 otherwise mention. * represents number





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.

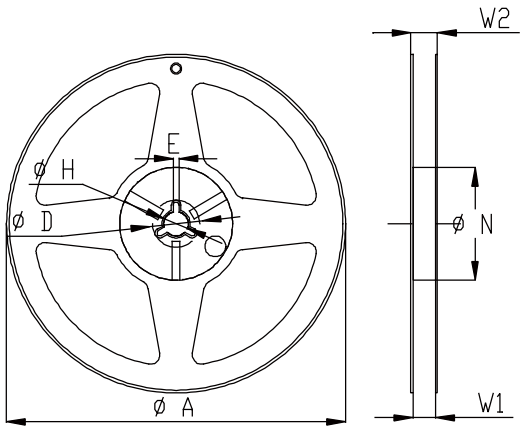
E. K0 measured from a place on the inside bottom of the pocket to top surface of carrier.

F. Material: PE 100

G. Thickness: 0.23±0.05mm

H. 1500 units (maximum) / T&R

symbol	A0	B0	K0	P0	P1	P2
spec	3.65±0.1	4.25±0.1	1.25±0.1	4.0±0.1	8.0±0.1	2.0±0.1
symbol	W	T	E	F	D0	D1
spec	12.0±0.3	0.23±0.05	1.75±0.1	5.5±0.1	$\Phi 1.5^{+0.1}_{-0.0}$	Φ1.5min



Symbol	Dimensions(mm)
A	180+0/-3
N	60+1/-0
W1	12.0±0.3
W2	14±1.0
D	25±0.8
H	13±0.2
E	3±0.5