High Frequency Temperature Compensation Attenuator DC~20GHz 50Ω 200mW

Part No. Descriptions

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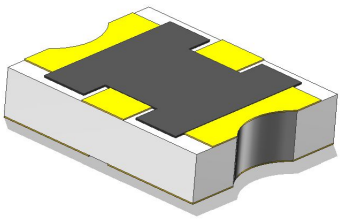
Series	**Frequency**	**Attenuation**	**Temperature Coefficient Code**	**Metallization Options**
WTCA	(20)	(02 to 07) 2dB to 7dB	(N3 to N10)	WB2

Part No.	Frequency Range (GHz)	Attenuation (dB)	Temperature Coefficient Code	Temperature Coefficient of Attenuation (dB/dB/℃)	Max. VSWR (:1) @1GHz@25℃	Max. Input Power (mW)	Attenuation Accuracy (dB)
WTCA2002N*WB2	DC-20	2	N3~N7	-0.003~ -0.007	1.2	200	±0.5
WTCA2003N*WB2	DC-20	3	N3~N9	-0.003~ -0.009	1.2	200	±0.5
WTCA2004N*WB2	DC-20	4	N3~N9	-0.003~ -0.009	1.2	200	±0.5
WTCA2005N*WB2	DC-20	5	N3~N10	-0.003~ -0.010	1.2	200	±0.5
WTCA2006N*WB2	DC-20	6	N3~N10	-0.003~ -0.010	1.2	200	±0.5
WTCA2007N*WB2	DC-20	7	N3~N10	-0.003~ -0.010	1.2	200	±0.5

General Specifications

1. Frequency Range — DC to 20GHz
2. Attenuation — 6dB
3. Attenuation Accuracy — at 25℃ ±0.5dB@1GHz
4. VSWR — at 25℃ 1.50:1 Max. over DC-20GHz



5. Nominal Impedance — 50 Ohms
6. Power Rating — 200 mW 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, Input, Output and front Ground all made by gold,Back Ground made by Pd/Ag.
13. Protective Coating: Thick film (ethyl acetate)
14. Package Outline: See Sheet 4.
15. Workmanship: per MIL-PRF-55342.
16. RoHS Compliant.
17. Electrostatic Discharge Control: per MIL-STD-1686.

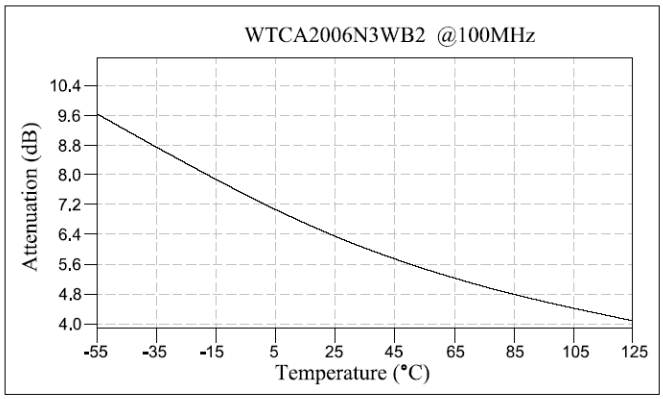
Unit Marking

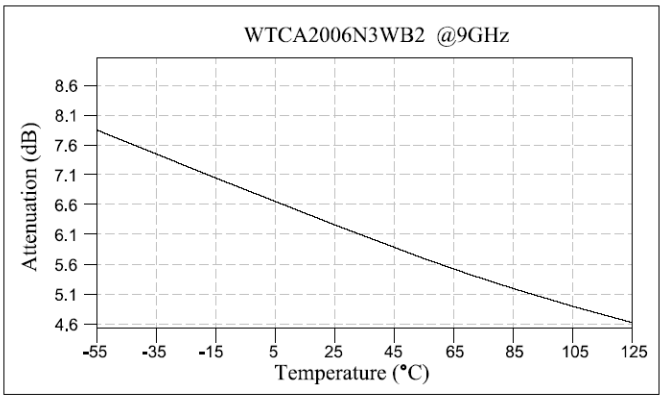
dB Value (XX), Direction of Shift (N) and TCA Shift (X).
Legibility and Permanency: per MIL-STD-130.

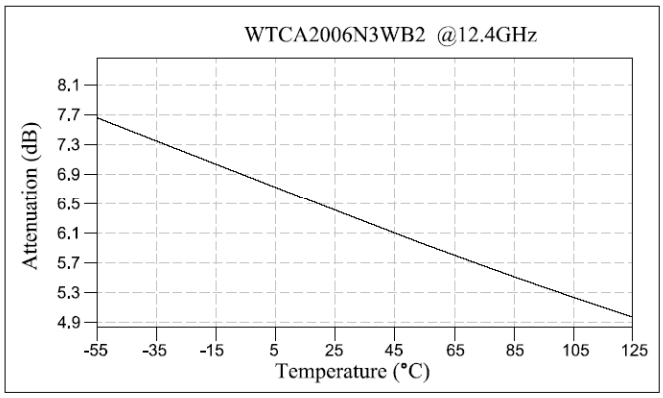
Quality Assurance

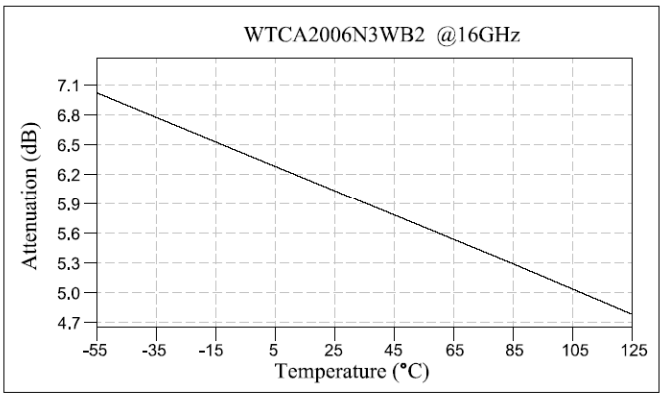
1. Sample inspect per ANSI/ASQC Z1.4 general inspection, LEVEL II, AQL = 1.0.
   1.1 Visual and mechanical examination for conformance to outline package requirements.
2. Select five (5) Units from lot measure attenuation from DC to 20GHz every 20°C over the temperature range -55°C to +125°C.
   2.1 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.

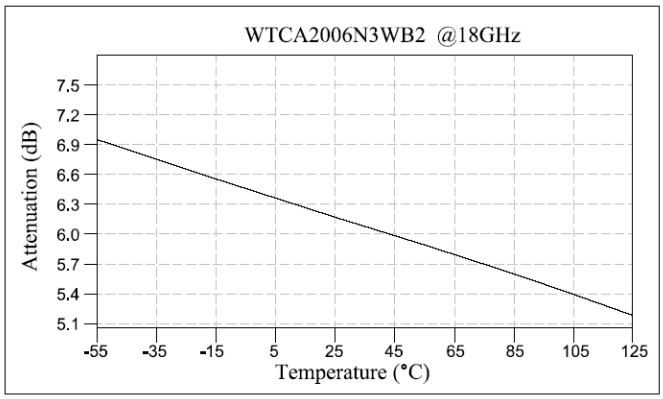
WTCA Response

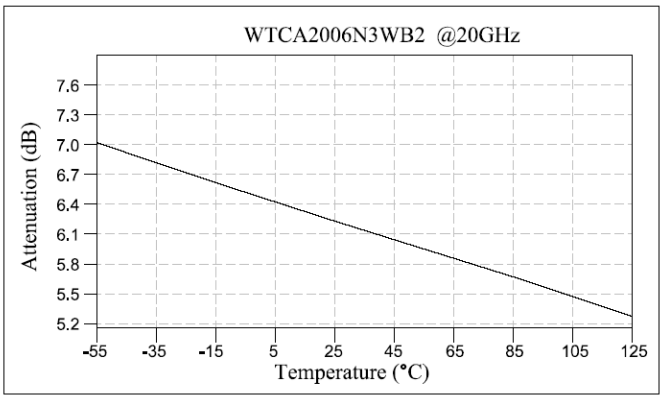






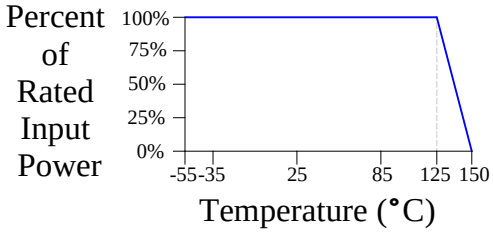






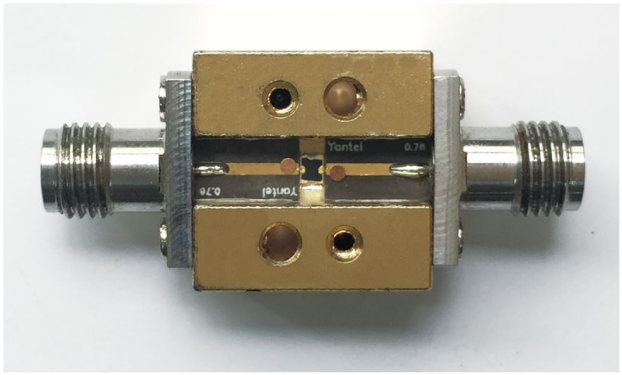
Typical VSWR @25℃

Power Rating & Derating Curve

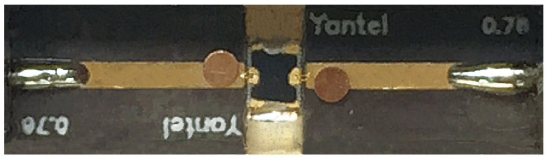


Notes on RF Testing and Circuit Layout

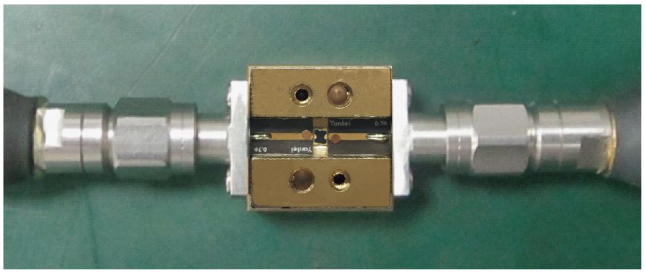
DC-20GHz WB2 series(for Gold Terminal type) Test Fixture



WB2 PCB Test Board

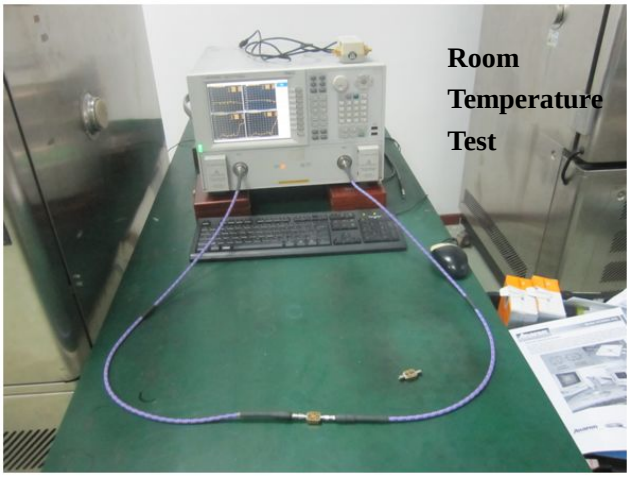


Connect test part to Test Fixture



Equipment Calibration

Room Temperature Test



High-Low Temperature Test

1、 S2P documents are available for download

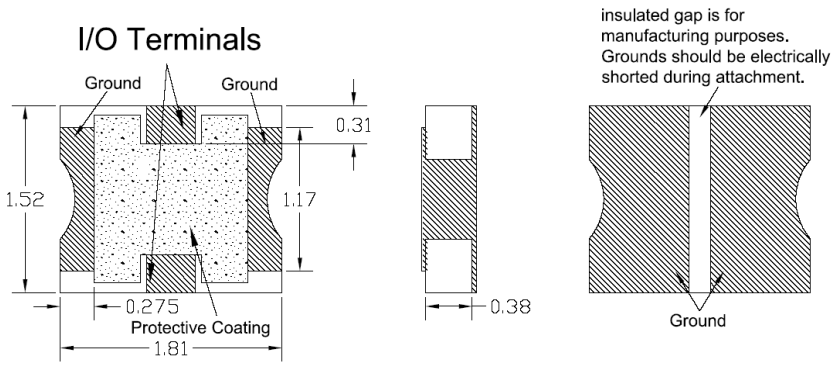
2、 DC-20GHz or 16-36GHz test fixture is rentable（only for Chinese customers），otherwise please purchase them.

For any questions or needs, please feel free to contact inform@yantel-corp.com.

Package Outlines

All dimensions shown in mm unless stated otherwise Unit: mm

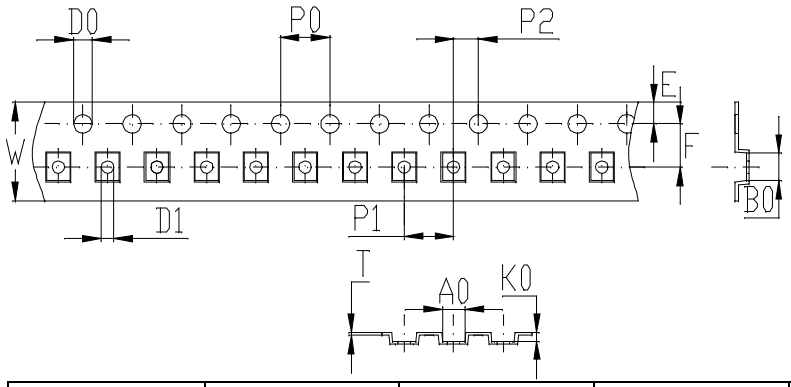
Note: Dimension tolerance in ±0.10 otherwise mention.



TOP **BOTTOM**

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.

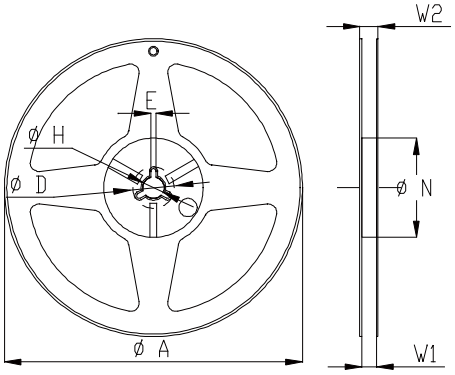
E. K0 measured from a place on the inside bottom of the pocket to top surface of carrier.

F. Material: PS

G. Thickness: 0.25±0.05mm

H. 3000 units (maximum) / T&R

symbol	A0	B0	K0	P0	P1	P2
spec	1.85±0.1	2.25±0.1	0.7±0.1	4.0±0.1	4.0±0.1	2.0±0.1
symbol	W	T	E	F	D0	D1
spec	8.0±0.3	0.25±0.05	1.75±0.1	3.5±0.1	$\Phi 1.5^{+0.1}_{-0.0}$	$\Phi 1.0^{+0.1}_{-0.0}$



Symbol	Dimensions(mm)
A	180+0/-3
N	60+1/-0
W1	9.0±0.3
W2	11±1.0
D	25±0.8
H	13±0.2
E	3±0.5