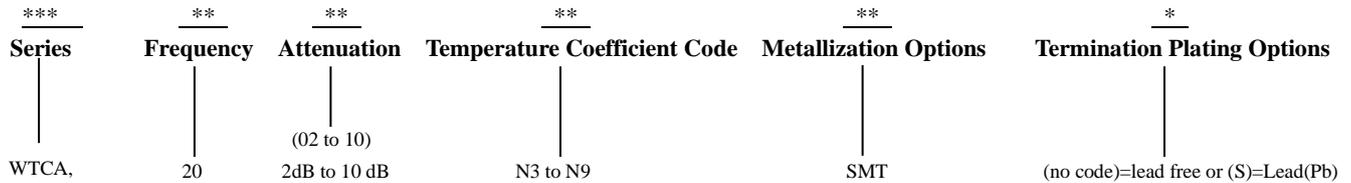
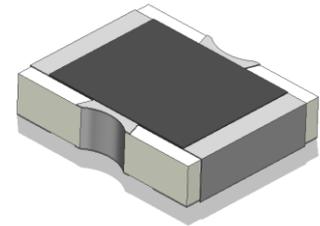


Part No. Descriptions


| 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 (mW) | Attenuation Accuracy (dB) |
|----------------|-----------------------|------------------|------------------------------|---|---------------------------|-----------------------|---------------------------|
| WTCA2002N*SMT | DC-20 | 2 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |
| WTCA2003N*SMT | DC-20 | 3 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |
| WTCA2004N*SMT | DC-20 | 4 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |
| WTCA2005N*SMT | DC-20 | 5 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |
| WTCA2006N*SMT | DC-20 | 6 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |
| WTCA2007N*SMT | DC-20 | 7 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |
| WTCA2008N*SMT | DC-20 | 8 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |
| WTCA2009N*SMT | DC-20 | 9 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |
| WTCA20010N*SMT | DC-20 | 10 | N3~N9 | -0.003~ -0.09 | 1.2 | 200 | ±0.5 |

General Specifications

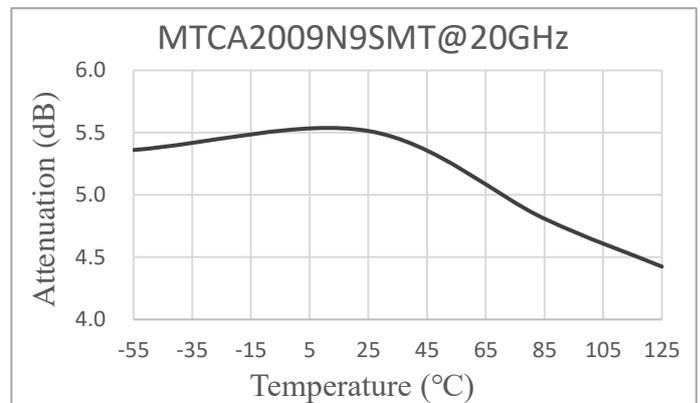
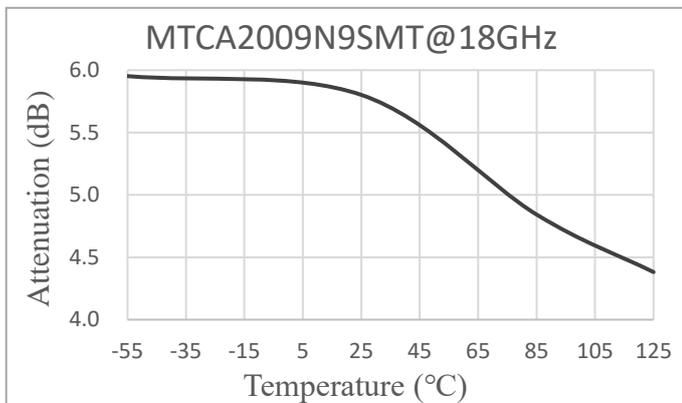
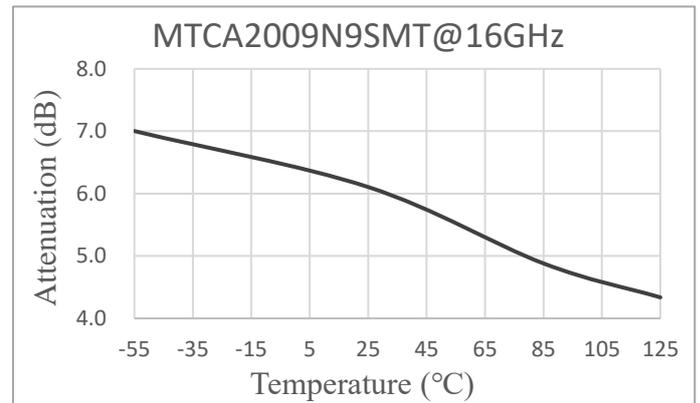
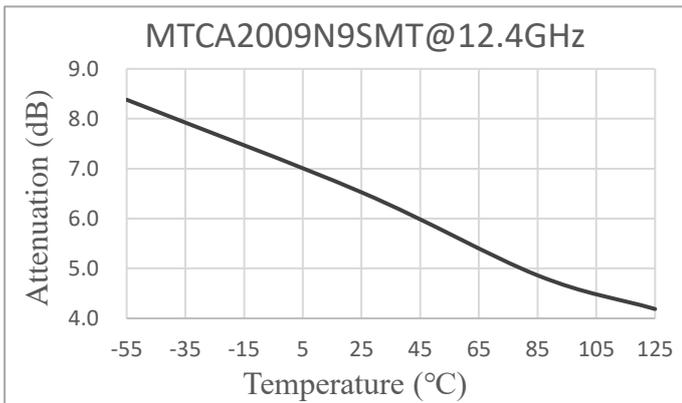
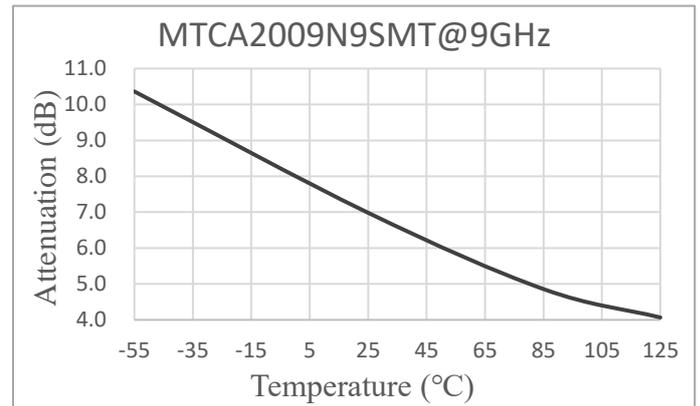
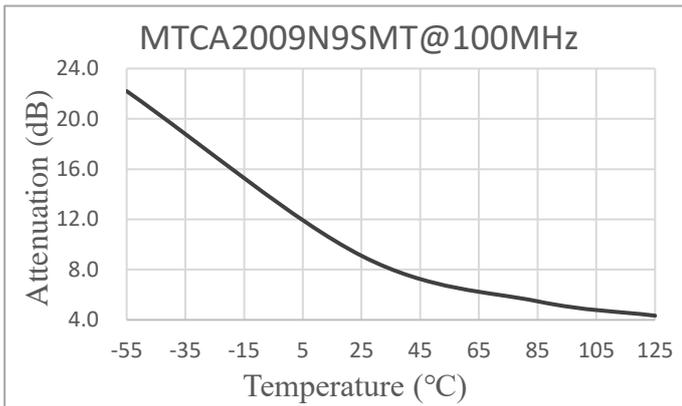
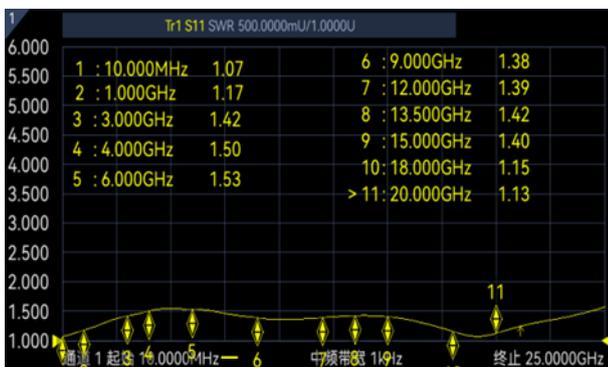
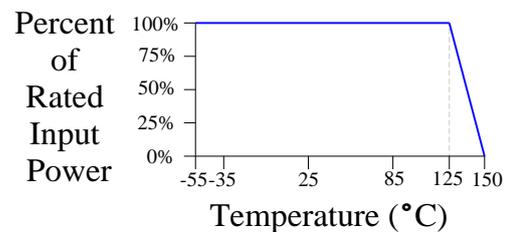
- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Frequency Range 2. Attenuation 3. Attenuation Accuracy 4. VSWR 5. Nominal Impedance 6. Power Rating 7. Power Derating 8. Operating Temperature 9. Temperature Coefficient over Operating Temperature Range: See Table Above. 10. Substrate: Alumina (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 4. 15. Workmanship: per MIL-PRF-55342. 16. RoHS Compliant. 17. Electrostatic Discharge Control: per MIL-STD-1686. | <p>DC to 20GHz 9dB at 25°C ±0.5dB@1GHz at 25°C 1.55:1 Max. over DC - 20GHz</p> <p>50 Ohms 200 mW CW 100% @ 125°C Derates to 0% @ 150°C</p> <p>-55°C to +150°C</p> <p>Temperature Coefficient Tolerance: ±0.001dB/dB/°C.</p> |
|---|---|



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

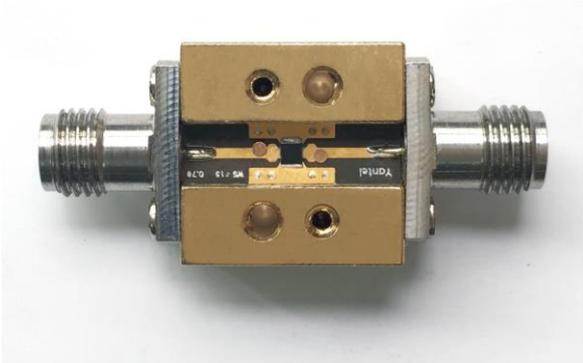
Quality Assurance

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.

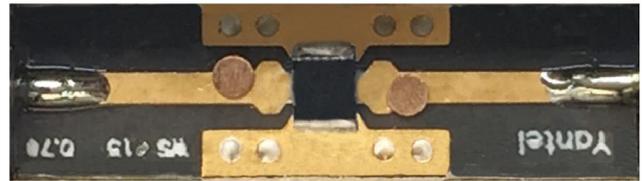
WTCA Response

Typical VSWR @25°C

Power Rating & Derating Curve


Notes on RF Testing and Circuit Layout

DC-20GHz SMT series(for SMT type) Test Fixture



SMT PCB Test Board



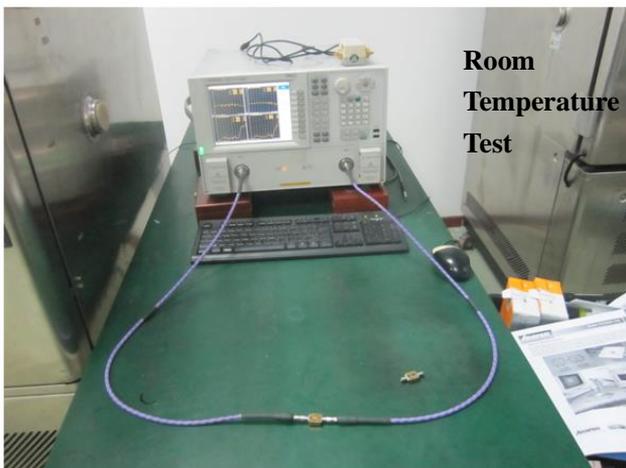
Connect test part to Test Fixture



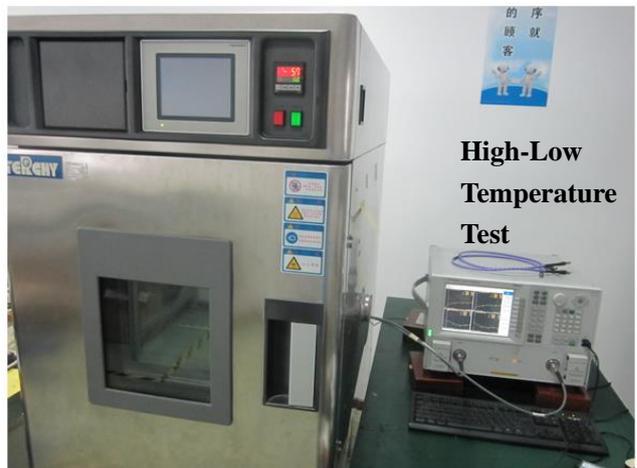
Equipment Calibration



**Room
Temperature
Test**



**High-Low
Temperature
Test**

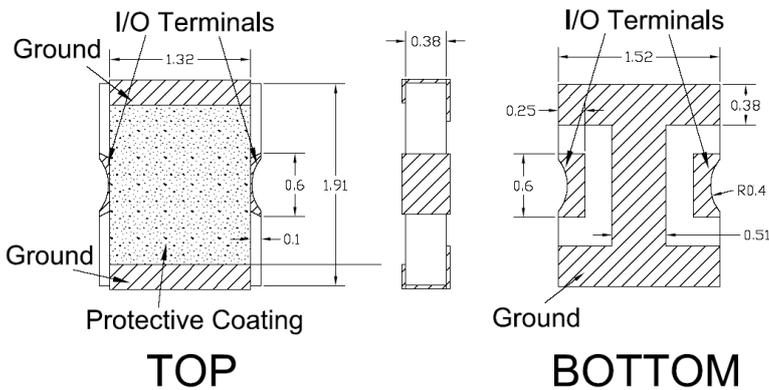


- 1、 S2P documents are available for download
- 2、 DC-20GHz or 16-36GHz test fixture is rentable (only for Chinese customers) , otherwise please purchase them.

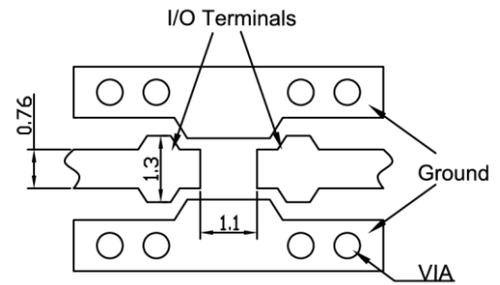
For any questions or needs, please feel free to contact inform@yantel-corp.com.

Package Outlines

All dimensions shown in mm unless stated otherwise
 Note: Dimension tolerance in ± 0.10 otherwise mention.



Recommended PCB Layout



NOTE:

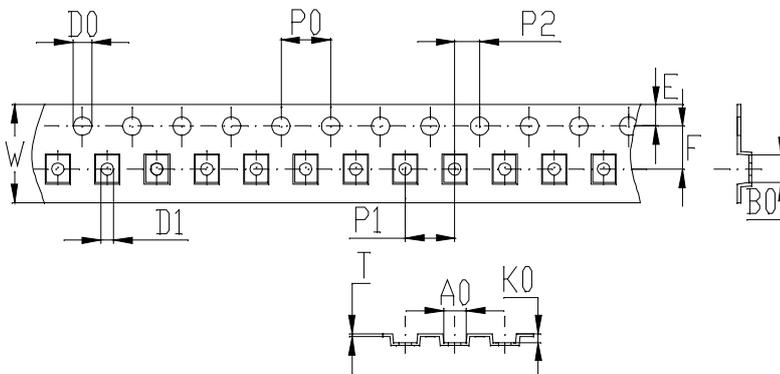
- 50Ω line width is shown above designing from Rogers5880 dielectric thickness 0.254mm; copper H OZ
- Bottom side of the PCB is continuous ground plane.
- All dimensions shown in mm.

Notice:

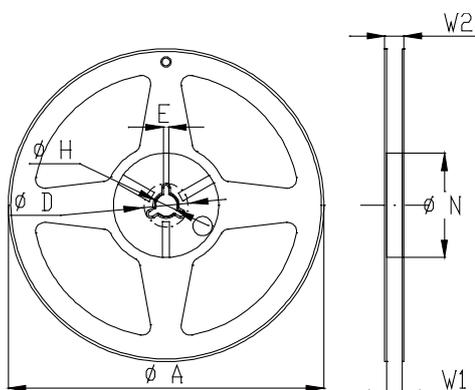
- A.10 Sprocket hole pitch cumulative tolerance is 0.2mm.
- B. Carrier camber shall be not more than 1mm per 100mm through a length of 250mm.
- C. All dimensions meet EIA-418-B requirements.
- D. A0 & B0 measured as indicated.
- E. K0 measured from a place on the inside bottom of the pocket to top surface of carrier.
- F. Material: PS
- G. Thickness: 0.25±0.05mm
- H. 3000 units (maximum) / T&R

Tape & Reel Drawing

All dimensions shown in mm unless stated otherwise



| | | | | | | |
|--------|----------|-----------|----------|---------|--------------------------|--------------------------|
| 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 |

