

| Microwave Temperature Compensation Attenuator |              |                          |                              |                                   | DC~18GHz                            | 50Ω | 200mW |
|-----------------------------------------------|--------------|--------------------------|------------------------------|-----------------------------------|-------------------------------------|-----|-------|
| Part No.                                      | Descriptions |                          |                              |                                   |                                     |     |       |
| ****                                          | **           | **                       | **                           | **                                | **                                  | *   |       |
| Series                                        | Frequency    | Attenuation              | Temperature Coefficient Code | Metallization Options             | Termination Plating Options         |     |       |
| MTCA                                          | 18           | (01 to10)<br>1dB to 10dB | (N3 to N9)                   | Planar(no code), W1, W3, WB1 or G | (no code)=lead free or (S)=Lead(Pb) |     |       |

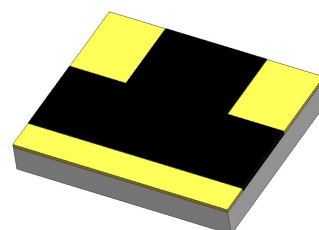
**Metallization Options**

- Planar(no code): planar terminal.
- Single wrap(W1): metallization wrap ground terminal.
- Triple wrap(W3): metallization wrap input, output and ground terminal.
- Wire bond(WB1): metallization wrap ground terminal, input and output terminal have gold metallization for wire bonding.
- Planar gold(G): planar terminal with gold metallization for wire bonding.

| 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) |
|-------------|-----------------------|------------------|------------------------------|---------------------------------------------------|---------------------------|-----------------------|---------------------------|
| MTCA1801N*G | DC-18                 | 1                | N3~N7                        | -0.003~ -0.007                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1802N*G | DC-18                 | 2                | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1803N*G | DC-18                 | 3                | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1804N*G | DC-18                 | 4                | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1805N*G | DC-18                 | 5                | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1806N*G | DC-18                 | 6                | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1807N*G | DC-18                 | 7                | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1808N*G | DC-18                 | 8                | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1809N*G | DC-18                 | 9                | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |
| MTCA1810N*G | DC-18                 | 10               | N3~N9                        | -0.003~ -0.009                                    | 1.20                      | 200                   | ±0.5                      |

**General Specifications**

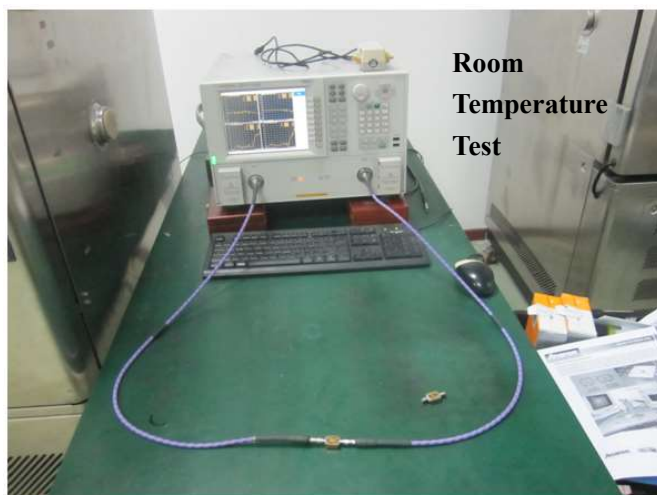
- Frequency Range: Planar gold series DC-18GHz (N3~N5); DC-12.4GHz (N6~N9)
- Attenuation: 1dB
- Attenuation Accuracy: at 25°C ±0.5dB @1GHz
- VSWR: at 25°C 1.20:1 @1GHz
- Nominal Impedance: 50 Ohms
- Power Rating: 200 mW CW
- Power Derating: 100% @ 125°C  
Derates to 0% @ 150°C
- Operating Temperature: -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, Input, Output and front Ground all made by gold.
- Protective Coating: Thick film (ethyl acetate)
- Package Outline: See Sheet 3.
- Workmanship: per MIL-PRF-55342.
- RoHS Compliant.
- 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**

- 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 18GHz 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.

**Notes on RF Testing and Circuit Layout****DC-18GHz Planar gold series Test Fixture****Planar gold Test Board****Connect test part to Test Fixture****Equipment Calibration****Room  
Temperature  
Test****High-Low  
Temperature  
Test**

- 1、 Download S2P documents in [http://www.yantel-corp.com/en/products/products1\\_200.html](http://www.yantel-corp.com/en/products/products1_200.html)
- 2、 DC-18GHz 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](mailto:inform@yantel-corp.com).

