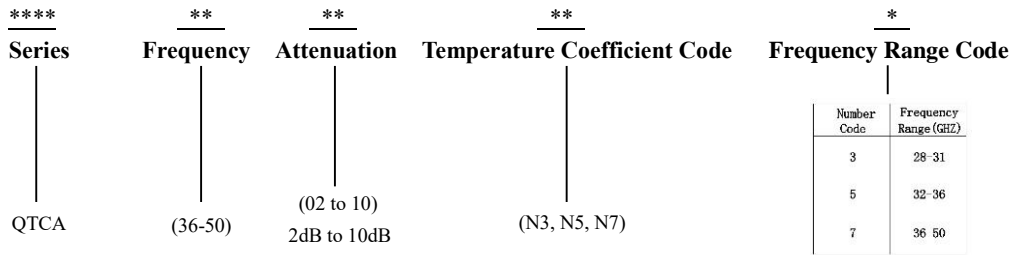
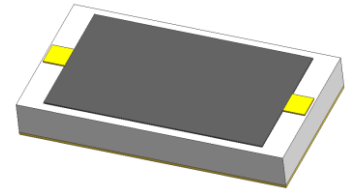


**Part No. Descriptions**


Part No.	Attenuation (dB)	Temperature Coefficient Code	Temperature Coefficient of Attenuation (dB/dB/°C)	Typ. VSWR (:1) @25°C	Attenuation Accuracy (dB)
QTCA5002N*	2	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5
QTCA5003N*	3	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5
QTCA5004N*	4	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5
QTCA5005N*	5	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5
QTCA5006N*	6	N3,N5,N7	-0.003,-0.005,-0.007	1.20	±0.5

**General Specifications**

1. Frequency Range 36 to 50GHz
2. Attenuation 2dB
3. Attenuation Accuracy at 25°C ±1.0dB Typical
4. VSWR at 25°C 1.50:1 Typical
5. Nominal Impedance 50 Ohms
6. Power Rating 200 mW CW
7. Power Derating 100% @ 100°C  
Derates to 0% @ 150°C
8. Operating Temperature -55°C to +150°C
9. Temperature Coefficient over Operating Temperature Range: See Table Above.  
Temperature Coefficient Tolerance: ±0.001dB/dB/°C.
10. Substrate: Alumina (Al<sub>2</sub>O<sub>3</sub>)
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 3.
15. Workmanship: per MIL-PRF-55342.
16. RoHS Compliant.
17. Electrostatic Discharge Control: per MIL-STD-1686.



**Unit Marking** ATTENUATION, TCA SLOPE AND TCA  
LEGIBILITY AND PERMANANCY PER MIL-STD-130

**Quality Assurance**

1. SAMPLE INSPECT PER ANSI/ASQC Z 1.4 GENERAL INSPECTION, LEVEL II, AQL = 1.0
  - 1.1 VISUAL AND MECHANICAL EXAMINATION FOR CONFORMANCE TO OUTLINE DWG REQUIREMENTS.
2. MEASURE RESISTOR DATA AND APPLY FIRST-PASS ATTENUATION AND VSWR CRITERIA:
  - 2.1. ATTENUATION:
    - 2.1.1. G (dB) =TBD \* RTOTAL + TBD, WHERE R TOTAL IS THE DC RESISTANCE MEASURED BETWEEN INPUT AND OUTPUT TERMINALS
    - 2.1.2. ACCEPTANCE LIMITS: PER TABLE 1, WHERE "G (dB)" REFERS TO "NOMINAL ATTENUATION (dB)

**Yantel Corporation**

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Fax: 86-755-8355-2533

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

3. SAMPLE INSPECTION:

3.1. DESTRUCTIVE TESTING:

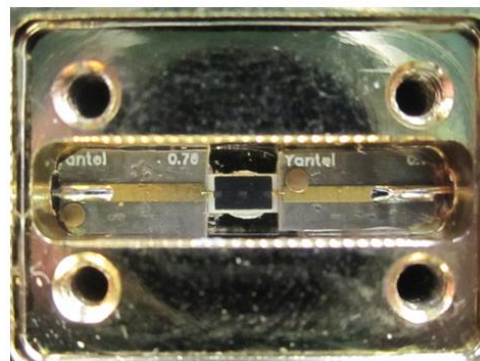
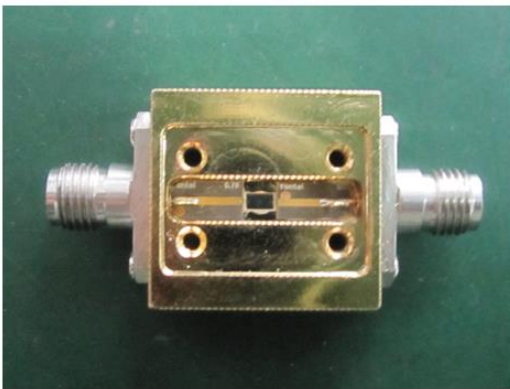
- 3.1.1. SELECT THREE (3) UNITS FROM LOT AND MEASURE TOTAL DCR EVERY 20°C OVER THE TEMPERATURE RANGE FROM -55°C THROUGH +125°C
- 3.1.2. CALCULATE DCA BY FOR EACH MEASUREMENT, USING EQUATION 3.2.1.1
- 3.1.3. CALCULATE, USING LINEAR REGRESSION, THE SLOPE OF THE ATTENUATION VS. TEMPERATURE CURVE
- 3.1.4. CALCULATE TCA USING THE FOLLOWING FORMULA:

$$TCA = \frac{\text{SLOPE}}{\text{ATTENUATION @ 25}^\circ\text{C}}$$

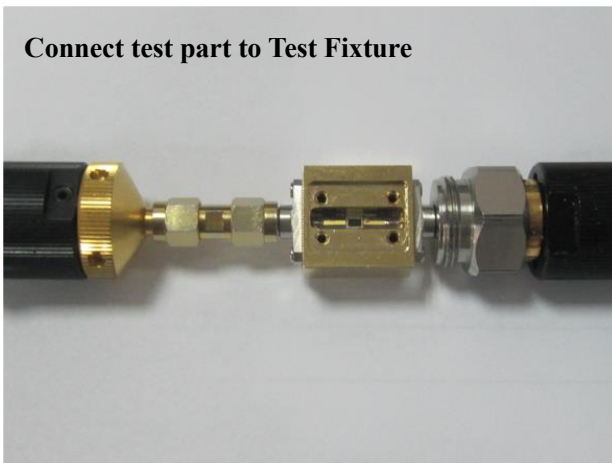
**Notes on RF Testing and Circuit Layout**

KTCA 16-36GHz series (for Gold Terminal type) Test Fixture

PCB Test Board



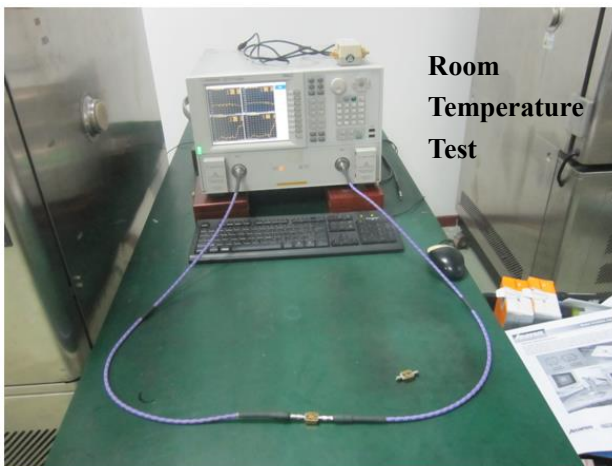
Connect test part to Test Fixture



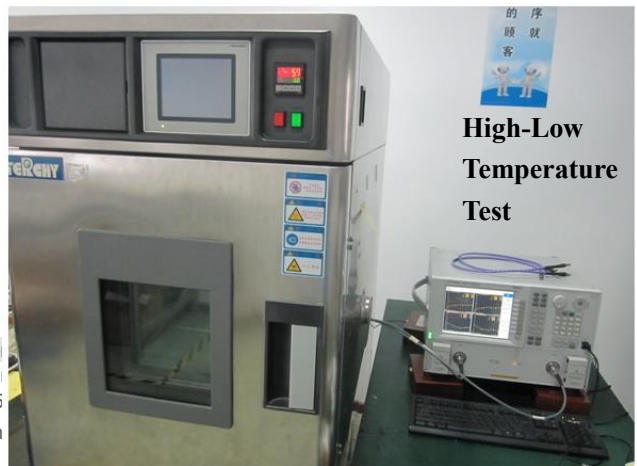
Equipment Calibration



Room Temperature Test



High-Low Temperature Test



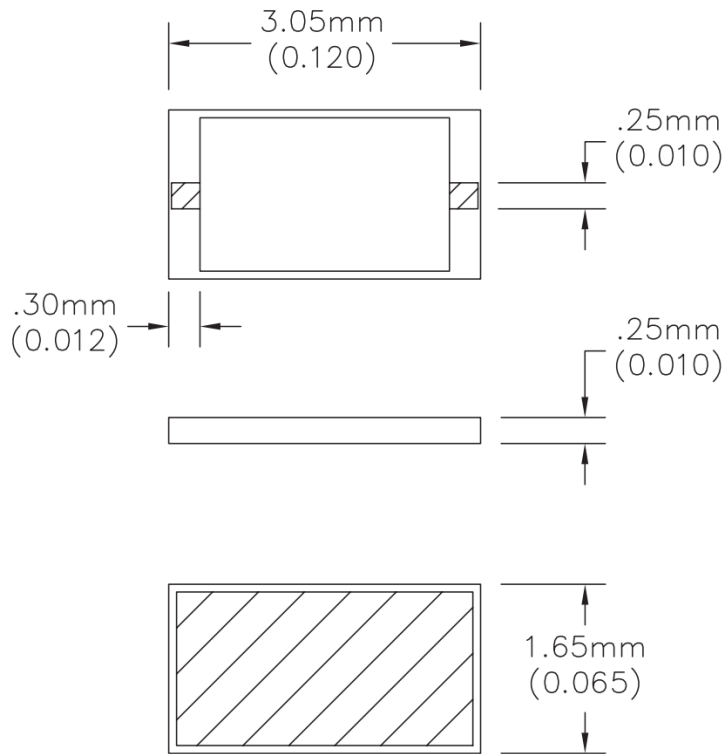
- 1、 S2P documents are available for download
- 2、 16-36GHz test fixture is rentable (only for Chinese customers) , otherwise please purchase them.

For any questions or needs, please feel free to contact [inform@yantel-corp.com](mailto:inform@yantel-corp.com).

### Package Outlines

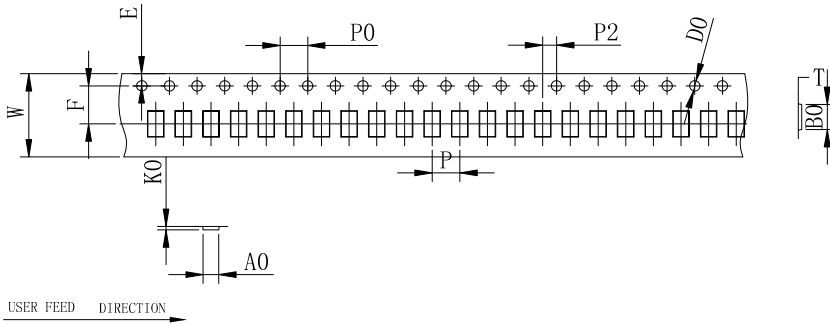
All dimensions shown in mm unless stated otherwise Unit: mm

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



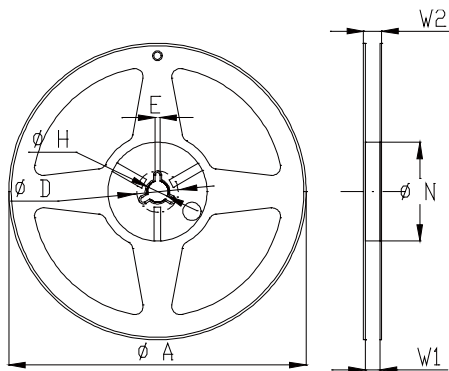
**Tape & Reel Drawing**

All dimensions shown in mm unless stated otherwise

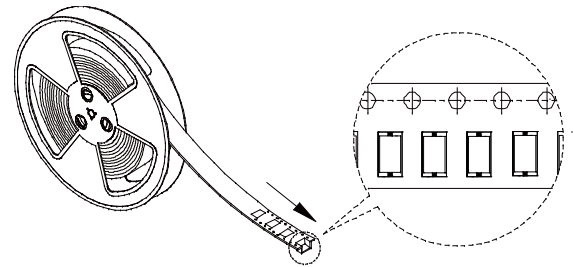

**Remarks:**

- 1>Total tolerance of any 10 sprocket holes is  $\leq \pm 0.20\text{mm}$ .
- 2>The thickness is measured on the margin of carrier tape.
- 3>Carrier camber should be not more than 1mm per 100mm through a length of 250mm.
- 4>The tolerance which is not marked is  $\pm 0.1\text{mm}$
- 5>A0,B0 are measured from 0.3mm above the bottom of the cavity. K0 refers to the inside depth.
- 6>The angle R which is not marked on the cavity is 0.2-0.3.
- 7>Draft angle which is not marked is  $3^\circ$ .
- 8>25 m/reel; 6000 units (maximum) / T&R

symbol	A0	B0	K0	P0	P	P2
spec	$1.85 \pm 0.1$	$3.2 \pm 0.1$	$0.6 \pm 0.1$	$4.0 \pm 0.1$	$4.0 \pm 0.1$	$2.0 \pm 0.1$
symbol	W	T	E	F	D0	
spec	$12.0 \pm 0.3$	$0.3 \pm 0.05$	$1.75 \pm 0.1$	$5.5 \pm 0.1$	$\Phi 1.5^{+0.1}_{-0.0}$	



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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