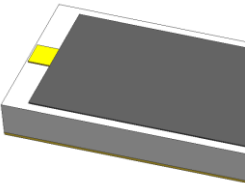


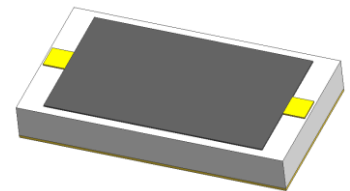
Part No. Descriptions

**** Series	** Frequency	** Attenuation	** Temperature Coefficient Code	* Frequency Range Code								
QTCA	(36-50)	(02 to 10) 2dB to 10dB	(N3, N5, N7)	<table><tr><th>Number Code</th><th>Frequency Range (GHz)</th></tr><tr><td>3</td><td>28-31</td></tr><tr><td>5</td><td>32-36</td></tr><tr><td>7</td><td>36-50</td></tr></table>	Number Code	Frequency Range (GHz)	3	28-31	5	32-36	7	36-50
Number Code	Frequency Range (GHz)											
3	28-31											
5	32-36											
7	36-50											

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 | 4dB | |
| 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 ₂ O ₃) | | |
| 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. $G \text{ (dB)} = \text{TBD} * R_{\text{TOTAL}} + \text{TBD}$, 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)”

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

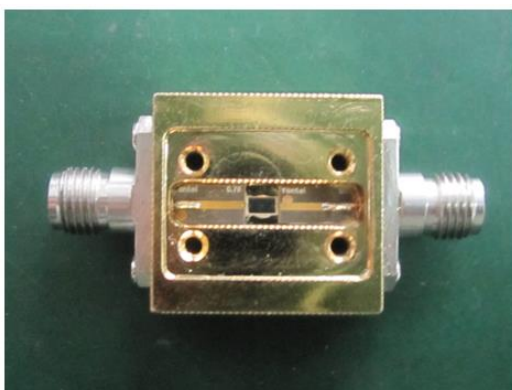
3.1.3. CALCULATE, USING LINEAR REGRESSION, THE SLOPE OF THE ATTENUATION VS. TEMPERATURE CURVE

3.1.4. CALCULATE TCA USING THE FOLLOWING FORMULA:

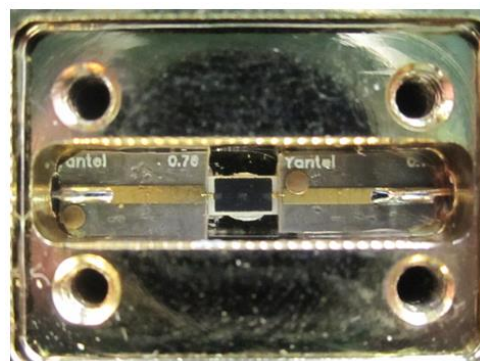
$$TCA = \frac{\text{SLOPE}}{\text{ATTENUATION @ 25}^\circ\text{C}}$$

Notes on RF Testing and Circuit Layout

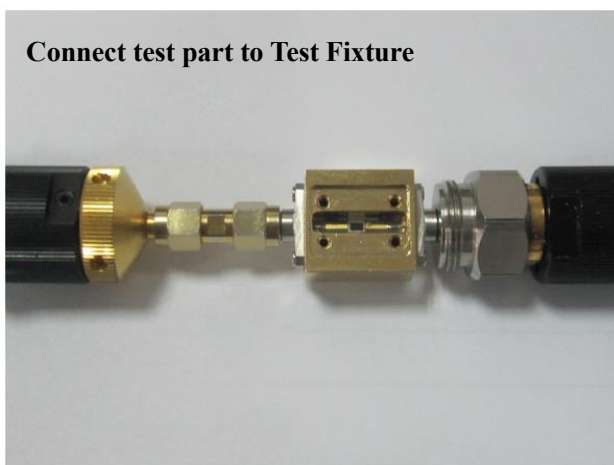
KTCA 16-36GHz series (for Gold Terminal type) Test Fixture



PCB Test Board



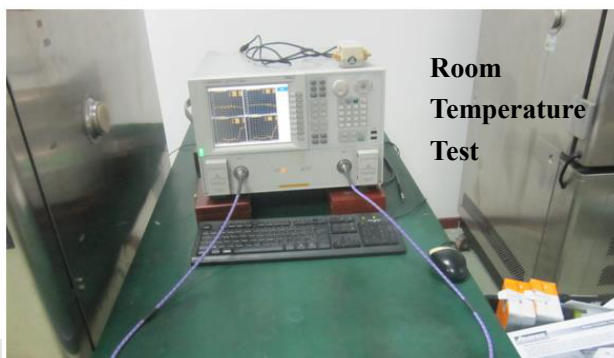
Connect test part to Test Fixture



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.

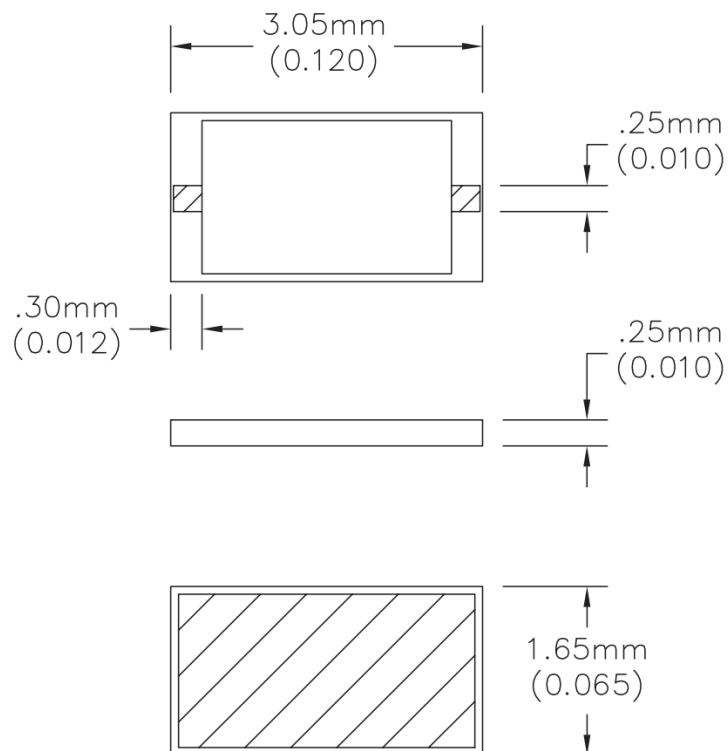
For any questions or needs, please feel free to contact inform@yantel-corp.com.

Package Outlines

All dimensions shown in mm unless stated otherwise

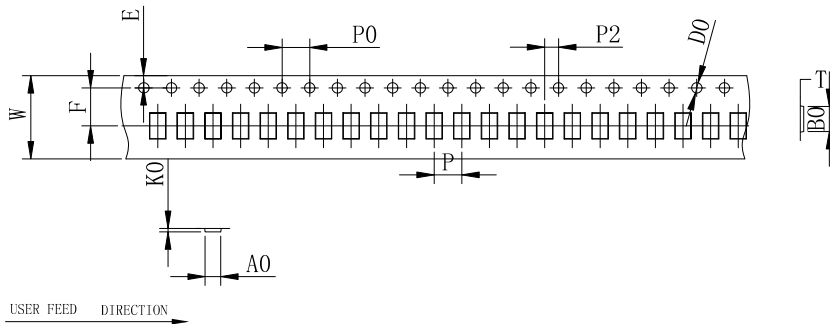
Unit: mm

Note: Dimension tolerance in ± 0.10 otherwise mention.



Tape & Reel Drawing

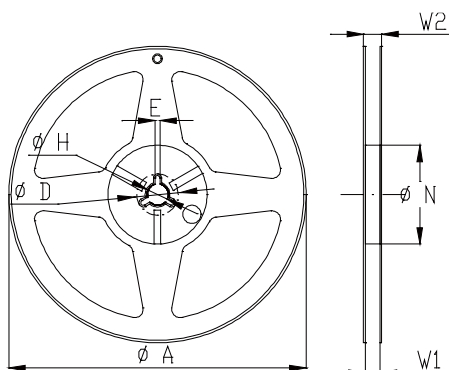
All dimensions shown in mm unless stated otherwise



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 $0.2-0.3^\circ$.
- 7>Draft angle which is not marked is 3° .
- 8>25 m/reel; 6000 units (maximum) / T&R

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



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

