

**Temperature Compensation Attenuator DC~3GHz 75Ω 2W 1~6dB P3~P9**
**Part No. Descriptions**

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<b>Series</b>	<b>Frequency</b>	<b>Attenuation</b>	<b>Temperature Coefficient Code</b>	<b>Metallization Options</b>	<b>Termination Plating Options</b>	
PTCA,	03	(01 to 6) 1dB to 6dB	P3 to P9	Planar(no code), W1, W3	(no code)=lead free or (S)=Lead(Pb)	

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 (W)	Attenuation Accuracy (dB)
PTCA0301P*	DC-3	1	P3~P9	+0.003~ +0.009	1.25	2	±0.5
PTCA0302P*	DC-3	2	P3~P9	+0.003~ +0.009	1.25	2	±0.5
PTCA0303P*	DC-3	3	P3~P9	+0.003~ +0.009	1.25	2	±0.5
PTCA0304P*	DC-3	4	P3~P9	+0.003~ +0.009	1.25	2	±0.5
PTCA0305P*	DC-3	5	P3~P9	+0.003~ +0.009	1.25	2	±0.5
PTCA0306P*	DC-3	6	P3~P9	+0.003~ +0.009	1.25	2	±0.5

**General Specifications**

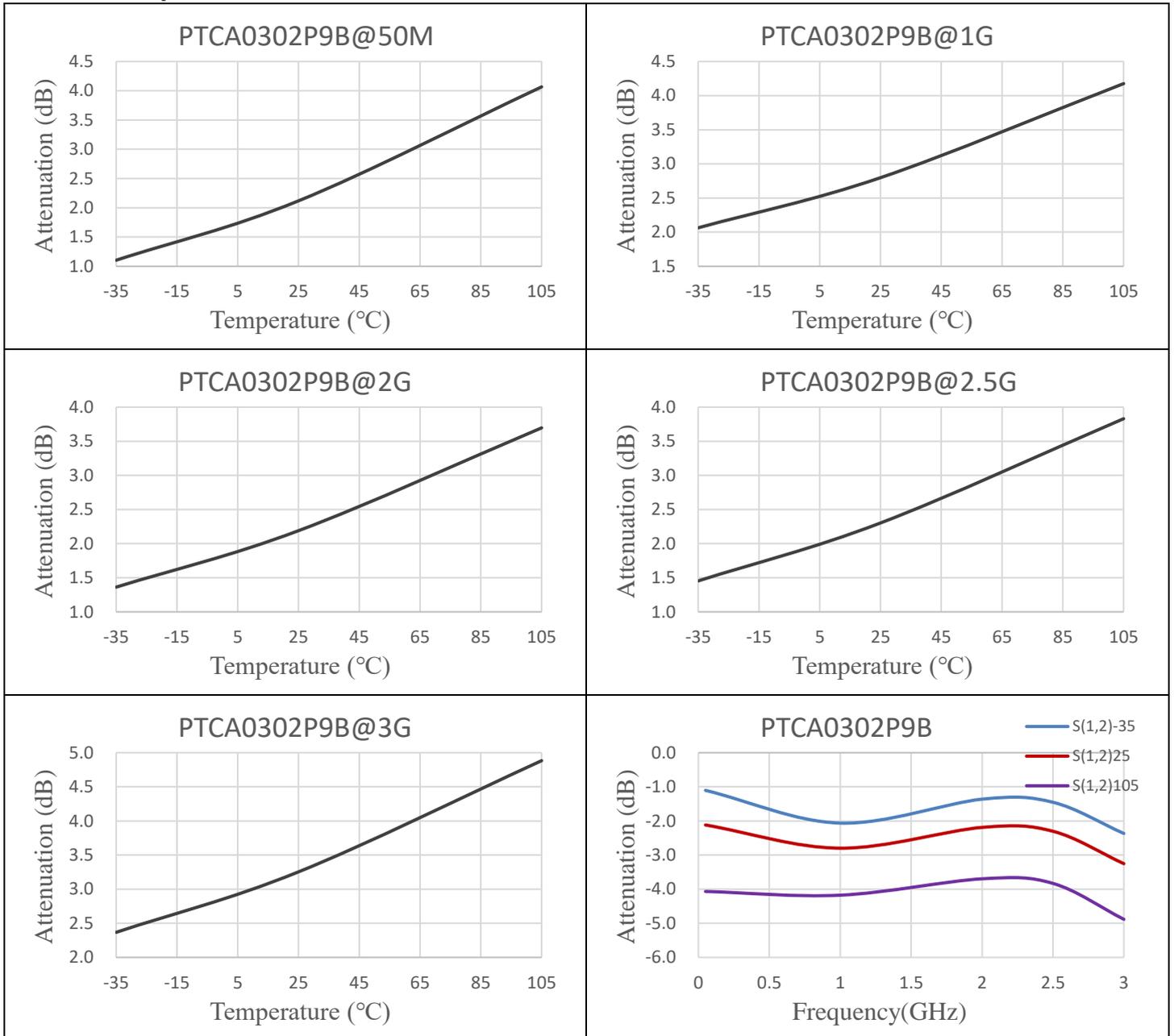
- Frequency Range DC to 3GHz
- Attenuation 2dB
- Attenuation Accuracy at 25°C ±0.5dB@1GHz
- VSWR 1.25:1 Max. @1GHz
- Nominal Impedance 75 Ohms
- Power Rating 2 Watts CW
- Power Derating 100% @ 125°C  
Derates to 0% @ 150°C
- Operating Temperature -55°C to +150°C
- Temperature Coefficient over Operating 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, Nickel barrier with pure tin plate (lead free) or with tin (Sn90) plate (10% lead contained)
- 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 (P) 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 3GHz every 20°C over the temperature range -35°C to +105°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.

**PTCA Response**



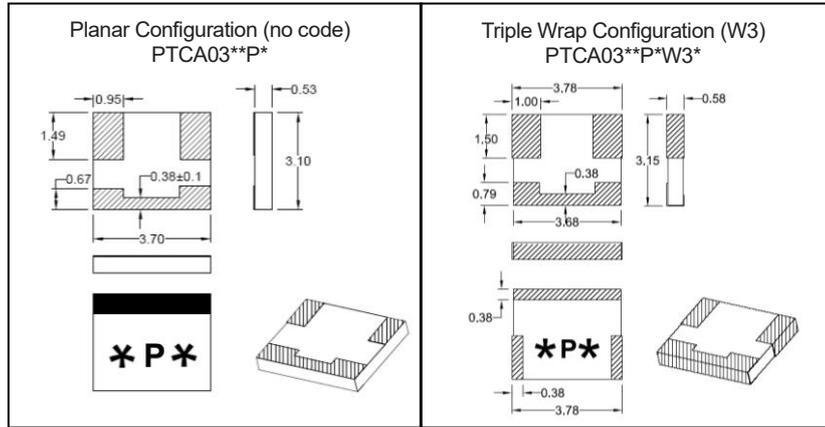
Part No.	F (Hz) T (°C)	Attenuation					Return Loss				
		50M	1G	2G	2.5G	3G	50M	1G	2G	2.5G	3G
PTCA0302P9B	25	2.12	2.80	2.19	2.30	3.25	21.57	9.11	21.52	17.45	10.65
	-35	1.10	2.06	1.36	1.45	2.37	28.09	8.36	22.48	15.67	10.41
	105	4.07	4.18	3.70	3.83	4.88	13.76	10.28	21.23	24.42	10.22
	P Value:	9.99	5.39	7.62	7.37	5.52					

**Package Outlines**

All dimensions shown in mm unless stated otherwise

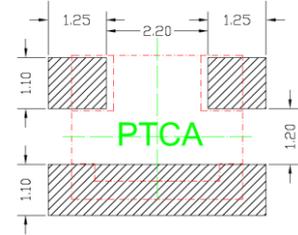
Note: Dimension tolerance in  $\pm 0.10$  otherwise mention.

\* represents number

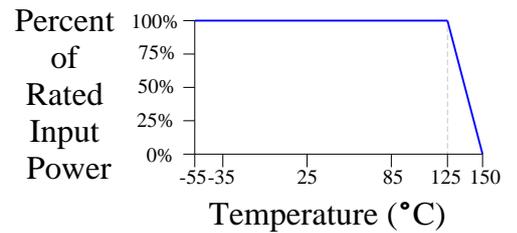


**Recommended Layout**

All dimensions shown in mm unless stated otherwise

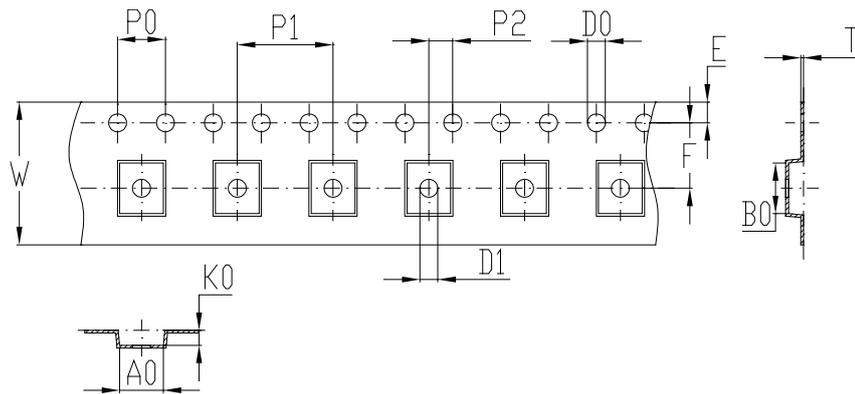


**Power Rating & Derating Curve**



**Tape & Reel Drawing**

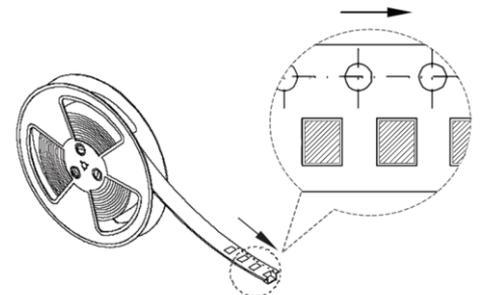
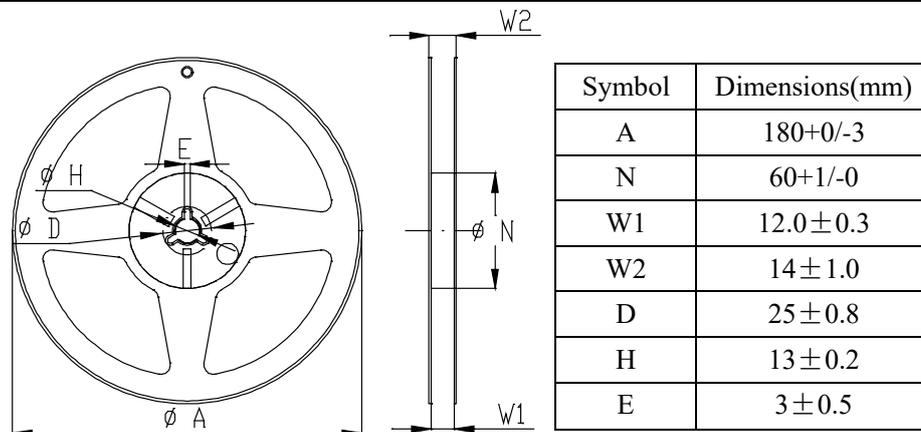
All dimensions shown in mm unless stated otherwise



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: PE 100
- G. Thickness:  $0.23 \pm 0.05$ mm
- H. 1500 units (maximum) / T&R

symbol	A0	B0	K0	P0	P1	P2
spec	$3.65 \pm 0.1$	$4.25 \pm 0.1$	$1.25 \pm 0.1$	$4.0 \pm 0.1$	$8.0 \pm 0.1$	$2.0 \pm 0.1$
symbol	W	T	E	F	D0	D1
spec	$12.0 \pm 0.3$	$0.23 \pm 0.05$	$1.75 \pm 0.1$	$5.5 \pm 0.1$	$\Phi 1.5^{+0.1}_{-0.0}$	$\Phi 1.5$ min



Yantel Corporation