

# PhaseTrack® 180

## Phase Stable Cable



PT-180 is a phase stable and low-loss coaxial cable. It uses Times Microwave Systems' proprietary TF4® dielectric technology, which provides excellent phase stability over wide range of temperatures for assemblies. Originally designed for space satellite programs, this high-performance cable has many applications across multiple markets.

### Features

- Excellent phase stability over temperature
- PTFE Knee is nonexistent
- Low insertion loss
- Vapor seal layer to prevent contamination

### Specifications

$\Omega$  Impedance  
50 Ohms

Op Temp  
-85 to +302°F  
-65 to +150°C

#### Units

	Units	
Maximum Diameter	in (mm)	0.184 (4.67)
Weight	lb/ft (kg/m)	0.036 (0.05)
Maximum Cutoff Frequency	GHz	32
Minimum Bend Radius	in (mm)	1.00 (25.4)
Velocity of Propagation	%	83
Capacitance	pF/ft (pF/m)	24.70 (88.3)
Time Delay	ns/ft (ns/m)	1.23 (4.1)
Shielding Effectiveness	dB	-90

### Calculation

$$IL = (K1 \times v(f) + K2 \times f) \times \text{Cable Length} + \text{Connector A Loss} + \text{Connector B Loss}$$

$v(f)$  = Cable Insertion Loss  
 $f$  = Frequency (MHz)  
 Use K values with matching length unit

K values	dB/ft	dB/m
K1	0.0031510	0.010338
K2	0.0000090	0.000030

#### CENTER CONDUCTOR

Silver-Plated  
Copper Wire

#### DIELECTRIC

TF4®

#### OUTER CONDUCTOR

Silver-Plated Copper  
Flat Wire Braid

#### INTERLAYER

Aluminum-Polyimide  
Tape

#### INTERLAYER 2

Adhesive  
Polyimide Tape

#### OUTER SHIELD

Silver-Plated Copper  
Round Wire Braid

#### JACKET

Extruded Royal  
Blue FEP

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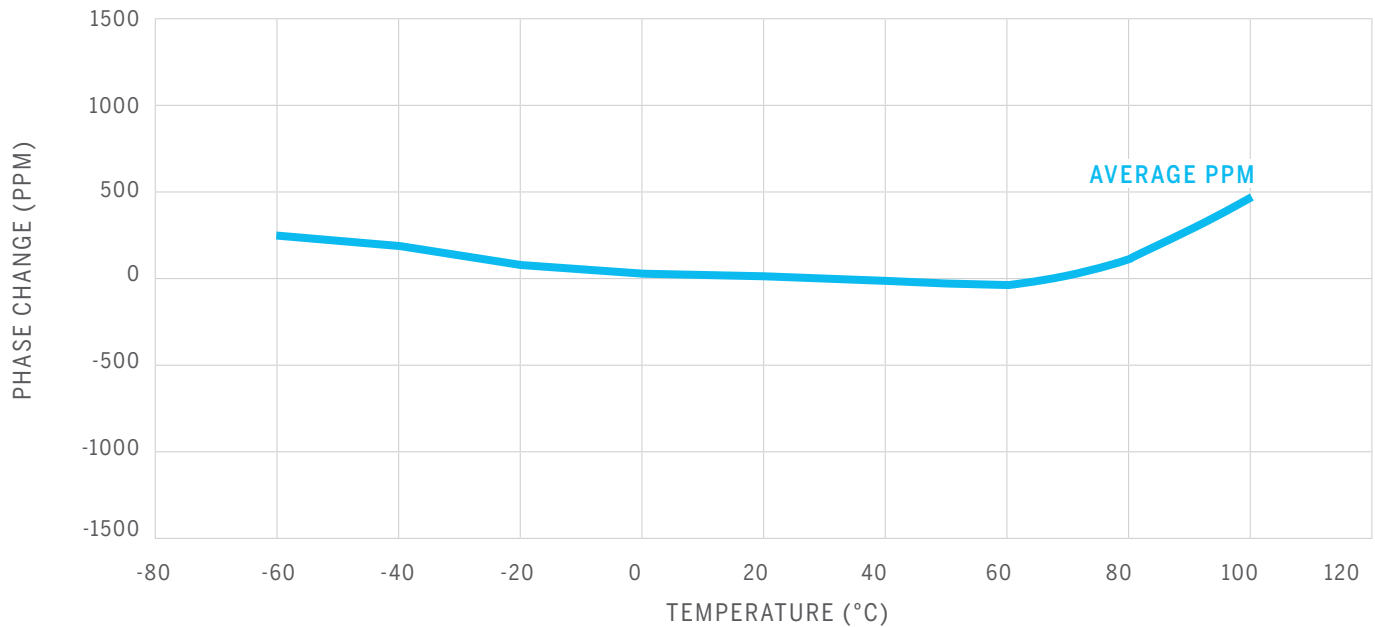
Phase Stable Cable



## Connectors

	Gender	Description	Stock Code	Connector Code	Max. Frequency (GHz)	Connector Loss (dB)
2.92mm	Male	Straight Plug	47403	KM	40	0.1 x vf(GHz)
SMA	Female	Straight Jacket	47346	SF	18	0.1 x vf(GHz)
		Straight Bulkhead Jack	47303	SFBH	18	0.1 x vf(GHz)
	Male	Straight Plug	47220	SM	18	0.1 x vf(GHz)
		Right Angle Plug	47321	SMR	18	0.1 x vf(GHz)

## Phase Change VS Temperature (PPM)



## Ordering Guide

**PT180**

Cable Code

-XXX

Connector A Code

XXX-

Connector B Code

XX.X

Length

X

Units of measure: I = Inches, F = Feet, M = Meters



Global manufacturing capability:  
US, Asia, and India.



Assembled and tested assemblies  
provide assured performance.

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