PRECISION TEST CABLE / STANDARD

Cable Name: T18

Part No: VXT180



110 GHz
MAX FREQUENCY

Low VSWR
SIGNAL INTEGRITY

1.85 mm
ULTRA-COMPACT OD

Bend-Resistant
TEST DURABILITY

General Description: The Vinstronics VXT180 is an ultra-compact, standard precision test cable engineered for extreme millimeter-wave applications up to 110GHz. Featuring a 1.85mm blue FEP jacket, it offers exceptional low VSWR and low attenuation. Built with superior bending and shaking resistance, it is the premier choice for internal high-frequency module interconnects and precision laboratory setups.

Core Features

- **Extreme Frequency:** Reliable signal transmission up to an astounding 110GHz.
- **Low VSWR:** Ensures pristine signal integrity for high-precision testing.
- **Bend-Resistant:** Specialized internal structure handles frequent flexing and shaking.
- **Ultra-Compact:** 1.85mm OD for intricate routing in dense testing environments.
- **Low Loss:** Minimized attenuation across the entire frequency band.

Target Applications

- **Avionics:** Meets stringent stability standards.
- **ECM Systems:** Reliable in complex electronic countermeasure setups.
- **Lab Testing:** Perfect for high-frequency RF and microwave device testing.
- **Phased Array Radar:** Ideal for internal array connection-free setups.

CONSTRUCTION SPECIFICATION

Component	Material & Process	Diameter mm [in]
1. Inner Conductor	Silver-plated copper	**0.31** [0.012]
2. Dielectric	Low Density PTFE (LD PTFE)	**0.88** [0.035]
3. Inner Shield	Silver-plated copper strip	**1.00** [0.039]
4. Interlayer	Low Density PTFE (LD PTFE)	**1.20** [0.047]
5. Outer Shield	Silver-plated copper wire braiding	**1.45** [0.057]
6. Jacket	FEP / Blue (Customizable)	**1.85** [0.073]

ELECTRICAL CHARACTERISTICS

Operating Frequency	**110 GHz**
Cut-off Frequency	**128 GHz**
Impedance	**50 ± 1 Ω**
Velocity of Propagation	**80 %**
Shielding Effectiveness	**>90 dB**
Dielectric Withstanding Voltage	**400 V.DC**

ATTENUATION AND TRANSMISSION POWER

Frequency (MHz)	**1000**	**3000**	**8000**	**18000**	**26500**	**40000**	**67000**	**75000**	**110000**
Attenuation (dB/100m)	**113.7**	**198.5**	**328.0**	**499.3**	**611.5**	**760.4**	**1002.7**	**1065.9**	**1314.3**
Average Power (kW)	**0.039**	**0.022**	**0.014**	**0.009**	**0.007**	**0.006**	**0.004**	**0.004**	**0.003**

K1 = 3.557846 **K2 =** 0.001221 **Formula:** Attenuation = K1 × √F(MHz) + K2 × F(MHz)

MECHANICAL AND ENVIRONMENTAL CHARACTERISTICS

Static Bending Radius	**10 mm** [0.394 in]
Dynamic Bending Radius	**20 mm** [0.787 in]
Weight	**0.008 kg/m** [0.0054 lbs/ft]
Temperature Range	**-55 ~ +125 ℃** [-67 ~ +257 ℉]