

**Engineered Products:**

**FBT-300**

**Flexible Low Loss High Power Communications Coax**

**Ideal for...**

- High Power Base Station Jumper Assemblies
- In-Building Plenum Feeder Runs
- Any High Power Low Loss RF cable application



| Part Description |                |        |       | Stock |
|------------------|----------------|--------|-------|-------|
| Part Number      | Application    | Jacket | Color | Code  |
| FBT-300          | Indoor/Outdoor | FEP    | Brown | 54168 |

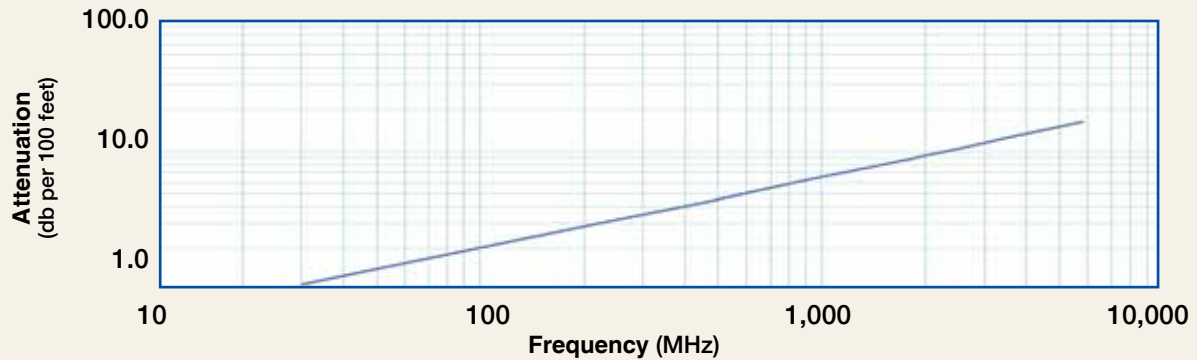
| Environmental Specifications   |          |          |  |
|--------------------------------|----------|----------|--|
| Performance Property           | °F       | °C       |  |
| Installation Temperature Range | -67/+302 | -55/+150 |  |
| Storage Temperature Range      | -67/+302 | -55/+150 |  |
| Operating Temperature Range    | -67/+302 | -55/+150 |  |

| Construction Specifications |                  |       |        |
|-----------------------------|------------------|-------|--------|
| Description                 | Material         | In.   | (mm)   |
| Inner Conductor             | Solid BC         | 0.063 | (1.60) |
| Dielectric                  | Low Density PTFE | 0.190 | (4.83) |
| Outer Conductor             | Aluminum Tape    | 0.196 | (4.98) |
| Overall Braid               | Tinned Copper    | 0.225 | (5.72) |
| Jacket                      | Brown FEP        | 0.260 | (6.60) |

| Mechanical Specifications |                |       |          |
|---------------------------|----------------|-------|----------|
| Performance Property      | Units          | US    | (metric) |
| Bend Radius: installation | in. (mm)       | 1.3   | (31.8)   |
| Bend Radius: repeated     | in. (mm)       | 3     | (76.2)   |
| Bending Moment            | ft-lb (N-m)    | 0.38  | (0.52)   |
| Weight                    | lb/ft (kg/m)   | 0.065 | (0.10)   |
| Tensile Strength          | lb (kg)        | 120   | (54.52)  |
| Flat Plate Crush          | lb/in. (kg/mm) | 30    | (0.54)   |

| Electrical Specifications |                   |       |          |
|---------------------------|-------------------|-------|----------|
| Performance Property      | Units             | US    | (metric) |
| Velocity of Propagation   | %                 | 76    |          |
| Dielectric Constant       | NA                | 1.73  |          |
| Time Delay                | nS/ft (nS/m)      | 1.34  | (4.40)   |
| Impedance                 | ohms              | 50    |          |
| Capacitance               | pF/ft (pF/m)      | 26.7  | (87.6)   |
| Inductance                | uH/ft (uH/m)      | 0.067 | (0.22)   |
| Shielding Effectiveness   | dB                | >90   |          |
| DC Resistance             |                   |       |          |
| Inner Conductor           | ohms/1000ft (/km) | 2.61  | (8.6)    |
| Outer Conductor           | ohms/1000ft (/km) | 2.21  | (7.3)    |
| Voltage Withstand         | Volts DC          | 2000  |          |
| Jacket Spark              | Volts RMS         | 5000  |          |
| Peak Power                | kW                | 10    |          |

### Attenuation vs. Frequency (typical)



| Frequency (MHz)       | 30   | 50   | 150  | 220  | 450  | 900  | 1500 | 1800 | 2000 | 2500 | 3400 | 5800 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Attenuation dB/100 ft | 1.1  | 1.4  | 2.5  | 3.0  | 4.3  | 6.2  | 8.0  | 8.8  | 9.3  | 10.5 | 12.3 | 16.3 |
| Attenuation dB/100 m  | 3.6  | 4.7  | 8.1  | 9.9  | 14.2 | 20.2 | 26.3 | 28.9 | 30.6 | 34.3 | 40.3 | 53.5 |
| Avg. Power kW         | 3.44 | 2.67 | 1.53 | 1.26 | 0.87 | 0.61 | 0.47 | 0.43 | 0.40 | 0.36 | 0.30 | 0.23 |

Calculate Attenuation =  $(0.200179) \cdot \sqrt{\text{FMHz}} + (0.000183) \cdot \text{FMHz}$  (interactive calculator available at [http://www.timesmicrowave.com/cable\\_calculators](http://www.timesmicrowave.com/cable_calculators))  
 Attenuation: VSWR=1.0 ; Ambient = +25°C (77°F) Power: VSWR=1.0; Ambient = +40°C; Inner Conductor = 100°C (212°F);  
 Sea Level; dry air; atmospheric pressure; no solar loading



### Connectors

| Interface     | Description   | Part Number  | Stock Code | VSWR**<br>Freq. (GHz) | Coupling<br>Nut | Inner<br>Contact<br>Attach | Outer<br>Contact<br>Attach | Finish*<br>Body /Pin | Length<br>in (mm) | Width<br>in (mm) | Weight<br>lb (g) |
|---------------|---------------|--------------|------------|-----------------------|-----------------|----------------------------|----------------------------|----------------------|-------------------|------------------|------------------|
| 1. SMA Male   | Straight Plug | TC-300-SM    | 3190-501   | <1.25:1 (2.5)         | Hex             | Solder                     | Crimp                      | SS/G                 | 1.0 (25)          | 0.35 (8.9)       | 0.018 (8.2)      |
| 2. SMA Female | Bulkhead Jack | TC-300-SF-BH | 3190-590   | <1.25:1 (2.5)         | NA              | Solder                     | Crimp                      | SS/G                 | 1.1 (28)          | 0.31 (7.9)       | 0.022 (10.0)     |
| 3. TNC Male   | Straight Plug | TC-300-TM    | 3190-500   | <1.25:1 (2.5)         | Knurl           | Solder                     | Crimp                      | N/S                  | 1.7 (43)          | 0.59 (15.0)      | 0.050 (22.7)     |

\* Finish metals: N=Nickel, S=Silver, G=Gold, SS=Stainless Steel, A=Alloy \*\*VSWR spec based on 3 foot cable with a connector pair



### Hardware Accessories

| Type       | Part Number | Stock Code | Description                |
|------------|-------------|------------|----------------------------|
| Ground Kit | GK-S300TT   | GK-S300TT  | Standard Ground Kit (each) |



### Install Tools

| Type              | Part Number | Stock Code | Description                          |
|-------------------|-------------|------------|--------------------------------------|
| Crimp Tool        | CT-400/300  | 3190-666   | Crimp tool for LMR 300 connectors    |
| Deburr Tool       | DBT-U       | 3192-001   | Removes center conductor rough edges |
| Cutting Tool      | CCT-02      | 3192-165   | Cable end flush cut tool             |
| Replacement Blade | RB-02       | 3192-166   | Replacement blade for cutting tool   |

