

Engineered Products:

FBT™ -500

Flexible Low Loss High Power Communication

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-500 | Indoor/Outdoor | FEP | Brown | 54172 |

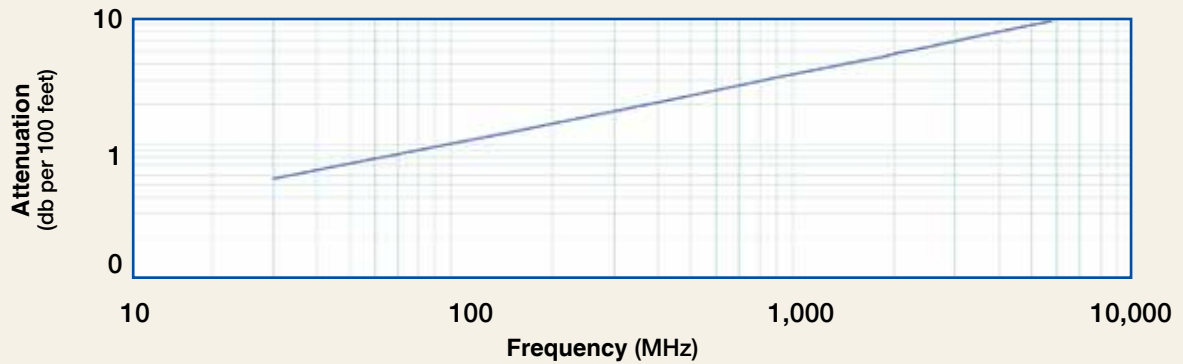
| Environmental Specifications | | |
|--------------------------------|----------|----------|
| Performance Property | °F | °C |
| Installation Temperature Range | -67/+302 | -55/+150 |
| Storage Temperature Range | -67/+302 | -55/+150 |
| Operating Temperature Range | -67/+302 | -55/+150 |

| Construction Specifications | | | |
|-----------------------------|------------------|-------|---------|
| Description | Material | In. | (mm) |
| Inner Conductor | Solid BCCAI | 0.123 | (3.12) |
| Dielectric | Low Density PTFE | 0.370 | (9.40) |
| Outer Conductor | Aluminum Tape | 0.376 | (9.55) |
| Overall Braid | Tinned Copper | 0.405 | (10.29) |
| Jacket | Brown FEP | 0.465 | (11.81) |

| Mechanical Specifications | | | |
|---------------------------|----------------|-------|---------|
| Performance Property | Units | US | metric |
| Bend Radius: installation | in. (mm) | 2.3 | (57.2) |
| Bend Radius: repeated | in. (mm) | 5 | (127.0) |
| Bending Moment | ft-lb (N-m) | 1.75 | (2.37) |
| Weight | lb/ft (kg/m) | 0.168 | (0.25) |
| Tensile Strength | lb (kg) | 120 | (54.5) |
| Flat Plate Crush | lb/in. (kg/mm) | 185 | (3.31) |

| 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) | 1.09 | (3.6) |
| Outer Conductor | ohms/1000ft (/km) | 1.27 | (4.2) |
| Voltage Withstand | Volts DC | 3000 | |
| Jacket Spark | Volts RMS | 8000 | |
| Peak Power | kW | 11.6 | |

Attenuation vs. Frequency (typical)



| Frequency (MHz) | 30 | 50 | 150 | 220 | 450 | 900 | 1500 | 1800 | 2000 | 2500 | 3400 | 5800 |
|-----------------------|------|------|------|------|------|------|------|------|------|------|------|------|
| Attenuation dB/100 ft | 0.6 | 0.7 | 1.3 | 1.5 | 2.2 | 3.1 | 4.1 | 4.5 | 4.8 | 5.4 | 6.4 | 8.5 |
| Attenuation dB/100 m | 1.8 | 2.3 | 4.1 | 5.0 | 7.2 | 10.3 | 13.5 | 14.8 | 15.7 | 17.6 | 20.9 | 27.9 |
| Avg. Power kW | 8.90 | 6.88 | 3.94 | 3.24 | 2.24 | 1.56 | 1.20 | 1.08 | 1.03 | 0.91 | 0.77 | 0.57 |

Calculate Attenuation = $(0.100255) \cdot \sqrt{FMHz} + (0.000146) \cdot FMHz$ (interactive calculator available at 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** Freq. (GHz) | Coupling Nut | Inner Contact Attach | Outer Contact Attach | Finish* Body /Pin | Length in (mm) | Width in (mm) | Weight lb (g) |
|-----------|---------------|---------------|------------|--------------------|--------------|----------------------|----------------------|-------------------|----------------|---------------|---------------|
| N Male | Straight Plug | TC-500-NMC-PL | 3190-900 | <1.25:1 (2.5) | Hex | Solder | Clamp | S/G | 2.1 (53) | 0.92 (23.4) | 0.228 (103.4) |

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



Install Tools

| Type | Part Number | Stock Code | Description |
|-------------------|-------------|------------|--------------------------------------|
| Crimp Tool | CT-U | 3192-181 | Crimp handle (Dies Required) |
| Crimp Tool | CT-500 | 3192-169 | Crimp tool for LMR-500 connectors |
| Crimp Dies | Y151 | 3190-465 | .532" Hex Dies |
| 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 |

