



# Coaxial Cable

## PRODUCT SPECIFICATION

### ETS1-50T

Superflexible, high power, high temperature, plenum rated coaxial cable, 1/4", 50 ohm fluoropolymer foam HELIAX, fire retardant jacket (CATVP, UL910) (Wideband

#### CHARACTERISTICS

##### Mechanical Specifications

|                                    |        |
|------------------------------------|--------|
| Pressurizable:                     | No     |
| Weight (lb/ft):                    | 0.07   |
| Weight (kg/m):                     | 0.10   |
| Tensile Strength (lb):             | 50.00  |
| Tensile Strength (kg):             | 23.00  |
| Flat Plate Crush Strength (lb/in): | 100.00 |
| Flat Plate Crush Strength (kg/mm): | 1.80   |
| Minimum Bending Radius (inches):   | 1.00   |
| Minimum Bend Radius (millimeters): | 25.00  |
| Bending Moment (lb-ft):            | 0.60   |
| Bending Moment (N-m):              | 0.80   |
| Number of Bends (minimum):         | 15.00  |
| Number of Bends (typical):         | 20.00  |

##### Electrical Specifications

|                                    |           |
|------------------------------------|-----------|
| Cable Impedance (ohms):            | 50.00     |
| Maximum Frequency (GHz):           | 20.00     |
| Velocity percentage:               | 82.00     |
| Peak Power Rating (kW):            | 6.40      |
| DC Resistance Inner (ohms/1000ft): | 1.90      |
| DC Resistance Inner (ohms/1000m):  | 6.23      |
| DC Resistance Outer (ohms/1000ft): | 2.00      |
| DC Resistance Outer (ohms/1000m):  | 6.56      |
| Cable Test Voltage (VDC):          | 1600.00   |
| Jacket Spark volts (RMS):          | 4000.00   |
| Capacitance (pF/ft):               | 24.60     |
| Capacitance (pF/m):                | 80.70     |
| Inductance (microH/ft):            | 0.06      |
| Inductance (microH/m):             | 0.20      |
| Insulation Resistance (Meg-Ohms):  | 100000.00 |

##### Construction Materials

|                      |                                               |
|----------------------|-----------------------------------------------|
| Dielectric Type:     | Foam Dielectric, High Temperature, High Power |
| Dielectric Material: | Expanded PFTE                                 |
| Jacket Color:        | Blue                                          |

#### Customer Support Center:

From North America: 1-800-255-1479  
International: +1-708-873-2307

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#### CHARACTERISTICS

|                           |                             |
|---------------------------|-----------------------------|
| Jacket Description:       | Halogenated, Fire Retardant |
| Jacket Material:          | Solef                       |
| Outer Conductor Material: | Corrugated Copper           |
| Inner Conductor Material: | Silver Plated Copper Wire   |

#### Dimensions

|                                                 |      |
|-------------------------------------------------|------|
| Diameter Over Jacket (inches):                  | 0.29 |
| Diameter Over Jacket (millimeters):             | 7.40 |
| Outer Conductor Outside Diameter (inches):      | 0.25 |
| Outer Conductor Outside Diameter (millimeters): | 6.40 |
| Outer Conductor Inside Diameter (inches):       | 0.23 |
| Outer Conductor Inside Diameter (millimeters):  | 5.80 |
| Inner Conductor Outside Diameter (inches):      | 0.07 |
| Inner Conductor Outside Diameter (millimeters): | 1.80 |

#### General Specifications

|                          |                                                                                            |
|--------------------------|--------------------------------------------------------------------------------------------|
| Cable Grade:             | Standard                                                                                   |
| NEC Classification Type: | CATVP                                                                                      |
| Nominal Size (inches):   | 1/4                                                                                        |
| Short Description:       | 1/4" Superflexible, high power, high temperature, plenum rated 50 ohm HELIAX coaxial cable |

#### Available Connectors

| Part Number | Connector Type  | Special Characteristics | Inner Contact | Grade    |
|-------------|-----------------|-------------------------|---------------|----------|
| 41AENT      | TNC Female      | Bulkhead                | Captivated    | Standard |
| 41ENS       | SMA Female      | Up to 18 GHz            | Solder        | Standard |
| 41EWS       | SMA Male        | Up to 18 GHz            | Solder        | Standard |
| 41SP        | UHF Male        | 50 Ohm Mating Pin       | Solder        | Standard |
| 41U         | UHF Female      | N/A                     | Solder        | Standard |
| F1MU        | Mini-UHF Male   | N/A                     | Captivated    | Standard |
| F1PBM       | BNC Male        | N/A                     | Solder        | Plated   |
| F1PDF       | 7-16 DIN Female | N/A                     | Solder        | Plated   |
| F1PDF-BH    | 7-16 DIN Female | Bulkhead                | Solder        | Plated   |
| F1PDF-PM    | 7-16 DIN Female | Panel Mount             | Solder        | Plated   |
| F1PDM       | 7-16 DIN Male   | N/A                     | Solder        | Plated   |
| F1PNF       | N Female        | N/A                     | Solder        | Plated   |
| F1PNF-BH    | N Female        | Bulkhead                | Solder        | Plated   |
| F1PNM-HF    | N Male          | High Frequency          | Solder        | Plated   |

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#### CHARACTERISTICS

|           |            |                       |            |        |
|-----------|------------|-----------------------|------------|--------|
| F1PNMV2-H | N Male     | Hex Head              | Solder     | Plated |
| F1PNR-HC  | N Male     | Right Angle           | Captivated | Plated |
| F1PSF     | SMA Female | Up to 6 GHz, Bulkhead | Solder     | Plated |
| F1PSM     | SMA Male   | Up to 6 GHz           | Solder     | Plated |
| F1PSR     | SMA Male   | Right Angle           | Solder     | Plated |
| F1PTM     | TNC Male   | 11 GHz and Below      | Solder     | Plated |
| F1PTM-HF  | TNC Male   | High Frequency        | Captivated | Plated |

#### Attenuation and Average Power Ratings

| Frequency (MHz) | Attenuation (dB/100ft) | Attenuation (dB/100m) | Average Power (kW) |
|-----------------|------------------------|-----------------------|--------------------|
| 0.5             | 0.124                  | 0.408                 | 6.40               |
| 1               | 0.176                  | 0.577                 | 6.40               |
| 1.5             | 0.216                  | 0.707                 | 6.40               |
| 2               | 0.249                  | 0.817                 | 6.40               |
| 10              | 0.558                  | 1.832                 | 6.40               |
| 20              | 0.791                  | 2.597                 | 6.40               |
| 30              | 0.971                  | 3.186                 | 5.52               |
| 50              | 1.257                  | 4.124                 | 4.26               |
| 88              | 1.674                  | 5.492                 | 3.20               |
| 100             | 1.786                  | 5.861                 | 3.00               |
| 108             | 1.858                  | 6.095                 | 2.89               |
| 150             | 2.196                  | 7.205                 | 2.44               |
| 174             | 2.369                  | 7.773                 | 2.26               |
| 200             | 2.544                  | 8.346                 | 2.11               |
| 300             | 3.132                  | 10.277                | 1.71               |
| 400             | 3.633                  | 11.920                | 1.48               |
| 450             | 3.861                  | 12.668                | 1.39               |
| 500             | 4.078                  | 13.379                | 1.31               |
| 512             | 4.128                  | 13.545                | 1.30               |
| 600             | 4.483                  | 14.708                | 1.20               |
| 700             | 4.858                  | 15.938                | 1.10               |
| 800             | 5.209                  | 17.089                | 1.03               |
| 824             | 5.290                  | 17.356                | 1.01               |
| 860             | 5.410                  | 17.749                | 0.99               |
| 894             | 5.521                  | 18.113                | 0.97               |
| 960             | 5.731                  | 18.803                | 0.94               |
| 1000            | 5.856                  | 19.211                | 0.92               |

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#### CHARACTERISTICS

##### Attenuation and Average Power Ratings

| Frequency (MHz) | Attenuation (dB/100ft) | Attenuation (dB/100m) | Average Power (kW) |
|-----------------|------------------------|-----------------------|--------------------|
| 1250            | 6.587                  | 21.609                | 0.81               |
| 1500            | 7.255                  | 23.801                | 0.74               |
| 1640            | 7.607                  | 24.958                | 0.70               |
| 1700            | 7.754                  | 25.440                | 0.69               |
| 1800            | 7.994                  | 26.228                | 0.67               |
| 2000            | 8.458                  | 27.749                | 0.63               |
| 2100            | 8.682                  | 28.484                | 0.62               |
| 2200            | 8.902                  | 29.205                | 0.60               |
| 2300            | 9.117                  | 29.911                | 0.59               |
| 2500            | 9.536                  | 31.286                | 0.56               |
| 2700            | 9.941                  | 32.614                | 0.54               |
| 3000            | 10.525                 | 34.531                | 0.51               |
| 3300            | 11.085                 | 36.368                | 0.48               |
| 3400            | 11.267                 | 36.965                | 0.48               |
| 4000            | 12.315                 | 40.403                | 0.44               |
| 4900            | 13.773                 | 45.187                | 0.39               |
| 5000            | 13.928                 | 45.695                | 0.38               |
| 5200            | 14.234                 | 46.700                | 0.38               |
| 5300            | 14.386                 | 47.197                | 0.37               |
| 5600            | 14.833                 | 48.665                | 0.36               |
| 6000            | 15.415                 | 50.575                | 0.35               |
| 6100            | 15.558                 | 51.044                | 0.34               |
| 6600            | 16.261                 | 53.348                | 0.33               |
| 8000            | 18.124                 | 59.461                | 0.30               |
| 8800            | 19.132                 | 62.769                | 0.28               |
| 10000           | 20.582                 | 67.525                | 0.26               |
| 10900           | 21.627                 | 70.954                | 0.25               |
| 11500           | 22.306                 | 73.182                | 0.24               |
| 12000           | 22.862                 | 75.006                | 0.23               |
| 13400           | 24.376                 | 79.973                | 0.22               |
| 13500           | 24.482                 | 80.321                | 0.22               |
| 14000           | 25.008                 | 82.045                | 0.21               |
| 15800           | 26.847                 | 88.078                | 0.20               |
| 16000           | 27.046                 | 88.733                | 0.20               |

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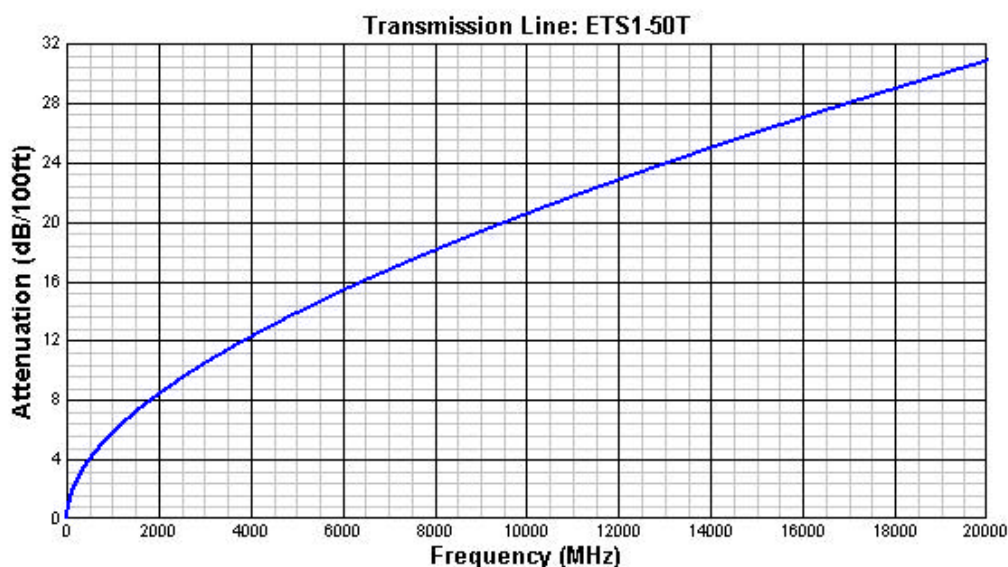
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#### CHARACTERISTICS

##### Attenuation and Average Power Ratings

| Frequency (MHz) | Attenuation (dB/100ft) | Attenuation (dB/100m) | Average Power (kW) |
|-----------------|------------------------|-----------------------|--------------------|
| 18000           | 28.998                 | 95.136                | 0.18               |
| 19000           | 29.945                 | 98.245                | 0.18               |
| 20000           | 30.876                 | 101.299               | 0.17               |



#### Standard Conditions:

For Attenuation. VSWR 1.0, ambient temperature 20°C (68°F).

For Average Power. VSWR 1.0, ambient temperature 40°C (104°F), inner conductor temperature 100°C (212°F); no solar loading.

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