Low Loss Coaxial Cable

# Giga Test Series

## P/N : GFA 400

## Specifications

### CONSTRUCTION / DIMENSIONS

| | material |
|---|---|
| center conductor | SPCCS[1] |
| dielectric | PTFE[2] |
| electrical shield | SPC[3] |
| interlayer | Aluminum-polyimide |
| stength braid | SPC[3] |
| outer jacket | PFA[4] |
| outer diameter | 3,95 mm (0,156 inches) |

### ELECTRICAL CHARACTERISTICS

| | | |
|---|---|---|
| characteristic impedance | 50 ohms ± 1 ohms | |
| operating frequency range | DC - 40 GHz | |
| cut-off frequency | 44 GHz | |
| screening effectiveness | >100 dB at 1GHz; > 90 dB at 18 GHz | |
| velocity of propagation | 76% | |
| propagation time | 4.4 ns / m | 1.3 ns / ft |
| capacitance | 88 pF / m (at 1 GHz) | 26.7 pF / ft (at 1 GHz) |
| insulation resistance | > 3 x $10^5$ MOhm / m | |
| Corona extinction voltage | - | |
| nominal phase | 1590 ° / m / GHz | |
| phase stability with temperature | < 4 ° / m / GHz ; <2820ppm (-55 / +125°C) | |
| phase stability with bending (**) | 5° Typ. / 9.5° Max. (at 40 GHz) | |
| attenuation stability with bending(**) | < 0.1 dB (at 40 GHz) | |
| attenuation stability with shaking | < 0.03 dB/m (at 40 GHz) | |
| atten. variation with temperature | Att. (at X° C) = att. (at 20° C) x (1 + (X - 20) x 0,002) | |

(**) according to IEC966-1, bending method n°2

### MECHANICAL CHARACTERISTICS

| | | |
|---|---|---|
| maximum weight | 50 g / m | 15.3 g / ft |
| recommend. min. bend radius | 25 mm | 0.984 inch |
| crush resistance | > 400 N / 100 mm (23 lb per linear inch) | |
| Flex life cycle | 20,000 (IEC 966-1 section 9.3) | |
| tensile strength | 200 N | |

### ENVIRONMENTAL CHARACTERISTICS

| | | |
|---|---|---|
| operating temperature range (*) | -55 / +200 ° C | -67 / +392 ° F |
| fire resistance | yes (MIL C 87104) | |
| halogen free jacket | no | |
| ROHS / REACH | yes | |

(*) cable alone. Cable assembly operating temperature range is -55 / + 125 °C (-67 / +257°F)

### FREQUENCY / ATTENUATION (typ) / CW MAX POWER (*)

| GHz | (dB/m) | (dB/ft) | Watts |
|---|---|---|---|
| 1,0 | 0,39 | 0,12 | 400 |
| 2,0 | 0,56 | 0,17 | 280 |
| 4,0 | 0,81 | 0,25 | 200 |
| 6,0 | 1,01 | 0,31 | 160 |
| 8,0 | 1,19 | 0,36 | 140 |
| 12,4 | 1,53 | 0,46 | 120 |
| 18,0 | 1,91 | 0,58 | 90 |
| 26,5 | 2,41 | 0,73 | 80 |
| 40,0 | 3,11 | 0,94 | 60 |
| attenuation calculation (dB/m) | Typ: (0.365 x √ FGHz) + (0.02 x F GHz) | | |

## Cable Structure & Material

(1) SPCCS = Silver Plated Copper Clad Steel
(2) PTFE = PolyTetraFluoroEthylene
(3) SPC = Silver Plated Copper
(4) PFA = PerFluoroAlkoxy