# Product: NH50106ASF

DataTuff™ Industrial Ethernet CAT6A 4x2x23AWG Fire Resistance Small Diameter Cable

## Product Description

DataTuff™ Industrial Ethernet CAT6A 4x2x23AWG Fire ResistanceCable

## Technical Specifications

### Product Overview

| | |
|---|---|
| Suitable Applications: | For Ethernet Networking, Fire resistance |

### Construction Details

**Conductor**

| Size | Stranding | Stranding Class | Material | No. of Pairs | No. of Elements |
|---|---|---|---|---|---|
| 23 AWG | Solid | Class 1 | BC - Bare Copper | 4 | 8 |

**Insulation**

| Material | Nom. Insulation Diameter | Color Code | Notes |
|---|---|---|---|
| PE - Polyethylene (Foam) | 1.30 mm (0.0512 in) | Blue & White, Orange & White, Green & White, Brown & White | Fire Protection Barrier: Mica glass Tape(MGT) |

**Inner Shield**

| Element | Shield Type | Material | Notes |
|---|---|---|---|
| Individual Pair | Tape | Bi-Laminate (Alum+Poly) | All 4 individually shielded Pairs laid up together & made circular |

**Outer Shield**

| Shield Type | Material | Coverage |
|---|---|---|
| Braid | Tinned Copper (TC) | 70% |

**Outer Jacket**

| Material |
|---|
| LSZH - Low Smoke Zero Halogen (Flame Retardant) |

| | |
|---|---|
| Overall Cable Diameter (Nominal): | 8.5 mm (0.33 in) |

### Electrical Characteristics

**Electricals**

| Max. Conductor DCR | Nom. Characteristic Impedance |
|---|---|
| 73.2 Ohm/km @ 20 Deg. C | 100 Ohm |

**Delay**

| Max. Delay Skew |
|---|
| 45 ns/100m |

**High Frequency**

| Frequency [MHz] | Max. Insertion Loss (Attenuation) | Min. NEXT [dB] | Min. PSNEXT [dB] | Min. ACRF (ELFEXT) [dB] | Min. PSACRF (PSELFEXT) [dB] | Min. RL (Return Loss) [dB] |
|---|---|---|---|---|---|---|
| 4 | 5.1 dB/70m | 66.3 | 63.3 | 56 | 53 | 23 |
| 10 | 7.9 dB/100m | 60.3 | 57.3 | 48 | 45 | 25 |
| 20 | 11.1 dB/100m | 55.8 | 52.8 | 42 | 39 | 25 |
| 25 | 12.5 dB/100m | 54.3 | 51.3 | 40 | 37 | 25 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 31.25 | 14 dB/100m | 52.9 | 49.9 | 38.1 | 35.1 | 23.3 |
| 62.5 | 19.9 dB/100m | 48.4 | 45.4 | 32.1 | 29.1 | 20.7 |
| 100 | 25.4 dB/100m | 45.3 | 42.3 | 28 | 25 | 19 |
| 250 | 41.3 dB/100m | 39.3 | 36.3 | 20 | 17 | 17.3 |
| 300 | 45.6 dB/100m | 38.1 | 35.1 | 18.5 | 15.5 | 17.3 |
| 500 | 60.2 dB/100m | 34.8 | 31.8 | 14 | 11 | 17.3 |

**Voltage**

| Voltage Rating |
|---|
| 60 V |

## Mechanical Characteristics

**Temperature**

| Operating |
|---|
| -20°C to + 60°C |

## Standards and Compliance

| | |
|---|---|
| Flammability / Reaction to Fire: | IEC 60332-1-2, IEC 60332-3-24, IEC 60332-3-25, IEC 60331-23, BS EN 50200 PH120 |
| Data Category: | Category 6A |
| ISO/IEC Compliance: | IEC 61034-2 - Smoke Density Min Transmittance = 60% |
| European Halogen Free Standards: | IEC 60754-1 - Halogen Amount = 0.5 %, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 10 µS/mm, IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3 |
| Other Standard Compliance(s): | BS EN 50289-4-16 |

## History

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|---|---|
| Update and Revision: | Revision Number: 0.9 Revision Date: 11-27-2024 |