



**Product:** [NH50105SF](#)



DataTuff™ Industrial Ethernet CAT5e 4X2X23AWG/1 S/FTP Fire Resistant

### Product Description

23 AWG solid bare twisted copper conductors, Mica Glass Tape Fire Protection barrier on each conductor, Polyethylene insulation, S/FTP, Fire Resistant, Tinned Copper Braid Shield with Central Drain Wire, Mica Glass Tape, LSZH outer Jacket

### Technical Specifications

#### Product Overview

Suitable Applications:	Industrial Ethernet Cat 5e connection with Fire Resistant capability
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#### Construction Details

##### Conductor

Element	Size	Stranding	Material	No. of Pairs	No. of Elements
Conductor(s)	23	Solid	BC - Bare Copper	4	8

##### Insulation

Material	Nom. Insulation Diameter	Color Code	Notes
PE - Polyethylene	1.48 mm (0.0583 in)	Blue & White with Blue Strip, Orange & White with Orange Strip, Green & White with Green Strip, Brown & White with Brown Strip	Fire Protection Barrier: Mica glass Tape(MGT), Twist Direction = S, 25% AL-mylar tape(Overlapping)

##### Inner Shield

Shield Type	Material	Coverage	Drainwire Type	Notes
Braid	Tinned Copper (TC)	60%	26 AWG (Solid) TC	Fire Protection Barrier: Mica Glass Tape(MGT)

##### Outer Jacket

Material	Nom. Diameter
LSZH - Low Smoke Zero Halogen (Flame Retardant)	11.00 mm (0.4331 in)

#### Electrical Characteristics

##### Electricals

Max. Conductor DCR	Max. Capacitance Unbalance	Nom. Characteristic Impedance
73.2 Ohm/km (22.3 Ohm/1000ft)	330 pF/100m	100 Ohm

##### Delay

Max. Delay	Max. Delay Skew
538 ns/100m	45 ns/100m

##### High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation) [dB/100m]	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. RL (Return Loss) [dB]
1	2.04	65.3	62.3	20.0
4	4.05	56.3	53.3	23.0
8	5.77	51.8	48.8	24.5
10	6.47	50.3	47.3	25.0
16	8.25	47.2	44.2	25.0
20	9.27	45.8	42.8	25.0
25	10.42	44.3	41.3	24.3

30	11.47	43.1	40.1	23.8
31.25	11.72	42.9	39.9	23.6
62.5	16.99	38.4	35.4	21.5
100	21.98	35.3	32.3	20.1

## Voltage

<b>UL Voltage Rating</b>
60 V

## Mechanical Characteristics

Table Notes:	Temperature range : -40°C To +80°C
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## Standards and Compliance

Environmental Suitability:	UV Resistance, Oil Resistance
Flammability / Reaction to Fire:	IEC 60332-1-2, IEC 60331-23, IEC 60332-3-22
TIA/EIA Compliance:	EIA/TIA 568
ISO/IEC Compliance:	IEC 61034-2 - Smoke Density Min Transmittance = 60%
European Halogen Free Standards:	IEC 60754-1 - Halogen Amount = 0.50%, IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity = 10 $\mu$ S/mm, IEC 60754-2 - Halogen Acid Gas Amount - Min. pH = 4.3

## History

Update and Revision:	Revision Number: 0.30 Revision Date: 04-29-2024
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