



Product: [NH50106ASFB](#)

DataTuff™ Industrial Ethernet CAT6A 4x2x23AWG/1 S/FTP SWB Fire Resistant (PH120)

Product Description

DataTuff™ Industrial Ethernet CAT6A 4x2x23AWG/1 S/FTP SWB Fire Resistant (PH120)

Technical Specifications

Product Overview

Suitable Applications:	Industrial Ethernet Cat 6A connection with Fire Resistant capability
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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	1.58 mm (0.0622 in)	Blue & White with Blue Strips, Orange & White with Orange Strips, Green & White with Green Strips, Brown & White with Brown Strips	Fire Protection Barrier: Mica glass Tape(MGT)

Inner Shield

Element	Shield Type	Material	Drainwire Type	Notes
Individual Pair	Tape	Bi-Laminate (Alum+Poly)	26 AWG (Solid) TC	All 4 individually shielded Pairs laid up together & made circular

Inner Jacket

Material	Nom. Diameter
LSZH - Low Smoke Zero Halogen (Flame Retardant)	12.7 mm (0.500 in)

Outer Shield

Shield Type	Material	Coverage	Notes
Braid	Tinned Copper (TC)	60%	A Fire Protection Barrier: Mica Glass Tape & Water Blocking Tape wrapped over shielding

Armor

Armor Type & Material
SWB - Steel Wire Braid Armor

Outer Jacket

Material
LSZH - Low Smoke Zero Halogen (Flame Retardant)

Overall Cable Diameter (Nominal):	15.90 mm (0.6260 in)
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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
536 ns/100m

High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. RL (Return Loss) [dB]
4	3.8 dB/70m	66.3	63.3	23
8	5.4 dB/70m	61.8	58.8	24.5
10	6.0 dB/70m	60.3	57.3	25
16	7.6 dB/70m	57.2	54.2	25
20	8.5 dB/70m	55.8	52.8	25
25	9.6 dB/70m	54.3	51.3	24.3
31.25	10.7 dB/70m	52.9	49.9	23.6
62.5	15.5 dB/70m	48.4	45.4	21.5
100	19.9 dB/70m	45.3	42.3	20.1
200	29.1 dB/70m	40.8	37.8	18
250	33 dB/70m	39.3	36.3	17.3
300	36.6 dB/70m	38.1	35.1	17.3
400	43.2 dB/70m	36.3	33.3	17.3
500	49.2 dB/70m	34.8	31.8	17.3

Voltage

Voltage Rating
60 V

Mechanical Characteristics

Temperature

Operating
-40°C to + 80°C

Standards and Compliance

Environmental Suitability:	UV Resistance, Oil Resistance
Flammability / Reaction to Fire:	IEC 60332-1-2, IEC 60332-3-22, 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

Product Notes

Notes:	TIA 568 D .2 Cat.6a and ISO/IEC 11801 class D and IEEE 802. 3an 10GBASE-T, Circuit integrity performance during a fire of the relevant requirements of IEC 60331 23
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History

Update and Revision:	Revision Number: 0.23 Revision Date: 10-09-2024
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