




Product: [10GA25](#) 

10GA25 Cat 6A Cable, F/UTP, LSZH, 4 Pair, AWG 23, Indoor

Product Description

Category 6A (500MHz), 4-Pair, F/UTP, 23 AWG Solid Bare Copper Conductors, PE Insulation, LSZH Jacket

Technical Specifications

Product Overview

Suitable Applications:	Horizontal and building backbone cable; Support current and future Cat. 6a and 6 applications such as; 10GBase-T (10 Gigabit Ethernet), 1000Base-T (Gigabit Ethernet), 100 Base-T, 10 Base-T, FDDI and ATM
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Physical Characteristics (Overall)

Conductor

AWG	Stranding	Material
23	Solid	BC - Bare Copper

Conductor Count:	8
Total Number of Pairs:	4

Insulation

Material	Nominal Diameter
PE - Polyethylene	1.18 mm

Color Chart

Number	Color
Pair 1	Blue & Blue / White
Pair 2	Orange & Orange / White
Pair 3	Green & Green / White
Pair 4	Brown & Brown / White

Cabling

Description	Filler
4 pairs twisted together with central spline + overlapping polyester foil over cable core	Central Spline

Outer Shield

Type	Material	Coverage [%]	Drainwire Material	Drainwire AWG
Tape	Bi-Laminate (Alum+Poly)	100%	TC - Tinned Copper	26

Outer Jacket

Material	Nominal Diameter	Diameter +/- Tolerance	Ripcord
LSZH - Low Smoke Zero Halogen (Flame Retardant)	7.2 mm	0.3 mm	Yes

Construction and Dimensions

Min Elongation at Breakof Conductors:	10 %
Min Elongation at Breakof Insulation:	100 %
Min Elongation at Breakof Jacket:	100 %
Min Tensile Strength of Jacket:	9 MPa

Electrical Characteristics

Conductor DCR

Max. Conductor DCR	Max DCR Unbalanced Between Pairs [%]	Max. DCR Unbalanced Within Pair [%]
95 Ohm/km	4 %	2 %

Capacitance

Max. Capacitance Unbalance	Max. Mutual Capacitance
160 pF/100m	56 pF/m

Impedance

Nominal Characteristic Impedance
100 Ohm

Delay

Frequency [MHz]	Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
100 MHz	538 ns/100m	45 ns/100m	67%

High Frequency

Frequency [MHz]	Max. Insertion Loss (Attenuation)	Min. NEXT [dB]	Min. PSNEXT [dB]	Min. ACR [dB]	Min. PSACR [dB]	Min. ACRF (ELFEXT) [dB]	Min. PSACRF (PSELFEXT) [dB]	Min. RL (Return Loss) [dB]	Min. PSANEXT	Min. PSAACRF	Min. TCL [dB]	Min. ELTCTL [dB]
1 MHz	2.1 dB/100m	75.3 dB	72.3 dB	73.2 dB	70.2 dB	68 dB	65.0 dB	20 dB	67.0 dB	67.0 dB	40 dB	35 dB
4 MHz	3.8 dB/100m	66.3 dB	63.3 dB	62.5 dB	59.5 dB	56 dB	53.0 dB	23 dB	67.0 dB	66.2 dB	34 dB	23 dB
10 MHz	5.9 dB/100m	60.3 dB	57.3 dB	54.4 dB	51.4 dB	48 dB	45.0 dB	25 dB	67.0 dB	58.2 dB	30 dB	15 dB
16 MHz	7.5 dB/100m	57.2 dB	54.2 dB	49.8 dB	46.8 dB	43.9 dB	40.9 dB	25 dB	67.0 dB	54.1 dB	28 dB	10.9 dB
31.2 MHz	10.5 dB/100m	52.9 dB	49.9 dB	42.4 dB	39.4 dB	38.1 dB	35.1 dB	23.6 dB	67.0 dB	48.3 dB	25.1 dB	5.1 dB
62.5 MHz	15 dB/100m	48.4 dB	45.4 dB	33.4 dB	30.4 dB	32.1 dB	29.1 dB	21.5 dB	65.6 dB	42.3 dB	22 dB	
100 MHz	19.1 dB/100m	45.3 dB	42.3 dB	26.2 dB	23.2 dB	28 dB	25.0 dB	20.1 dB	62.5 dB	38.2 dB	20 dB	
125 MHz	21.5 dB/100m	43.8 dB	40.8 dB	22.3 dB	19.3 dB	26.1 dB	23.1 dB	19.4 dB	61.0 dB	36.3 dB	19 dB	
200 MHz	27.6 dB/100m	40.8 dB	37.8 dB	13.2 dB	10.2 dB	22 dB	19.0 dB	18 dB	58.0 dB	32.2 dB	17 dB	
250 MHz	31.1 dB/100m	39.3 dB	36.3 dB	8.3 dB	5.3 dB	20 dB	17.0 dB	17.3 dB	56.5 dB	30.2 dB	16 dB	
300 MHz	34.3 dB/100m	38.1 dB	35.1 dB	3.9 dB	0.9 dB	18.5 dB	15.5 dB	17.3 dB	55.3 dB	28.7 dB		
500 MHz	45.3 dB/100m	34.8 dB	31.8 dB	-10.4 dB	-13.4 dB	14 dB	11.0 dB	17.3 dB	52.0 dB	24.2 dB		

Table Notes:	Limits below 4MHz are for information only.
Coupling Attenuation Class:	Type II
Segregation class according EN50174-2:	c

Voltage

Voltage Rating [V]
Max. 72 V DC

Temperature Range

Installation Temperature Range:	0°C To +50°C
Storage Temperature Range:	-20°C To 60°C
Operating Temperature Range:	-20°C To 75°C

Mechanical Characteristics

Bulk Cable Weight:	52 kg/km
Max. Pull Tension:	110 N

Standards

ISO/IEC Compliance:	IEC 61156-5(2009), ISO/IEC 11801(2017)
Data Category:	Category 6A
ANSI Compliance:	ANSI/TIA 568.2-D (2018)
IEEE Compliance:	PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4

Applicable Environmental and Other Programs

Environmental Space:	Indoor
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Suitability

Suitability - Indoor:	Yes
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Flammability, LSOH, Toxicity Testing

IEC Flammability:	IEC 60332-1-2
IEC 60754-1 - Halogen Amount:	Zero
IEC 60754-2 - Halogen Acid Gas Amount - Max. Conductivity:	10 µS/mm
IEC 60754-2 - Halogen Acid Gas Amount - Min. pH:	4.3
IEC 61034-2 - Smoke Density Min. Transmittance:	60%

Related Part Numbers

Variants

Item #	Color	Length
10GA25 010305M	Black	305 m
10GA25 006305M	Blue	305 m
10GA25 006500M	Blue	500 m
10GA25 008305M	Grey	305 m
10GA25 008500M	Grey	500 m

Footnote:	*Ordering stock code will be created at the time of placing the order and the stock code will include cable part code, outer jacket color & putup length.
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Product Notes

Notes:	Electrical values are expected performance based on cable testing and representative performance within a typical Belden system.
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History

Update and Revision:	Revision Number: 0.93 Revision Date: 05-28-2024
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