



Product: [1302E](#) 

CAT6a S/FTP Cat6a 24AWG/7 PVC

Product Description

CAT6a S/FTP Cat6a 24AWG/7 PVC

Technical Specifications

Product Overview

Suitable Applications:	Field deployable CAT6a patch horizontal and building backbone cable; CobraNET, eSnake, Ethersound, Digital audio over Ethernet; Support current and future Category 6A and 6 applications, such as: 10GBase - T(10 Gigabit Ethernet), 1000 Base - T (Gigabit Ethernet), 100 Base - T, 10 Base - T, FDDI, ATM; Compatible connectors Belden R301601 000S1 (T568A) and R301602 000S1 (T568B)
------------------------	--

Physical Characteristics (Overall)

Conductor

Element	AWG	Stranding	Material	No. of Pairs
Individual shielded pair	24	7x32	BC - Bare Copper	4

Conductor Count:	8
Total Number of Pairs:	4

Insulation

Element	Type	Material	Nominal Diameter
Individual shielded pair	Dielectric	FPE - Foamed Polyethylene	1.4 mm

Bonded-Pair:	No
--------------	----

Color Chart

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

Inner Shield Material

Element	Type	Material	Material Trade Name	Coverage [%]
Individual shielded pair	Tape	Aluminum / Polyester	Beldfoil®	100 %

InnerShield, Table Note:	Aluminum facing outside
--------------------------	-------------------------

Outer Shield Material

Type	Material	Drainwire Material	Drainwire AWG	Min. Coverage [%]
Braid	TC - Tinned Copper	TC - Tinned Copper	26	80 %

Outer Jacket Material

Material	Nominal Diameter	Diameter +/- Tolerance	Nominal Wall Thickness
Matte PVC	0.311 in	0.3 mm	0.7 mm

Construction and Dimensions

Min Elongation at Breakof Conductors:	10 %
Min Elongation at Breakof Insulation:	100 %

Min Elongation at Break of Jacket:	100 %
Min Tensile Strength of Jacket:	9 MPa

Electrical Characteristics

Conductor DCR

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

Capacitance

Max. Capacitance Unbalance	Max. Mutual Capacitance	Nom. Mutual Capacitance
1,600 pF/m	56 pF/m	17 pF/ft

Impedance

Nominal Characteristic Impedance
100 Ohm

Delay

Max. Delay	Max. Delay Skew	Nominal Velocity of Propagation (VP) [%]
534 ns/100m	25 ns/100m	77 %

High Freq

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	2.5 dB/100m	75.3 dB	72.3 dB	72.8 dB	69.8 dB	68 dB	65 dB	20 dB	67 dB	67 dB	40 dB	35 dB
4 MHz	4.6 dB/100m	66.3 dB	63.3 dB	61.7 dB	58.7 dB	56 dB	53 dB	23 dB	67 dB	66.2 dB	34 dB	23 dB
10 MHz	7.1 dB/100m	60.3 dB	57.3 dB	53.2 dB	50.2 dB	48 dB	45 dB	25 dB	67 dB	58.2 dB	30 dB	15 dB
16 MHz	9 dB/100m	57.2 dB	54.2 dB	48.3 dB	45.3 dB	43.9 dB	40.9 dB	25 dB	67 dB	54.1 dB	28 dB	10.9 dB
31.2 MHz	12.6 dB/100m	52.9 dB	49.9 dB	50.4 dB	47.3 dB	38.1 dB	35.1 dB	23.6 dB	67 dB	48.3 dB	25.1 dB	5.1 dB
62.5 MHz	18 dB/100m	48.4 dB	45.4 dB	30.4 dB	27.4 dB	32.1 dB	9.1 dB	21.5 dB	65.6 dB	42.3 dB	22 dB	
100 MHz	23 dB/100m	45.3 dB	42.3 dB	22.3 dB	19.3 dB	28 dB	25 dB	20.1 dB	62.5 dB	38.2 dB	20 dB	
125 MHz	25.8 dB/100m	43.8 dB	40.8 dB	18 dB	15 dB	26.1 dB	23.1 dB	19.4 dB	61 dB	36.3 dB	19 dB	
200 MHz	33.1 dB/100m	40.8 dB	37.8 dB	7.7 dB	4.7 dB	22 dB	19 dB	18 dB	58 dB	32.2 dB	17 dB	
250 MHz	37.3 dB/100m	39.3 dB	36.3 dB	2 dB	-1 dB	20 dB	17 dB	17.3 dB	56.5 dB	30.2 dB	16 dB	
300 MHz	41.1 dB/100m	38.1 dB	35.1 dB	-3 dB	-6 dB	18.5 dB	15.5 dB	17.3 dB	55.3 dB	28.7 dB		
500 MHz	54.3 dB/100m	34.8 dB	31.8 dB	-19.5 dB	-22.5 dB	14 dB	11 dB	17.3 dB	52 dB	24.2 dB		

High Freq Table Note: Reference standard: ISO/IEC 61156-6 ed. 3.0 (2010)

General Electrical Parameters Notes: Reference standard: ISO/IEC 61156 - 6 ed. 3.0 (2010)

Coupling Attenuation Class: Type Ib

Segregation class according EN50174-2: c

Transfer Impedance

Frequency [MHz]	Description	Transfer Impedance
1 Mhz	Grade 2	Max. 50 mOhm/m
10 Mhz		Max. 100 mOhm/m
30 Mhz		Max. 200 mOhm/m
100 Mhz		Max. 1000 mOhm/m

Current

Max. Recommended Current [A]
1.5 A

Voltage

UL Voltage Rating	Voltage Rating [V]
300 V RMS	72 V

Temperature Range

Installation Temp Range:	0°C To +50°C
Storage Temp Range:	-30°C To +60°C
Operating Temp Range:	-30°C To +60°C

Mechanical Characteristics

Cold Bend Test:	-30°C Compliance per UL 1581
Bulk Cable Weight:	46.9 lbs
Max Recommended Pulling Tension:	16.9 lbs
Min Bend Radius During Installation:	64 mm
Min Bend Radius During Operation:	32 mm
Min Bend Radius/Minor Axis:	3.11 in

Standards

ISO/IEC Compliance:	ISO/IEC 11801 Ed. 2.2:2002/A2:2010/C1:2011
CENELEC Compliance:	EN 50173-1 Ed. 3:2011
Data Category:	Category 6A
ANSI Compliance:	ANSI/ICEA S-116-732-2013 Category 6A
Telecommunications Standards:	ANSI/TIA/EIA 568-B.2-10 (2008)
IEEE Specification:	PoE: IEEE 802.3bt Type 1, Type 2, Type 3, Type 4
Other Specification:	EN 50173-1 (2002), EN 50173-1 Amendment 1 (2009)

Applicable Environmental and Other Programs

Environmental Space:	Indoor (Not Riser or Plenum)
EU RoHS Compliance Date (yyyy-mm-dd):	2014-11-27
MII Order #39 (China RoHS):	Yes

Suitability

Suitability - Aerial:	No
Suitability - Burial:	No
Suitability - Hazardous Locations:	No
Suitability - Indoor:	Yes
Suitability - Non-Halogenated:	No
Suitability - Oil Resistance:	No
Suitability - Outdoor:	Yes
Suitability - Sunlight Resistance:	No

Flammability, LSOH, Toxicity Testing

ISO/IEC Flammability:	IEC 60332-1
Burning Load:	650 kJ/m
UL voltage rating:	300 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	No
---------------	----

Part Number

Variants

Item #	Color	UPC	Length
1302E.00500	Black		500 m
1302E.009999	Black		499 m
1302E.003000	Black		3,000 m
1302E.00152	Black		152 m
1302E.00305	Black		305 m
1302E 0101000	Black	612825381778	1,000 ft
1302E 0101640	Black	612825381761	1,640 ft
1302E 010500	Black	612825381631	500 ft

Patent:	https://www.belden.com/resources/patents
---------	---

History

Update and Revision:	Revision Number: 0.349 Revision Date: 12-11-2019
----------------------	--

© 2020 Belden, Inc

All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described here in are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability.

Belden provides the information and specifications herein on an "ASIS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein.

All sales of Belden products are subject to Belden's standard terms and conditions of sale.

Belden believes this product to be in compliance with all applicable environmental programs as listed in the data sheet. The information provided is correct to the best of Belden's knowledge, information and belief at the date of its publication. This information is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. The Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product.