

CAT6 UTP CMP (PLENUM-RATED)

Made in the USA

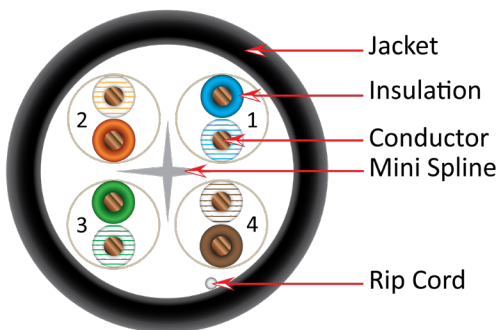


DESCRIPTION

CAT6 UTP CMP (Plenum-Rated)
ETL-Listed, RoHS-Compliant
1000 ft Spool - Made in the USA.

FEATURES

- 4-Pair Unshielded Twisted-Pair (UTP) Construction
- Plenum Fire Safety Rating (CMP)
- 23 AWG Bare Copper Conductors
- Easy-to-See Vivid-Color Conductor Insulation and Cable Jacket
- Moisture-Resistant Box equipped with easy-to-pull tube
- Supports High-Speed Data Applications, Fast Ethernet and 155-Mbit/s TP-PMD/CDDI
- 15W PoE (IEEE 802.3af)
- 30W PoE+ (IEEE 802.3at)
- 60W PoE++ (IEEE 802.3bt Type 3)
- Supports High-Speed Data Applications up to 1 Gbit/s
- Excellent Insertion Loss and Crosstalk Characteristics
- ETL-listed, ETL-Verified Channel, RoHS-Compliant
- Covered by 25-Year Warranty
- 1000 ft Pull Box
- Made in the USA



166 SERIES

CONSTRUCTION

Conductor Material:	23 AWG Solid Bare Copper
Conductor Insulation:	Fluoropolymer
Insulation (all pairs):	FEP 0.0074 - 0.0098 in. (0.190 mm)
Stranding:	Solid
Spline:	Fluoropolymer Mini Filler
Insulation Colors:	P1: Blue/White-Blue P2: Orange/White-Orange P3: Green/White-Green P4: Brown/White-Brown
Number of Conductors:	8 (4 Pairs)
Jacket Material:	PVC: Plenum-Rated, Low-Smoke, Fire-Retardant
Jacket Average Wall:	0.015 in. $\pm$ 0.002 (0.381 mm)
Conductor Average DIA.:	0.041 in. (1.04 mm)
Cable Out DIA.:	0.214 in. (5.435 mm) nom.

ELECTRICAL

Operating Voltage Rating:	300 V RMS
DC Resistance/Conductor:	8.3 Ohms/100 m nom. @ 20 °C max.
Resistance Unbalance:	0.5%
Mutual Capacitance:	4.63 nF/100 m max.
Input Impedance:	100 $\Omega \pm 15\%$
Nominal Impedance:	100 $\Omega \pm 15\%$ (100 MHz) $\pm 20 \Omega$ (100–250 MHz) $\pm 25 \Omega$ (251–500 MHz)

MECHANICAL

Max. Rec. Pull Tension:	25 lb (111 N)
Min. Bend Radius:	0.9 in. min.
Approx. Climate Weight:	28 lb/1 mft nom.

COMPLIANCE

Safety:	ETL-Listed (tested per UL 444) RoHS2 (Directive 2011/65/EU)
Fire Safety:	NEC CMP (tested per NFPA 262)
Performance:	ANSI/TIA-568.2-D (ETL-verified)

MARKING

4010346 CAT6 CMP-LP (0.5A) FT6 23 AWG 4PR UTP 75C TESTED
TO 550 MHz c(ETL)us VERIFIED TO ANSI/TIA-568.2-D ISO-IEC 11801
MADE IN USA PO#/OP#/LOT#/CLX ROHS COMPLIANT XXXXFT-XXXXFT

COLORS AVAILABLE

Black, Blue, Gray, Green, Orange, Pink, Purple, Red, White, Yellow

COMPLIANCE

Safety:	ETL-Listed (tested per UL 444) RoHS2 (Directive 2011/65/EU)
Fire Safety:	NEC CMP (tested per NFPA 262 FT6)
Performance:	ANSI/TIA-568.2-D (ETL-verified)

WEIGHT

41 lbs. (18.60 kg)

VERTICAL CABLE
951.696.7772 California
800.749.2447 Florida
845.391.8318 New York
713.322.7242 Texas

MADE IN USA



verticalcable.com

Rev. 02/2025

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ENVIRONMENTAL

Storage Temperature:	-20° C to +75° C
Installation Temperature:	0° C to +50° C
Operating Temperature:	-20° C to +75° C
Operating Humidity:	≤93 % RH non-condensing
Delay Skew:	11.08ns/100m
NVP:	73.8%

APPLICATION SUPPORT

PoE:	15-W PoE Type 1 (IEEE 802.3af) 30-W PoE+ Type 2 (IEEE 802.3at) 60-W PoE++/4PPoE Type 3 (IEEE 802.3bt) Class A–Class D
HDBase-T:	10GBASE-T (IEEE 802.3an)
Ethernet:	2.5GBASE-T/5GBASE-T (IEEE 802.3bz) 1000BASE-T (IEEE 802.3ab) Gigabit Ethernet 100BASE-TX (IEEE 802.3u) 100-Mbps Ethernet (Fast Ethernet)
ATM:	ATM LAN 25/51/155/622
ANSI X3T9.5 TP-PMD (FDDI)	

AWG	Number of 4-pair Cables in Bundle																				
	1			2-7			8-19			20-37			38-61			62-91			92-192		
	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C	60°C	75°C	90°C
24	2.0	2.0	2.0	1	1.4	1.6	0.8	1	1.1	0.6	0.7	0.9	0.1	0.1	0.7	0.4	0.5	0.6	0.3	0.4	0.5
23	2.5	2.5	2.5	1.2	1.5	1.7	0.8	1.1	1.2	0.6	0.8	0.9	0.5	0.7	0.8	0.5	0.7	0.8	0.4	0.5	0.6
22	3.0	3.0	3.0	1.4	1.8	2.1	1	1.2	1.4	0.7	0.9	1.1	0.6	0.8	0.9	0.6	0.7	0.8	0.5	0.6	0.7

ENG SWEEP TO 750MHZ, values above 550 MHz are for internal reference only.

Part Numbers	
166-250/P/BK	CAT6 UTP, 1000 FT, PLENUM, BLACK
166-251/P/BL	CAT6 UTP, 1000 FT, PLENUM, BLUE
166-252/P/GR	CAT6 UTP, 1000 FT, PLENUM, GREEN
166-253/P/GY	CAT6 UTP, 1000 FT, PLENUM, GRAY
166-254/P/OR	CAT6 UTP, 1000 FT, PLENUM, ORANGE
166-255/P/PK	CAT6 UTP, 1000 FT, PLENUM, PINK
166-256/P/PR	CAT6 UTP, 1000 FT, PLENUM, PURPLE
166-257/P/RD	CAT6 UTP, 1000 FT, PLENUM, RED
166-258/P/WH	CAT6 UTP, 1000 FT, PLENUM, WHITE
166-259/P/YL	CAT6 UTP, 1000 FT, PLENUM, YELLOW

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ELECTRICAL SPECIFICATIONS: CAT6DSS

FREQ (MHz)	INSERTION LOSS		NEXT		PS NEXT		ACR-N	
	TIA-568.2-D	TRANS CABLE	TIA-568.2-D	TRANS CABLE	TIA-568.2-D	TRANS CABLE	TIA-568.2-D	TRANS CABLE
1	1.8	1.7	93.4	97.5	90.7	91.3	91.6	95.8
4	3.6	3.5	83.3	90.2	81.4	83.1	79.8	86.7
8	5.1	4.9	76.5	84.8	75.2	78.5	71.5	79.8
10	5.7	5.5	80.4	79.3	77.7	74.0	74.7	73.8
16	7.3	7.0	71.4	80.1	69.0	74.4	64.2	73.1
20	8.1	7.9	72.1	83.2	69.8	73.2	64.1	75.3
25	9.1	8.9	70.3	77.9	66.5	72.5	61.2	69.0
31.25	10.3	10.0	65.1	78.9	63.6	70.8	54.9	69.0
62.5	14.7	14.4	64.1	71.0	62.7	65.2	49.4	56.7
100	18.8	18.4	60.1	64.5	57.7	58.0	41.4	46.2
250	30.7	30.0	52.6	58.6	49.5	52.9	22.3	28.7
300		33.0		60.4		54.5		27.5
400		38.8		58.5		51.2		19.7
500		44.0		58.0		50.9		14.1
550		46.2		52.8		45.0		6.6

FREQ (MHz)	PSACR-N		ACR-F		PSACR-F		RETURN LOSS	
	TIA-568.2-D	TRANS CABLE	TIA-568.2-D	TRANS CABLE	TIA-568.2-D	TRANS CABLE	TIA-568.2-D	TRANS CABLE
1	89	89.5	86.3	96.4	83.7	90.7	21.2	34.5
4	77.9	79.6	74.0	88.2	71.1	80.7	29.0	31.1
8	70.1	73.6	67.8	79.2	64.9	73.0	31.9	31.9
10	72.0	68.4	66.0	75.0	63.1	69.7	29.5	32.8
16	61.8	67.4	61.8	72.9	59.1	65.8	32.6	32.8
20	61.7	65.3	60.2	72.2	57.7	65.1	31.5	34.9
25	57.4	63.2	58.5	67.1	56.6	60.8	30.2	33.4
31.25	53.3	60.9	56.3	64.9	55	57.8	31.1	31.5
62.5	48.1	50.8	48.7	58.9	45.6	50.7	32.7	34.2
100	39.0	39.6	42.9	52.1	41.2	44.4	31.9	32.0
250	18.8	22.9	28.0	34.1	27.1	27.6	26.5	25.0
300		21.5		28.7		23.2		22.5
400		12.4		19.9		11.0		20.0
500		6.9		11.7		5.7		20.6
550		1.2		10.7		4.6		19.9

Parameters above 250Mhz are for internal use only.

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Cable ID: CAT6 CMP UTP

Test Limit: TIA Cat 6 Perm. Link (+PoE)

Limits Version: V7.6

Date / Time: 03/02/2022 03:10:37 PM

Headroom 6.1 dB (NEXT 3,6-4,5)

Cable Type: Cat 6 U/UTP

NVP: 73.4%

Main: Versiv

S/N: 1808023

Software Version: V6.6 Build 2

Calibration Date: 08/03/2021

Adapter: DSX-8000 (DSX-PLA804)

S/N: 21331027

Test Summary: PASS

Remote: Versiv

S/N: 1807069

Software Version: V6.6 Build 2

Calibration Date: 08/03/2021

Adapter: DSX-8000R (DSX-PLA804)

S/N: 21331031

Length (ft), Limit 295	[Pair 1,2]	294
Prop. Delay (ns), Limit 498	[Pair 4,5]	440
Delay Skew (ns), Limit 44	[Pair 4,5]	33
Resistance (ohms), Limit 21.00	[Pair 4,5]	15.48
Resist. Unbal. (ohms), Limit 0.420	[Pair 1,2]	0.038
Resist. P2P Unbal. (ohms), Limit 0.520	[Pair 1,2-4,5]	0.369

Insertion Loss Margin (dB)	[Pair 3,6]	2.5
Frequency (MHz)	[Pair 3,6]	250.0
Limit (dB)	[Pair 3,6]	31.1

Worst Case Margin Worst Case Value

PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-7,8	3,6-4,5	3,6-4,5
NEXT (dB)	6.1	6.5	6.1	6.9
Freq. (MHz)	247.5	41.0	247.5	195.0
Limit (dB)	35.4	48.1	35.4	37.1
Worst Pair	3,6	3,6	3,6	3,6
PS NEXT (dB)	5.6	7.1	5.6	7.1
Freq. (MHz)	247.0	196.0	247.0	196.0
Limit (dB)	32.8	34.5	32.8	34.5

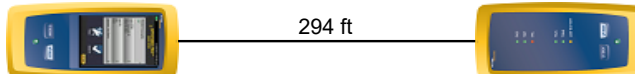
PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2-3,6	1,2-3,6	1,2-3,6	1,2-3,6
ACR-F (dB)	8.8	8.8	8.9	8.9
Freq. (MHz)	224.5	224.5	226.5	225.5
Limit (dB)	17.2	17.2	17.1	17.1
Worst Pair	3,6	3,6	3,6	3,6
PS ACR-F (dB)	10.1	10.3	10.1	10.3
Freq. (MHz)	226.5	224.0	226.5	224.0
Limit (dB)	14.1	14.2	14.1	14.2

N/A	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-7,8	3,6-4,5	3,6-4,5
ACR-N (dB)	7.5	7.3	8.7	11.8
Freq. (MHz)	46.0	41.0	247.5	242.0
Limit (dB)	35.1	36.6	4.5	5.0
Worst Pair	3,6	3,6	3,6	3,6
PS ACR-N (dB)	8.1	7.9	8.1	11.8
Freq. (MHz)	247.0	42.8	247.0	242.5
Limit (dB)	1.9	33.6	1.9	2.4

PASS	MAIN	SR	MAIN	SR
Worst Pair	4,5	4,5	1,2	3,6
RL (dB)	5.3	4.7	7.6	8.8
Freq. (MHz)	3.8	3.8	171.0	231.5
Limit (dB)	21.0	21.0	11.7	10.4

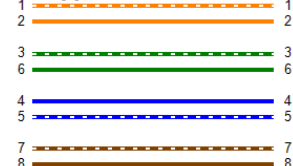
Compliant Network Standards:

10BASE-T	100BASE-TX	100BASE-T4
1000BASE-T	2.5GBASE-T	5GBASE-T
ATM-25	ATM-51	ATM-155
100VG-AnyLan	TR-4	TR-16 Active
TR-16 Passive		

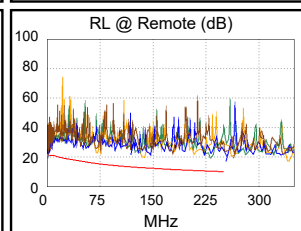
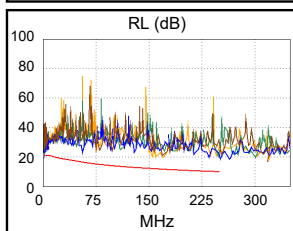
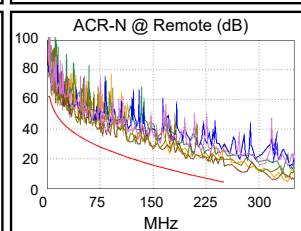
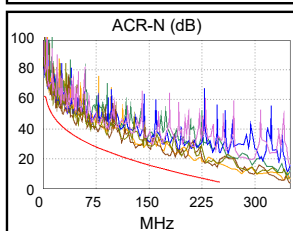
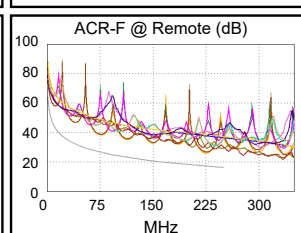
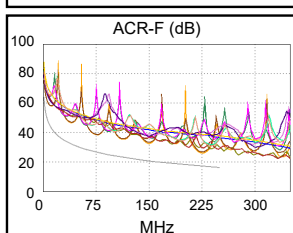
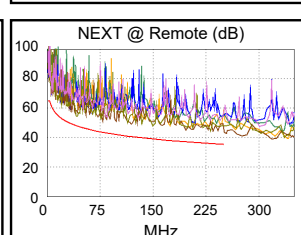
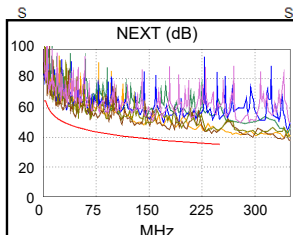
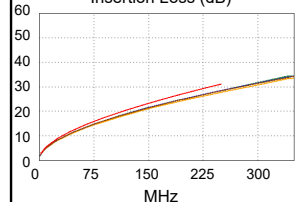


Wire Map (T568B)

PASS



Insertion Loss (dB)



LinkWare™ PC Version 10.7

Project: DEFAULT
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Page 3

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