

# CAT6A UTP CMP (PLENUM-RATED)

## Made in the USA

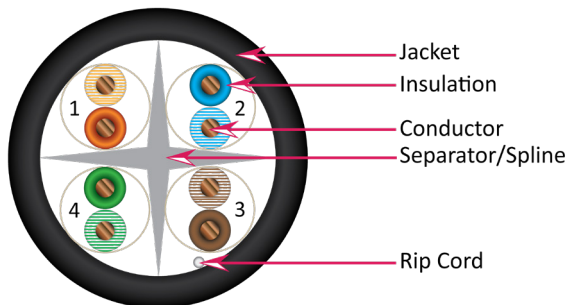


### DESCRIPTION

**CAT6A, Unshielded with an overall Plenum jacket, 23 AWG/4 PAIR Solid bare copper conductors, 550MHz, 1000 ft Spool, Black – Made in the USA.**

### FEATURES

- Meets or exceeds ANSI/TIA-568.2-D
- Spline-based construction with ribbed jacket ensuring excellent X-talk performance
- Meets PoE Type 4 specifications
- 23 AWG/4 PAIR Solid bare copper conductors
- Unshielded with an overall plenum jacket
- Supports PoE 802.3af, 802.3at, 802.3bt (Type 3, Type 4), 802.3an, 802.3bz, 802.3ab, 802.3u
- Suitable for 10Gb High-Speed Applications
- HDBase-T A & B
- 10 Gigabit Ethernet (IEEE 802.3an)
- 5 Gigabit Ethernet (IEEE 802.3bz)
- 2.5 Gigabit Ethernet (IEEE 802.3bz)
- Gigabit Ethernet (IEEE 802.3ab)
- 100 Mbps Ethernet (IEEE 802.3u)
- 1000 Mbps ATM 622 Mbps ATM
- 15W PoE (IEEE 802.3af)
- 30W PoE+ (IEEE 802.3at)
- 60W PoE++ (IEEE 802.3bt Type 3)
- 100W PoE++ (IEEE 802.3bt Type 4)



### 176 SERIES

#### CONSTRUCTION

Material:	23 AWG Solid Copper
Stranding:	Solid
Insulation Colors:	<b>Pair 1:</b> Blue/White-Blue <b>Pair 2:</b> Orange/White-Orange <b>Pair 3:</b> Green/White-Green <b>Pair 4:</b> Brown/White-Brown
Insulation (All Pairs):	FEP 0.00875-0.011 in. (0.222-0.279 mm)
Number of Conductors:	8 (4 Pairs)
Jacket Material:	PVC: Plenum-Rated, Low-Smoke. Fire-Retardant
Jacket Color Options:	
Cable Outer Diameter:	0.260 in (6.604 mm) nom.
Conductor Avg. Diameter:	0.046 in (1.17 mm)
Jacket Avg. Wall:	0.015 in ± 0.002 (0.381 mm)
Ripcord:	Polyester
Spline:	Fluoropolymer

#### ELECTRICAL

Operating Voltage Rating:	300 V RMS
DC Resistance:	7.09Ω/100m @ 20 °C max.
Resistance Unbalance:	1%
Mutual Capacitance:	4.68 NF/100m max.
Input Impedance:	100 Ω±15% (100 MHz) ±20 Ω (100–250 MHz) ±25 Ω (251–500 MHz)
Delay Skew:	20.91ns @ 1.312
NVP:	68.20%

#### MECHANICAL

Max. Rec. Pull Tension:	25 lbs.
Min. Bend Radius:	1.1 in. min. (27.94 mm)

#### 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)

#### 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

#### MARKING

4010346 CAT6A AUGMENTED 10GIG c(ETL)us CMP-LP (0.5A) FT6  
23 AWG 4PR UTP 75C TESTED TO ANSI/TIA 568.2-D ISO 11801 750  
MHz MADE IN USA/OP#/SP1 ROHS COMPLIANT XXXXFT 22024 10:39

#### 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

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## 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) 100-W PoE++/4PPoE Type 4 (IEEE 802.3bt)
HDBase-T:	Class A–Class D
Ethernet:	10GBASE-T (IEEE 802.3an) 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

## AMPACITY

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

The table above is representative of the one approved the National Fire Protection Agency for use in the next edition of the National Electrical Code known as NFPA-70. The complete table will be found in section 725.144 of the code. It will also be referenced in Article 800 Communication Circuits. The table identifies the ampacity of each conductor (in Amperes) in a 4-pair Class 2 or Class 3 data cable. Ambient temperature used for development of the table is 30°C (86° F) with all conductors in all cables carrying current. The table is based on 60°C (140°F), 75°C (167°F) and 90°C (194°F) rated cables.

Part Number:	Description:
176-300/A/P/BK	CAT6A UTP, 1000 ft, Plenum, Black
176-305/A/P/BL	CAT6A UTP, 1000 ft, Plenum, Blue
176-310/A/P/GR	CAT6A UTP, 1000 ft, Plenum, Green
176-315/A/P/GY	CAT6A UTP, 1000 ft, Plenum, Grey
176-320/A/P/OR	CAT6A UTP, 1000 ft, Plenum, Orange
176-325/A/P/PK	CAT6A UTP, 1000 ft, Plenum, Pink
176-330/A/P/PR	CAT6A UTP, 1000 ft, Plenum, Purple
176-335/A/P/RD	CAT6A UTP, 1000 ft, Plenum, Red
176-340/A/P/WH	CAT6A UTP, 1000 ft, Plenum, White
176-345/A/P/YL	CAT6A UTP, 1000 ft, Plenum, Yellow

## VERTICAL CABLE

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# TRANSMISSION SPECIFICATIONS

FREQ (MHz)	INSERTION LOSS		NEXT		PS NEXT		ACR	
	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	2.31	1.6	72.5	100.8	70.5	98.3	70.21	104.6
4	3.7	3.2	65.7	109.3	63.7	95.8	62.0	94.5
8	5.2	4.6	60.9	88.2	58.9	86.3	55.7	96.1
10	6.0	5.2	59.1	91.7	57.1	85.1	53.1	86.0
16	7.5	6.6	56.3	92.7	54.3	85.6	48.8	85.6
20	8.4	7.4	54.8	86.8	52.8	80.3	46.4	77.4
25	9.4	8.3	53.4	81.5	51.4	75.7	44.0	77.7
31.25	10.4	9.3	52.0	77.1	50.0	75.3	41.6	77.1
62.5	15.0	13.5	47.4	71.7	45.4	70.6	32.4	67.7
100	19.1	17.3	44.3	80.9	42.3	69.4	25.2	66.7
155	27.6	22.0	39.8	70.0	37.8	63.6	12.2	58.5
200	31.1	25.2	38.3	70.6	36.3	62.5	26.6	48.5
250	34.3	28.5	37.1	70.9	35.1	64.3	24.3	45.3
300	40.0	31.3	35.3	70.2	33.3	62.0	10.7	38.7
350	45.2	34.0	33.8	68.8	31.8	60.4	11.0	40.5
400	43.7	36.8	49.3	63.8	46.3	58.6	10.4	43.4
450	46.6	39.7	49.4	61.3	46.2	58.2	6.5	28.7
500	49.9	42.1	40.6	59.0	38.9	56.4	-3.7	33.1
550		44.1		67.0		59.1		25.1
600		45.9		57.1		56.7		31.3
650		47.7		59.1		54.2		21.8
700		49.3		58.2		55.7		12.5
750		52.7		69.4		52.1		11.0

FREQ (MHz)	PSACR		ACRF		PSACRF		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	68.21	95.0	70.21	102.1	68.2	93.3	23.1	40.0
4	60.0	86.1	62.0	90.2	63.7	87.0	31.4	42.4
8	53.7	80.0	55.7	86.7	58.9	80.2	31.8	40.2
10	51.1	81.9	53.1	84.9	57.1	73.6	35.1	39.8
16	46.8	75.0	48.8	76.7	54.3	68.0	32.1	38.4
20	44.4	69.9	46.4	70.4	52.8	63.2	35.1	38.9
25	42.0	67.7	44.0	81.2	51.4	58.8	34.6	40.7
31.25	39.6	64.0	41.6	77.3	50.0	56.5	31.7	38.0
62.5	30.4	57.2	32.4	59.1	45.4	57.8	33.8	43.2
100	23.2	53.4	41.9	54.5	42.3	48.0	34.8	37.8
155	10.2	37.5	36.7	38.3	37.8	36.4	29.8	35.5
200	5.3	35.6	32.1	41.3	36.3	33.4	31.7	36.7
250	33.0	34.1	33.0	38.8	35.1	29.4	29.8	29.1
300	10.6	27.1	25.8	34.5	33.3	20.5	38.7	28.1
350	7.5	20.6	30.5	31.4	31.8	18.5	32.3	27.6
400	7.7	20.7	30.4	29.1	27.5	10.8	33.5	29.9
450	5.0	13.7	22.2	16.5	20.5	13.1	34.8	26.7
500	-5.0	10.9	21.8	13.9	20.4	13.4	32.2	26.6
550		7.3		13.3		8.4		24.8
600		2.2		12.6		3.2		25.8
650		-3.2		9		-3		26.7
700		-1.5		6.4		-1.4		27.8
750		-7.8		7.1		-5		32.8

Parameter above 500MHz are for internal use only.

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