

# CAT6 UTP CMP (PLENUM-RATED) SLIM TYPE - Made in the USA



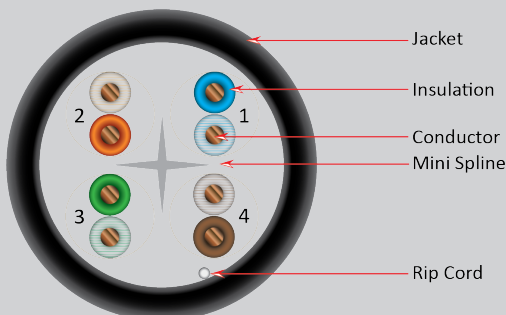
## DESCRIPTION

**CAT6 UTP CMP (Plenum-Rated)  
ETL-Listed, RoHS-Compliant.**

**MADE IN 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
- Made in the USA



## Part# 166 SERIES

Specifications	
<b>Construction</b>	
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	Mini Spline
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. (0.381 mm)
Cable Outer Diameter	0.212 in (5.386 mm) nom.

Electrical	
Operating Voltage Rating	300 V RMS
DC Resistance/Conductor	8.1478 Ohms/100 m nom. @ 20 °C max.
Resistance Unbalance	0.53%
Mutual Capacitance	4.63 nF/100 m max.
Capacitance Unbalance	29.26 pF Ohms ±15% (1-100MHz)
Nominal Impedance	100 Ω±15% (100 MHz) ±20 Ω (100–250 MHz) ±25 Ω (251–500 MHz)

Mechanical Properties	
Max. Recommended Pull Tension	25 lb (111 N)
Min. Bend Radius (Installed)	0.75 in min.
Approximate Cable Weight	26 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)

Packaging	Height	Width	Diameter	Weight
Box	16 in	14.5 in	8.5 in	27 lb

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Rev. 11/2022

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<b>Environmental</b>	
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
<b>Application support</b>	
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)
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
<b>Jacket Printing</b>	
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 JULIAN DATE DATE/YR	
<b>Colors available</b>	
Black, Blue, Gray, Green, Orange, Pink, Purple, Red, White, Yellow (check availability)	

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	90C°	60°C	75°C	90C°	60°C	75°C	90C°	60°C	75°C	90C°	60°C	75°C	90C°	60°C	75°C	90C°	60°C	75°C	90C°
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.

<b>Part Numbers</b>	
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	
	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	1.7	72.5	97.5	70.5	91.3	70.21	95.8
4	3.7	3.5	65.7	90.2	63.7	83.1	62.0	86.7
8	5.2	4.9	60.9	84.8	58.9	78.5	55.7	79.8
10	6.0	5.5	59.1	79.3	57.1	74.0	53.1	73.8
16	7.5	7.0	56.3	80.1	54.3	74.4	48.8	73.1
20	8.4	7.9	54.8	83.2	52.8	73.2	46.4	75.3
25	9.4	8.9	53.4	77.9	51.4	72.5	44.0	69.0
31.25	10.4	10.0	52.0	78.9	50.0	70.8	41.6	69.0
62.5	15.0	14.4	47.4	71.0	45.4	65.2	32.4	56.7
100	19.1	18.4	44.3	64.5	42.3	58.0	25.2	46.2
200	27.6	26.7	39.8	61.2	37.8	53.9	12.2	34.6
250	31.1	30.0	38.3	58.6	36.3	52.9	7.3	28.7
300	34.3	33.0	37.1	60.4	35.1	54.5	2.9	27.5
400	40.0	38.8	35.3	58.5	33.3	51.2	-4.8	19.7
500	45.2	44.0	33.8	58.0	31.8	50.9	-11.4	14.1
550		46.2		52.8		45.0		6.6

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	68.2	89.5	70.21	96.4	68.21	90.7	20.6	34.5
4	60.0	79.6	62.0	88.2	63.694	80.7	22.9	31.1
8	53.7	73.6	55.7	79.2	58.913	73.0	24.5	31.9
10	51.1	68.4	53.1	75.0	57.144	69.7	25.0	32.8
16	46.8	67.4	48.8	72.9	54.269	65.8	25.0	32.8
20	44.4	65.3	46.4	72.2	52.789	65.1	25.0	34.9
25	42.0	63.2	44.0	67.1	51.368	60.8	24.3	33.4
31.25	39.6	60.9	41.6	64.9	50.027	57.8	23.6	31.5
62.5	30.4	50.8	32.4	58.9	45.393	50.7	21.6	34.2
100	23.2	39.6	25.2	52.1	42.329	44.4	20.1	32.0
200	10.2	27.2	12.2	37.0	37.777	29.3	18.0	27.6
250	5.3	22.9	7.3	34.1	36.338	27.6	17.3	25.0
300	0.9	21.5	2.9	28.7	35.141	23.2	16.8	22.5
400	-6.8	12.4	-4.8	19.9	33.27	11.0	15.9	20.0
500	-13.4	6.9	-11.4	11.7	31.818	5.7	15.2	20.6
550		1.2		10.7		4.6		19.9

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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

Remote: Versiv

S/N: 1807069

Software Version: V6.6 Build 2

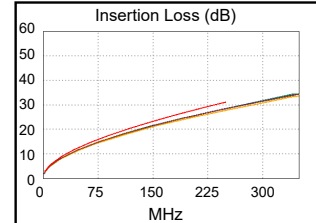
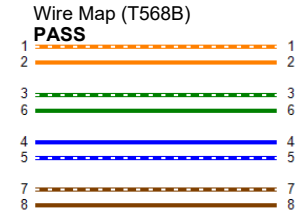
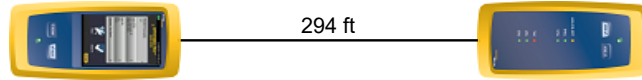
Calibration Date: 08/03/2021

Adapter: DSX-8000R (DSX-PLA804)

S/N: 21331031

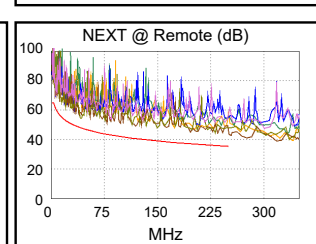
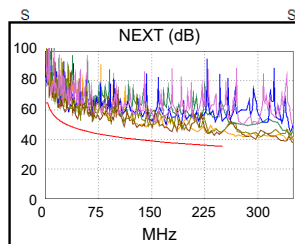
**Test Summary: PASS**

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

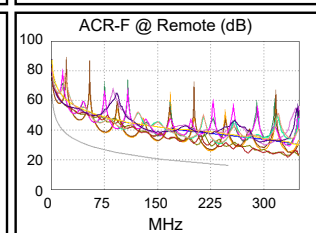
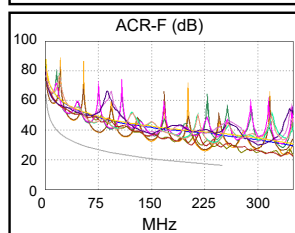


**Worst Case Margin Worst Case Value**

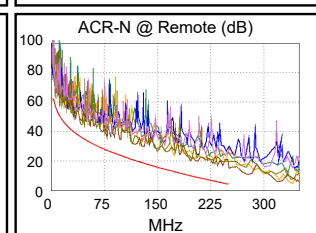
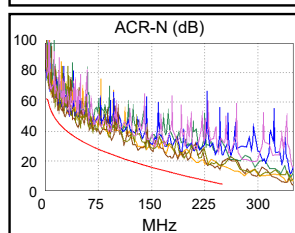
PASS	MAIN	SR	MAIN	SR
Worst Pair	3,6-4,5	3,6-7,8	3,6-4,5	3,6-4,5
NEXT (dB)	6.1	6.5	6.1	6.9
Freq. (MHz)	247.5	41.0	247.5	195.0
Limit (dB)	35.4	48.1	35.4	37.1
Worst Pair	3,6	3,6	3,6	3,6
PS NEXT (dB)	5.6	7.1	5.6	7.1
Freq. (MHz)	247.0	196.0	247.0	196.0
Limit (dB)	32.8	34.5	32.8	34.5



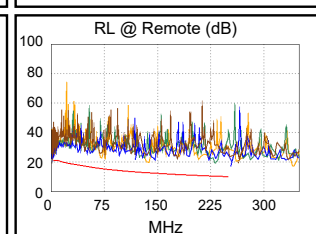
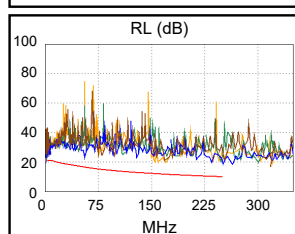
PASS	MAIN	SR	MAIN	SR
Worst Pair	1,2-3,6	1,2-3,6	1,2-3,6	1,2-3,6
ACR-F (dB)	8.8	8.8	8.9	8.9
Freq. (MHz)	224.5	224.5	226.5	225.5
Limit (dB)	17.2	17.2	17.1	17.1
Worst Pair	3,6	3,6	3,6	3,6
PS ACR-F (dB)	10.1	10.3	10.1	10.3
Freq. (MHz)	226.5	224.0	226.5	224.0
Limit (dB)	14.1	14.2	14.1	14.2



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

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