

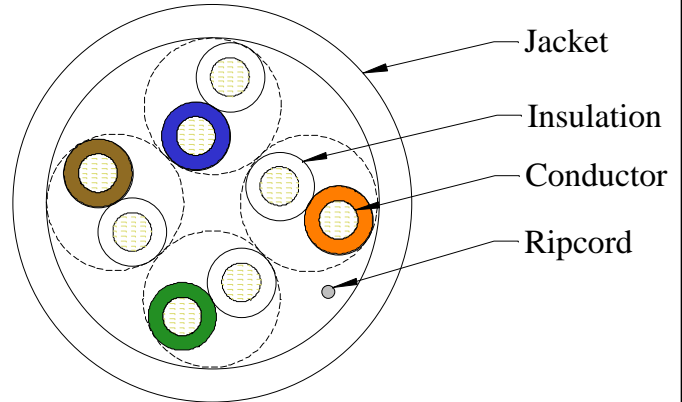
MASTER SPECIFICATION
6 LAN™ CABLE
4 PAIR #23 AWG UTP CATEGORY 6 PLENUM

Design Number:
HT49156

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) 6 LAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801 ed 2.2 (2011) CLASS E. THE CABLE MEETS ANSI/TIA-568-C.2 & ISO/IEC 11801 ed 2.2 (2011) CATEGORY 6 ELECTRICAL CHARACTERISTICS. THE CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A RIPCORD, UNDER AN OVERALL JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL OR BOX. SEE BELDEN.COM/P FOR ANY/ALL APPLICABLE PATENT DETAILS.

THE CABLE IS PLENUM RATED FOR USE IN AIR HANDLING DUCTS AND SPACES IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE (NEC). THE CABLE IS ETL (USA) & cETL (CANADA) LISTED FOR THIS APPLICATION BY PASSING NFPA 262 (FT6 OR PREVIOUSLY UL 910 STEINER TUNNEL) TEST.



SUPPORTED APPLICATIONS

IEEE 802.3 10BASE-T (ETHERNET), 100BASE-T (FAST ETHERNET), AND 1000BASE-T (GIGABIT ETHERNET), IEEE 802.3af POE, IEEE 802.3at-2009 POE+, ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, 550 MHz BROADBAND VIDEO & ATM UP TO 2.4 Gbps.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 23 AWG (.6 mm) SOLID BARE COPPER
 DUAL INSULATION, FEP ON ALL 4 PAIRS

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

CABLE ASSEMBLY: 4 PAIRS CABLED TOGETHER

JACKET: NO LEAD PLENUM RATED THERMOPLASTIC
 JACKET COLOR: SEE TABLE 2
 NOMINAL CABLE OD: .224" (5.69 mm)

LISTINGS: C(UL)US CMP, (UL) CMP-LP (0.5A) OR CL3P-LP (0.5A)
 UL OR ETL VERIFIED TO CAT 6

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/reel: 27 lbs/1000ft (40 kg/km)

BENDING RADIUS: 1" (25 mm) MIN (4 x CABLE OD)

PULLING TENSION: 25 lbf (110 N) MAX

OPERATING TEMP.: -20°C to +75°C (-4°F to +167°F)

STORAGE TEMP.: -20°C to +75°C (-4°F to +167°F)

***INSTALLATION TEMP.:** 0°C to +50°C (+32°F to +122°F)

TABLE 1

PAIR NUMBER	PAIR COLOR CODE	
1	WHITE-BLUE	BLUE
2	WHITE-ORANGE	ORANGE
3	WHITE-GREEN	GREEN
4	WHITE-BROWN	BROWN

TABLE 2

MOHAWK PART NUMBER	MOHAWK DESIGN NUMBER	JACKET COLOR
M58280	HT49423	WHITE
M58281	HT49424	BLUE
M58282	HT49425	PINK
M58283	HT49426	YELLOW
M58285	HT49427	GRAY
M58286	HT49428	GREEN
M58287	HT49429	RED
M58288	HT49430	ORANGE
M58289	HT49431	BLACK
M58290	HT49432	VIOLET
M58756	HT55007	BROWN
M59082	HT57643	LIME GREEN

* THE INSTALLATION TEMPERATURE REFERS TO THE TEMPERATURE OF THE CABLE WHILE BEING INSTALLED OR PULLED. DO NOT INSTALL BELOW 0°C (+32°F).



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 Northern CA: 866.277.7699
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Rev	Description	Date	Init.
Z	UPDATE DIAMETER & PATENT INFO	12/09/15	JS
AA	UPDATE ELECTRICALS	12/11/15	JS
AB	UPDATE FOOTER	01/27/17	JS
AC	UPD DESC, APPS, LISTINGS, TEMPS, STDS	07/06/17	JS
Date: 12/11/01		Page 1 of 2	
Orig:		Review:	
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 This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.

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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

STANDARDS: MEETS ANSI/TIA-568-C.2 CAT 6,
 ICEA S-116-732-2013 CAT 6 &
 ISO/IEC 11801 ed 2.2 (2011) CLASS E
 HORIZONTAL CABLE

CONDUCTOR DCR: 9.38 Ω/100m (28.6 Ω/Mft) MAX

DCR UNBALANCE: 5% MAX

MUTUAL CAPACITANCE: 46 pF/m NOM

CAPACITANCE UNBALANCE PAIR/GROUND: 66 pF/100m MAX

CHARACTERISTIC IMPEDANCE: 100 Ω ± 15% (1-250 MHz)

INPUT IMPEDANCE: 100 Ω ± 15% (1-100 MHz)
 100 Ω ± 20% (>100-200 MHz)
 100 Ω ± 25% (>200 MHz)

RETURN LOSS (RL): 20 + 5 log₁₀(f) dB MIN (1-10 MHz)
 25 dB MIN (>10-20 MHz)
 25 - 7 log₁₀(f/20) dB MIN (>20 MHz)

INSERTION LOSS: $1.808\sqrt{f} + .017f + \frac{.20}{\sqrt{f}}$ dB/100m MAX

NEAR END CROSSTALK (NEXT): 44.3 - 15 log₁₀(f/100) dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS-NEXT): 42.3 - 15 log₁₀(f/100) dB/100m MIN

EQUAL LEVEL FAR END CROSSTALK (ELFEXT): 27.8 - 20 log₁₀(f/100) dB/100m MIN

POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT): 24.8 - 20 log₁₀(f/100) dB/100m MIN

PROPAGATION DELAY: 534 + 36 / √f ns/100m MAX

DELTA DELAY (SKEW): 45 ns/100m MAX

NOMINAL VELOCITY OF PROPAGATION (NVP): 72%

WHERE f = FREQUENCY IN MHz from .772 to 250 MHz.

TABLE 3

REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS (dB/100m)		NEXT (dB/100m)		ACR (dB/100m)	PS-NEXT (dB/100m)		PS-ACR (dB/100m)	ELFEXT (dB/100m)	PS-ELFEXT (dB/100m)	RL (dB)
	avg	max	avg	min	min	avg	min	min	min	min	min
.772	1.7	1.8	82	76.0	74.2	77	74.0	72.2	-	-	-
1.0	1.9	2.0	80	74.3	72.3	75	72.3	70.3	67.8	64.8	20.0
4.0	3.6	3.8	71	65.3	61.5	66	63.3	59.5	55.8	52.8	23.0
8.0	5.1	5.3	67	60.8	55.5	62	58.8	53.5	49.7	46.7	24.5
10.0	5.7	6.0	65	59.3	53.3	60	57.3	51.3	47.8	44.8	25.0
16.0	7.3	7.6	62	56.2	48.6	57	54.2	46.6	43.7	40.7	25.0
20.0	8.1	8.5	61	54.8	46.3	56	52.8	44.3	41.8	38.8	25.0
25.0	9.1	9.5	59	53.3	43.8	54	51.3	41.8	39.8	36.8	24.3
31.25	10.2	10.7	58	51.9	41.2	53	49.9	39.2	37.9	34.9	23.6
62.5	14.8	15.4	53	47.4	32.0	48	45.4	30.0	31.9	28.9	21.5
100.0	19.0	19.8	50	44.3	24.5	45	42.3	22.5	27.8	24.8	20.1
155.0	24.2	25.2	47	41.4	16.3	42	39.4	14.3	24.0	21.0	18.8
200.0	27.8	29.0	46	39.8	10.8	41	37.8	8.8	21.8	18.8	18.0
250.0	31.5	32.8	44	38.3	5.5	39	36.3	3.5	19.8	16.8	17.3
300.0	35.0	36.4	43	37.1	0.7	38	35.1	--	18.3	15.3	16.8
350.0	38.2	39.8	42	36.1	--	37	34.1	--	16.9	13.9	16.3
400.0	41.3	43.0	41	35.3	--	36	33.3	--	15.8	12.8	15.9
500.0	47.0	48.9	40	33.8	--	35	31.8	--	13.8	10.8	15.2
550.0	49.7	51.8	39	33.2	--	34	31.2	--	13.0	10.0	14.9

SWEEP TESTED TO 550 MHZ; VALUES ABOVE 250 MHZ ARE FOR ENGINEERING INFORMATION ONLY.



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