

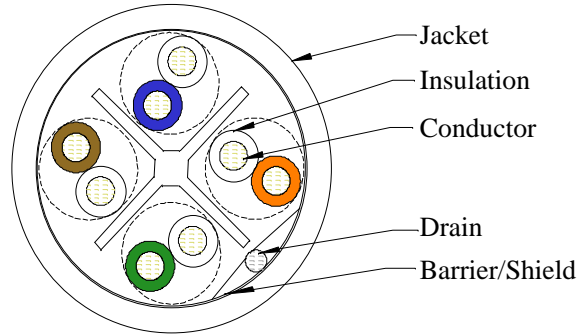
MASTER SPECIFICATION CAT 6 F/UTP CABLE 4 PAIR #23 AWG PLENUM

Design Number:
HT48267

DESCRIPTION

SCREENED TWISTED PAIR (F/UTP) CATEGORY 6 CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801:2002 CLASS E. THE CABLE EXCEEDS ANSI/TIA-568-C.2 AND ISO/IEC 11801:2002 CATEGORY 6 ELECTRICAL CHARACTERISTICS. THE CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A FLEXWEB® CORE SEPARATOR, AN OVERALL FOIL SHIELD & DRAIN, UNDER AN OVERALL JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0. 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 UL (USA) & cUL (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), ANSI.X3.263 FDDI TP-PMD, IEEE 802.5 4 AND 16 Mbps TOKEN RING, 550 MHz BROADBAND VIDEO AND ATM UP TO 2.4 Gbps.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 23 AWG (.6 mm) SOLID BARE COPPER
INSULATION: FEP

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

CABLE ASSEMBLY: 4 PAIRS CABLED TOGETHER WITH A FLEXWEB CORE SEPARATOR

BARRIER: OVERALL POLYESTER TAPE, 25% OVERLAP

DRAIN: #24 AWG SOLID TINNED COPPER

SCREEN (SHIELD): OVERALL ALUMINUM/POLYESTER TAPE, ALUM SIDE FACING IN, 25% OVERLAP, 100% COVERAGE, LIGHTLY BONDED TO JACKET

JACKET: NO LEAD PLENUM RATED THERMOPLASTIC
JACKET COLOR: SEE TABLE 2
NOMINAL CABLE OD: .310" (7.87 mm)

LISTING: C(UL)US OR C(ETL)US TYPE CMP
UL OR ETL VERIFIED CAT 6

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/reel: 48 lbs/1000ft (71 kg/km)

BENDING RADIUS: 1.25" (32 mm) MIN (4 x CABLE OD)

PULLING TENSION: 25 lbf (110 N) MAX

†OPERATING TEMP.: -20°C to +60°C (-4°F to +140°F)

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

***INSTALLATION TEMP.:** 0°C to +60°C (+32°F to +140°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
M58175	HT44484	WHITE
M58176	HT48268	BLUE
M58177	HT48269	PINK
M58178	HT48270	YELLOW
M58179	HT48271	GRAY
M58180	HT48272	GREEN
M58181	HT48273	RED
M58182	HT48274	ORANGE
M58183	HT48275	BLACK
M58184	HT48276	VIOLET
M58797	HT55958	BROWN

† THE MAX OPERATING TEMPERATURE FOR A SHORT RUN (<10 METERS) IS 125°C (257°F).

* 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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Rev	Description	Date	Init.
W	DELETE RIPCORD; ADD TAPE BOND; ADJUST WGT	08/29/14	JS
X	UPDATE PATENT INFO	02/05/16	JS
Y	UPDATE FOOTER	02/20/17	JS
Z	UPDATE JACKET DIA, CABLE WGT, BEND RADIUS	11/08/17	JS
Date: 08/27/01		Page 1 of 2	
Orig:		Review:	
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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

STANDARDS: EXCEEDS ANSI/TIA-568-C.2 CAT 6,
ICEA S-90-661-1997 CAT 6 &
ISO/IEC 11801:2002 CAT 6
HORIZONTAL CABLE

CONDUCTOR DCR: 7.1 Ω/100m (21.8 Ω/Mft) MAX

DCR UNBALANCE: 3% MAX

MUTUAL CAPACITANCE: 46 pF/m NOM

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

CHARACTERISTIC IMPEDANCE: 100 Ω ± 15% (1-300 MHz)

INPUT IMPEDANCE: 100 Ω ± 15% (1-100 MHz)
100 Ω ± 22% (>100-200 MHz)
100 Ω ± 32% (>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

(ATTENUATION): $1.808\sqrt{f} + .017f + \frac{.20}{\sqrt{f}}$ 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): 30 - 20 log₁₀(f/100) dB/100m MIN

POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT): 28 - 20 log₁₀(f/100) dB/100m MIN

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

DELTA DELAY (SKEW): 30 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	86	76.0	74.2	80	74.0	72.2	-	-	-
1.0	1.9	2.0	82	74.3	72.3	75	72.3	70.3	70.0	68.0	20.0
4.0	3.6	3.8	73	65.3	61.5	65	63.3	59.5	58.0	56.0	23.0
8.0	5.0	5.3	69	60.8	55.5	61	58.8	53.5	51.9	49.9	24.5
10.0	5.6	6.0	67	59.3	53.3	60	57.3	51.3	50.0	48.0	25.0
16.0	7.1	7.6	66	56.2	48.6	58	54.2	46.6	45.9	43.9	25.0
20.0	7.9	8.5	64	54.8	46.3	56	52.8	44.3	44.0	42.0	25.0
25.0	8.9	9.5	63	53.3	43.8	54	51.3	41.8	42.0	40.0	24.3
31.25	10.0	10.7	62	51.9	41.2	53	49.9	39.2	40.1	38.1	23.6
62.5	14.4	15.4	58	47.4	32.0	49	45.4	30.0	34.1	32.1	21.5
100.0	18.5	19.8	54	44.3	24.5	45	42.3	22.5	30.0	28.0	20.1
155.0	23.6	25.2	52	41.4	16.3	43	39.4	14.3	26.2	24.2	18.8
200.0	27.1	29.0	50	39.8	10.8	42	37.8	8.8	24.0	22.0	18.0
250.0	30.7	32.8	49	38.3	5.5	40	36.3	3.5	22.0	20.0	17.3
300.0	34.0	36.4	48	37.1	0.7	39	35.1	-	20.5	18.5	16.8
350.0	37.2	39.8	47	36.1	-	38	34.1	-	19.1	17.1	16.3
400.0	40.2	43.0	46	35.3	-	37	33.3	-	18.0	16.0	15.9
500.0	45.7	48.9	45	33.8	-	36	31.8	-	16.0	14.0	15.2
550.0	48.4	51.8	44	33.2	-	35	31.2	-	-	-	14.9

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



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