

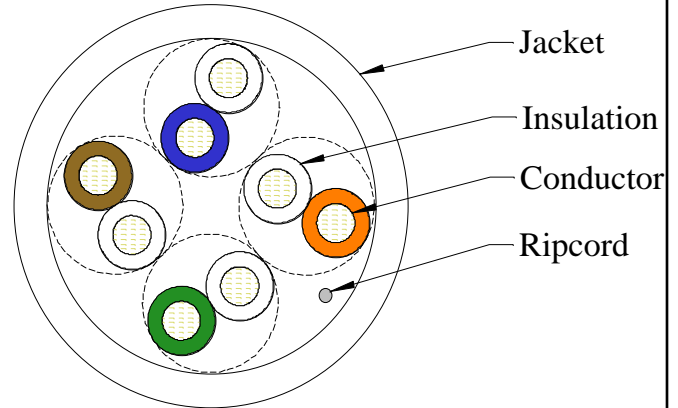
MASTER SPECIFICATION
5e LAN[®] CABLE
4 PAIR #24 AWG UTP CAT 5e NON-PLENUM

Design Number:
LT43680

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) CATEGORY 5e CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C. THE CABLE MEETS CATEGORY 5e ELECTRICAL CHARACTERISTICS AND IS TESTED TO 200 MHz. THE CABLE CONSISTS OF #24 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.

THE CABLE IS RISER (NON-PLENUM) RATED FOR USE AS A VERTICAL RUN IN A SHAFT AND FOR GENERAL PURPOSE COMMUNICATIONS USE IN ACCORDANCE WITH ARTICLE 800 OF THE NATIONAL ELECTRICAL CODE (NEC). THE CABLE IS ETL (USA) & cETL (CANADA) LISTED FOR THIS APPLICATION BY PASSING THE UL 1666 RISER CABLE FLAMMABILITY TEST. THE CABLE ALSO PASSES THE CSA FT4 VERTICAL FLAME TEST - CABLES IN CABLE TROUGH FROM CLAUSE 4.11.4 OF CSA C22.2 NO. 0.3.



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, ATM UP TO 155 Mbps, 550 MHz BROADBAND VIDEO AND STANDARDS UNDER DEVELOPMENT SUCH AS ATM AT 622 Mbps.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 24 AWG (.5 mm) SOLID BARE COPPER
 INSULATION: THERMOPLASTIC POLYOLEFIN

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

CABLE ASSEMBLY: 4 PAIRS CABLED TOGETHER

JACKET: NO LEAD FLAME RETARDANT THERMOPLASTIC
 JACKET COLOR: SEE TABLE 2
 NOMINAL CABLE OD: .190" (4.83 mm)

LISTING: C(UL)US OR C(ETL)US TYPE CMR
 UL OR ETL VERIFIED CAT 5e

PHYSICAL CHARACTERISTICS

- CABLE WEIGHT:** 20 lbs/1000ft (30 kg/km)
- BENDING RADIUS:** 1" (25.4 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
M57554	LT43690	WHITE
M57553	LT43689	BLUE
M57555	LT43691	PINK
M57556	LT43692	YELLOW
M57552	LT43688	GRAY
M57557	LT43693	GREEN
M58008	LT46822	RED
M58009	LT46823	ORANGE
M58010	LT46824	BLACK
M58007	LT46821	VIOLET
M58234	LT48417	LM. GREEN
M58312	LT49915	DK. BROWN

*THE INSTALLATION TEMPERATURE REFERS TO THE TEMPERATURE OF THE CABLE WHILE BEING INSTALLED OR PULLED.



MOHAWK
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Rev	Description	Date	Init.
Y	UPDATE HEADER & FOOTER	04/10/14	JS
Z	ADD PATENT WEBSITE	03/16/15	JS
AA	DELETE PATENT INFO	12/10/15	JS
AB	UPDATE FOOTER	01/19/17	JS
Date: 12/17/98		Page 1 of 2	
Orig:		Review:	
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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

<p>STANDARDS: ANSI/TIA-568-C.2 CAT 5e HORIZONTAL CABLE</p> <p>CONDUCTOR DCR: 9.38 Ω/100m (28.6 Ω/Mft) MAX</p> <p>DCR UNBALANCE: 5% MAX</p> <p>MUTUAL CAPACITANCE: 46 pF/m NOM</p> <p>CAPACITANCE UNBALANCE PAIR/GROUND: 132 pF/100m MAX</p> <p>CHARACTERISTIC IMPEDANCE: 100 Ω ± 15% (1-100 MHz)</p> <p>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)</p>	<p>INSERTION LOSS: $1.967\sqrt{f} + .023f + \frac{.050}{\sqrt{f}}$ dB/100m MAX</p> <p>NEAR END CROSSTALK (NEXT): 35.3 - 15 log₁₀(f/100) dB/100m MIN</p> <p>POWER SUM NEAR END CROSSTALK (PS-NEXT): 32.3 - 15 log₁₀(f/100) dB/100m MIN</p> <p>EQUAL LEVEL FAR END CROSSTALK (ELFEXT): 23.8 - 20 log₁₀(f/100) dB/100m MIN</p> <p>POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT): 20.8 - 20 log₁₀(f/100) dB/100m MIN</p> <p>PROPAGATION DELAY: 534 + 36/√f ns/100m MAX</p> <p>DELTA DELAY (SKEW): 45 ns/100m MAX</p> <p>NOMINAL VELOCITY OF PROPAGATION (NVP): 68%</p>
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WHERE f = FREQUENCY IN MHz from .772 to 100 MHz

TABLE 3
REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS			NEXT		ACR	PS-NEXT		PS-ACR	ELFEXT	PS-ELFEXT	RL
	(dB/100m)	(dB/mft)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB/100m)	(dB)
.772	avg 1.6	max 1.8	max 5.5	avg 79	min 67.0	65.2	avg 70	min 64.0	62.2	min -	min -	-
1.0	1.8	2.0	6.3	77	65.3	63.3	68	62.3	60.3	63.8	60.8	20.0
4.0	3.8	4.1	13	68	56.3	52.2	57	53.3	49.2	51.7	48.7	23.0
8.0	5.4	5.8	18	64	51.8	46.0	54	48.8	43.0	45.7	42.7	24.5
10.0	6.0	6.5	20	62	50.3	43.8	52	47.3	40.8	43.8	40.8	25.0
16.0	7.6	8.2	25	60	47.3	39.0	50	44.3	36.0	39.7	36.7	25.0
20.0	8.6	9.3	28	58	45.8	36.5	48	42.8	33.5	37.7	34.7	25.0
25.0	9.7	10.4	32	57	44.3	33.9	47	41.3	30.9	35.8	32.8	24.3
31.25	10.9	11.7	36	56	42.9	31.2	46	39.9	28.2	33.9	30.9	23.6
62.5	15.8	17.0	52	52	38.4	21.4	42	35.4	18.4	27.8	24.8	21.5
100.0	20.5	22.0	67	48	35.3	13.3	38	32.3	10.3	23.8	20.8	20.1
155.0	26.2	28.1	86	45	32.4	4.3	35	29.4	1.3	20.0	17.0	18.8
200.0	30.2	32.4	99	43	30.8	-	33	27.8	-	17.8	14.8	18.0

SWEEP TESTED TO 200 MHz; VALUES ABOVE 100 MHz ARE FOR ENGINEERING INFORMATION ONLY.



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