MASTER SPECIFICATION

U/UTP CABLE

4 PAIR #23 AWG CATEGORY 6A NON-PLENUM

Design Number:
LT58019

DESCRIPTION

SCREENED TWISTED PAIR (U/UTP) CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801:2002 CLASS EA. THE CABLE IS COMPONENT COMPLIANT TO ANSI/TIA-568.2-D CATEGORY 6A ELECTRICAL CHARACTERISTICS. THE CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, WITH A "T" SHAPED FLEXWEB® CORE SEPARATOR AND ALIEN CROSSTALK BARRIER, 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 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 UL (USA) & cUL (CANADA) LISTED FOR THIS APPLICATION BY PASSING 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, 550 MHz BROADBAND VIDEO AND ATM UP TO 4.8 Gbps.

CONSTRUCTION

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

PAIR ASSEMBLY: 2 PRIMARIES TWISTED IN VARIED LAYS

COLOR CODE: SEE TABLE 1

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

BARRIER: ALIEN CROSSTALK BARRIER

JACKET: NO LEAD FLAME RETARDANT THERMOPLASTIC
JACKET COLOR: SEE TABLE 2
NOMINAL CABLE OD: .260" (6.6 mm)

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

TABLE 1

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

TABLE 2

MOHAWK PART NUMBER	MOHAWK DESIGN NUMBER	JACKET COLOR
M59224	LT58005	WHITE
M59222	LT58003	BLUE
M59220	LT58001	YELLOW
M59223	LT58004	GRAY
M59221	LT58002	GREEN
M59218	LT57999	RED
M59219	LT58000	ORANGE
M59225	LT58006	BLACK

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/reel: 37 lbs/1000ft (55 kg/km)

BENDING RADIUS: 1.0" (25 mm) MIN

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)

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

MOHAWK
Cabling Excellence for Open Architecture

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Rev	Description	Date	Init.
H	UPDATE FOOTER, ELECS & PATENT INFO	01/08/21	AC
I	UPDATE DESC & PATENT INFO	01/08/21	AC
J	UPDATE FOOTER	01/08/21	AC
K	EDITORIAL CORRECTIONS	2/21/22	RXK

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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

STANDARDS: EXCEEDS ANSI/TIA-568-C.2 CAT 6A, ICEA S-90-661-1997 CAT 6 & ISO/IEC 11801 ed 2.0 AMEND 1 CLASS EA HORIZONTAL CABLE

CONDUCTOR DCR: 8.2 Ω/100m (25.0 Ω/Mft) MAX

DCR UNBALANCE: 3% MAX

MUTUAL CAPACITANCE: 46 pF/m NOM

CAPACITANCE UNBALANCE PAIR/GROUND: 90 pF/100m MAX

CHARACTERISTIC IMPEDANCE: 100 Ω ± 10% (10-550 MHz)

INPUT IMPEDANCE: 100 Ω ± 15% (1-100 MHz)
100 Ω ± 18% (>100-250 MHz)
100 Ω ± 32% (>250 MHz)

RETURN LOSS (RL): $20 + 5 \log_{10}(f)$ dB MIN (1-10 MHz)
25 dB MIN (>10-20 MHz)
$25 - 7 \log_{10}(f/20)$ dB MIN (>20 MHz)

PROPAGATION DELAY: $534+36 / \sqrt{f}$ ns/100m MAX

PROPAGATION DELAY SKEW: 45 ns/100m MAX

NOMINAL VELOCITY OF PROPAGATION (NVP): 66%

INSERTION LOSS (ATTENUATION): $1.82\sqrt{f} + .00091f + .25/\sqrt{f}$ dB/100m MAX

NEAR END CROSSTALK (NEXT): $44.3 - 15 \log_{10}(f/100)$ dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS NEXT): $42.3 - 15 \log_{10}(f/100)$ dB/100m MIN

ATTENUATION TO CROSSTALK RATIO FAR END (ACRF): $27.8 - 20 \log_{10}(f/100)$ dB/100m MIN

POWER SUM ATTENUATION TO CROSSTALK RATIO FAR END (PS ACRF): $24.8 - 20 \log_{10}(f/100)$ dB/100m MIN

TCL: $30 - 10 \log_{10}(f/100)$

ELTCL: $35 - 20 \log_{10}(f)$ $1 \le f \le 30$ MHz

COUPLING ATTENUATION: $55 - 20 \log_{10}(f/100)$ $30 \le f \le 500$ MHz

POWER SUM ALIEN NEAR END CROSSTALK (PS ANEXT): $62.5 - 15 \log_{10}(f/100)$ dB/100m MIN

POWER SUM ALIEN ATTENUATION TO CROSSTALK RATIO FAR END (PS AACRF): $38.2 - 20 \log_{10}(f/100)$ dB/100m MIN
77 dB MAX

NOTE: Attenuation To Crosstalk Ratio Far End (ACRF) was previously referred to as Equal Level Far End Crosstalk (ELFEXT).

WHERE f = Frequency In MHz from 1 to 500 MHz.

TABLE 3
REFERENCE ELECTRICAL CHARACTERISTICS

FREQ (MHz)	INSERTION LOSS (dB/100m)	NEXT (dB/100m)	PS NEXT (dB/100m)	ACRF (dB/100m)	PS ACRF (dB/100m)	RETURN LOSS (dB)	PROP. DELAY (ns/100m)	ALIEN CROSSTALK PS ANEXT (dB/100m)	ALIEN CROSSTALK PS AACRF (dB/100m)
	max	min	min	min	min	min	max	min	min
1.0	2.1	74.3	72.3	67.8	64.8	20.0	575.0	67.0	67.0
4.0	3.8	65.3	63.3	55.8	52.8	23.0	557.0	67.0	66.2
8.0	5.3	60.8	58.8	49.7	46.7	24.5	551.7	67.0	60.1
10.0	5.9	59.3	57.3	47.8	44.8	25.0	550.4	67.0	58.2
16.0	7.5	56.2	54.2	43.7	40.7	25.0	548.0	67.0	54.1
20.0	8.4	54.8	52.8	41.8	38.8	25.0	547.0	67.0	52.2
25.0	9.4	53.3	51.3	39.8	36.8	24.3	546.2	67.0	50.2
31.25	10.5	51.9	49.9	37.9	34.9	23.6	545.4	67.0	48.3
62.5	15.0	47.4	45.4	31.9	28.9	21.5	543.6	65.6	42.3
100.0	19.1	44.3	42.3	27.8	24.8	20.1	542.6	62.5	38.2
155.0	24.1	41.4	39.4	24.0	21.0	18.8	542.1	59.6	34.4
200.0	27.6	39.8	37.8	21.8	18.8	18.0	541.5	58.0	32.2
250.0	31.1	38.3	36.3	19.8	16.8	17.3	541.3	56.5	30.2
300.0	34.3	37.1	35.1	18.3	15.3	16.8	541.1	55.3	28.7
350.0	37.2	36.1	34.1	16.9	13.9	16.3	540.9	54.3	27.3
400.0	40.1	35.3	33.3	15.8	12.8	15.9	540.8	53.5	26.2
500.0	45.3	33.8	31.8	13.8	10.8	15.2	540.6	52.0	24.2

SWEEP TESTED TO 500 MHz

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