MASTER SPECIFICATION

Giga*LAN 10*® SMALL DIAMETER CABLE

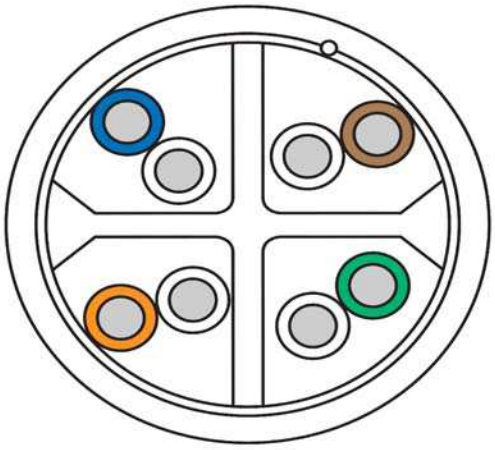
4 PAIR #23 AWG UTP CATEGORY 6A NON-PLENUM

Design Number:
LT57900

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) Giga*LAN 10* SMALL DIAMETER CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801 ed 2.2 (2011) CLASS EA. THE CABLE EXCEEDS ANSI/TIA-568-C.2 AND ISO/IEC 11801 ed 2.2 (2011) CATEGORY 6A ELECTRICAL CHARACTERISTICS. THIS PATENTED CABLE CONSISTS OF #23 AWG SOLID BARE COPPER INSULATED CONDUCTORS, ASSEMBLED INTO FOUR TIGHTLY TWISTED PAIRS, UTILIZING A FLEXWEB(R) CORE SEPARATOR, ALIEN CROSSTALK BARRIER AND RIPCORD, UNDER A JACKET. PRINT INCLUDES DESCENDING FOOTAGE MARKERS FROM 1000 TO 0 ON EACH 1000 FT REEL. 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 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 802.3an 10GBASE-T (10 GIGABIT ETHERNET), 1000BASE-T (GIGABIT ETHERNET), 100BASE-T (FAST ETHERNET), AND IEEE 802.3 10BASE-T (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, ATM UP TO 1.2 Gbps, 550 MHz BROADBAND VIDEO, 10G Wi-Fi ACCESS POINTS.

CONSTRUCTION

PRIMARIES: COND: 23 AWG (.6 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 WITH A FLEXWEB CORE SEPARATOR AND ALIEN CROSSTALK BARRIER

JACKET: NO LEAD FLAME RETARDANT THERMOPLASTIC
JACKET COLOR: SEE TABLE 2
NOMINAL CABLE OD: .273" (6.93 mm)

LISTINGS: C(UL)US CMR; (UL) CMR-LP (0.6A) OR CL3R-LP (0.6A) 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
M59155	LT57901	WHITE
M59156	LT57902	BLUE
M59157	LT57903	PINK
M59158	LT57904	YELLOW
M59159	LT57905	GRAY
M59160	LT57906	GREEN
M59161	LT57907	RED
M59162	LT57908	ORANGE
M59163	LT57909	BLACK
M59164	LT57910	VIOLET

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/REEL: 38 lbs/1000ft (57 kg/km)

BENDING RADIUS: 1.1" (28 mm) MIN (4 x CABLE OD)

PULLING TENSION: 40 lbf (175 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.

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MOHAWK
Cabling Excellence for Open Architecture

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Rev	Description	Date	Init.
D	UPDATE DESC, SUPP APPS & DIAMETER	11/09/15	JS
E	UPDATE COLOR CODE & LISTINGS	08/24/16	JS
F	UPDATE FOOTER	02/15/17	JS
G	UPDATE DESC, APPS, LISTINGS, TEMPS, STDS	09/01/17	JS

Date: 10/10/14 Page 1 of 2

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This cable complies with the EU-RoHS directive 2002/95/EC (restrictions on hazardous substances) regulations.

MASTER SPECIFICATION

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ELECTRICAL CHARACTERISTICS (REF TABLE 3)

STANDARDS: EXCEEDS ANSI/TIA-568-C.2 CAT 6A, ICEA S-116-732-2013 CAT 6A, ISO/IEC 11801 ed 2.2 (2011) CLASS EA & IEC 61156-5 ed 2.0 HORIZONTAL CABLE

CONDUCTOR DCR: 7.9 Ω/100m (24.0 Ω/Mft) MAX

DCR UNBALANCE: 2% MAX (CONDUCTOR-CONDUCTOR)
4% MAX (PAIR-PAIR)

MUTUAL CAPACITANCE: 56 pF/m NOM

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

CHARACTERISTIC IMPEDANCE: 105 Ω ± 15% (0.772-2 MHz)
100 Ω ± 10% (>2-500 MHz)

INPUT IMPEDANCE: 100 Ω ± 15% (1-100 MHz)
100 Ω ± 22% (>100-200 MHz)
100 Ω ± 32% (>200-500 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

INSERTION LOSS (IL): $1.82\sqrt{f} + .0082f + .25/\sqrt{f}$ dB/100m MAX

NEAR END CROSSTALK (NEXT): $45.3 - 15 \log_{10}(f/100)$ dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS-NEXT): $43.3 - 15 \log_{10}(f/100)$ dB/100m MIN

ATTENUATION TO CROSSTALK RATIO FAR END (ACRF): $31.8 - 20 \log_{10}(f/100)$dB/100m MIN

POWER SUM ATTENUATION TO CROSSTALK RATIO FAR END (PS ACRF): $28.8 - 20 \log_{10}(f/100)$ dB/100m MIN

POWER SUM ALIEN NEAR END CROSSTALK (PS ANEXT): $70.0 - 15 \log_{10}(f/100)$ dB/100m MIN
74.5 dB MIN

POWER SUM ALIEN ATTENUATION TO CROSSTALK RATIO NEAR END (PS AACRN): PSANEXT - IL dB/100m MIN

POWER SUM ALIEN ATTENUATION TO CROSSTALK RATIO FAR END (PS AACRF): $45.7 - 20 \log_{10}(f/100)$ dB/100m MIN
74.5 dB MIN

NOMINAL VELOCITY OF PROPAGATION (NVP): 65%

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)	PS AACRN (dB/100m)	PS AACRF (dB/100m)
	max	min	min	min	min	min	max	min	min	min
1.0	2.1	75.3	73.3	71.8	68.8	20.0	570.0	74.5	72.4	74.5
4.0	3.8	66.3	64.3	59.8	56.8	23.0	552.0	74.5	70.7	73.7
8.0	5.3	61.8	59.8	53.7	50.7	24.5	546.7	74.5	69.2	67.6
10.0	5.9	60.3	58.3	51.8	48.8	25.0	545.4	74.5	68.6	65.7
16.0	7.5	57.2	55.2	47.7	44.7	25.0	543.0	74.5	67.0	61.6
20.0	8.4	55.8	53.8	45.8	42.8	25.0	542.0	74.5	66.1	59.7
25.0	9.4	54.3	52.3	43.8	40.8	24.3	541.2	74.5	65.1	57.7
31.25	10.5	52.9	50.9	41.9	38.9	23.6	540.4	74.5	64.0	55.8
62.5	14.9	48.4	46.4	35.9	32.9	21.5	538.6	73.1	58.2	49.8
100.0	19.0	45.3	43.3	31.8	28.8	20.1	537.6	70.0	51.0	45.7
200.0	27.4	40.8	38.8	25.8	22.8	18.0	536.9	65.5	38.1	39.7
250.0	30.8	39.3	37.3	23.8	20.8	17.3	536.5	64.0	33.2	37.7
300.0	34.0	38.1	36.1	22.3	19.3	16.8	536.3	62.8	28.8	36.2
350.0	36.9	37.1	35.1	20.9	17.9	16.3	536.1	61.8	24.9	34.8
400.0	39.7	36.3	34.3	19.8	16.8	15.9	535.9	61.0	21.3	33.7
450.0	42.3	35.5	33.5	18.7	15.7	15.5	535.8	60.2	17.9	32.6
500.0	44.8	34.8	32.8	17.8	14.8	15.2	535.6	59.5	14.7	31.7
550.0	47.2	34.2	32.2	17.0	14.0	14.9	--	58.9	11.7	30.9
600.0	49.5	33.6	31.6	16.2	13.2	14.7	--	58.3	8.8	30.1
650.0	51.7	33.4	31.1	15.5	12.5	14.4	--	57.8	6.1	29.4
750.0	56.0	32.2	30.2	14.3	11.3	14.0	--	56.9	0.9	28.2

SWEEP TESTED TO 750 MHz; VALUES ABOVE 500 MHz ARE FOR ENGINEERING INFORMATION ONLY.

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