

MASTER SPECIFICATION

GigaLAN[®] CABLE

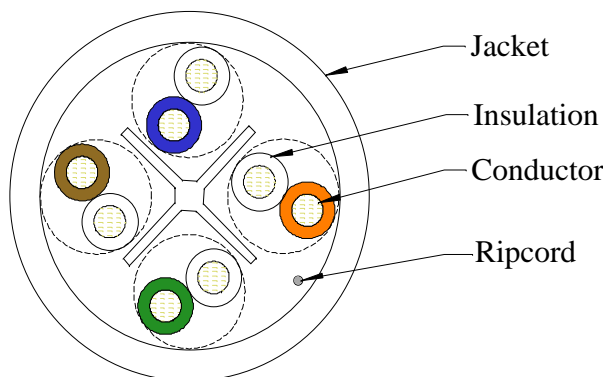
4 PAIR #23 AWG UTP CATEGORY 6E NON-PLENUM

Design Number:
LT42632

DESCRIPTION

UNSHIELDED TWISTED PAIR (UTP) GIGALAN CABLE FOR USE IN HORIZONTAL CABLING SYSTEMS PER ANSI/TIA-568-C AND ISO/IEC 11801 ed 2.2 (2011) CLASS E. THE CABLE EXCEEDS ANSI/TIA-568-C.2 AND 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 FLEXWEB[®] CORE SEPARATOR, 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 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), 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 AND ATM UP TO 4.8 Gbps.

CONSTRUCTION

PRIMARIES: CONDUCTOR: 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

JACKET: NO LEAD FLAME RETARDANT THERMOPLASTIC
JACKET COLOR: SEE TABLE 2
NOMINAL CABLE OD: .255" (6.48 mm)

LISTINGS: C(UL)US CMR, (UL) CMR-LP (0.5A) OR CL3R-LP (0.5A)
UL OR ETL VERIFIED CAT 6

PHYSICAL CHARACTERISTICS

CABLE WEIGHT w/reel: 34 lbs/1000ft (51 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
M57418	LT42633	WHITE
M57419	LT42634	BLUE
M57867	LT45816	PINK
M57420	LT42635	YELLOW
M57422	LT42637	GRAY
M57421	LT42636	GREEN
M57621	LT44150	RED
M57868	LT45817	ORANGE
M57869	LT45818	BLACK
M57870	LT45819	VIOLET

*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.
AI	UPDATE ELECTRICALS & FOOTER	01/06/14	JS
AJ	UPDATE PATENT INFO, WGT & ELECS	12/14/15	JS
AK	UPDATE FOOTER	02/06/17	JS
AL	UPDATE DESC, APPS, LISTINGS, TEMPS, STDS	09/01/17	JS
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Mohawk reserves the right to change any specification in the interest of product enhancement.

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

CONDUCTOR DCR: 8.3 Ω/100m (25.3 Ω/Mft) MAX

DCR UNBALANCE: 5% MAX

MUTUAL CAPACITANCE: 46 pF/m NOM, 49 pF/m MAX

CAPACITANCE UNBALANCE PAIR/GROUND: 33 pF/100m MAX

CHARACTERISTIC IMPEDANCE: 100 Ω ± 7% (10-250 MHz)

INPUT IMPEDANCE: 100 Ω ± 12% (1-100 MHz)
 100 Ω ± 15% (>100-250 MHz)

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

INSERTION LOSS: $1.68\sqrt{f} + .012f + .20/\sqrt{f}$ dB/100m MAX

NEAR END CROSSTALK (NEXT): 51.3 – 15 log₁₀(f/100) dB/100m MIN

POWER SUM NEAR END CROSSTALK (PS-NEXT): 49.3 – 15 log₁₀(f/100) dB/100m MIN

EQUAL LEVEL FAR END CROSSTALK (ELFEXT): 34.8 – 20 log₁₀(f/100) dB/100m MIN

POWER SUM EQUAL LEVEL FAR END CROSSTALK (PS-ELFEXT): 32.8 – 20 log₁₀(f/100) dB/100m MIN

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

DELTA DELAY (SKEW): 45 ns/100m MAX (10-250 MHz)

NOMINAL VELOCITY OF PROPAGATION (NVP): 68%

WHERE f = FREQUENCY IN MHz from .772 to 250 MHz,
 except for DELAY, ELFEXT and PS-ELFEXT from 1 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)	DELAY (ns/100m)
	avg	max	avg	min	min	avg	min	min	min	min	min	max
.772	1.6	1.7	93	83.0	81.3	86	81.0	79.3	-	-	-	-
1.0	1.8	1.9	91	81.3	79.4	84	79.3	77.4	74.8	72.8	20.0	570
4.0	3.3	3.5	82	72.3	68.8	75	70.3	66.8	62.8	60.8	23.0	552
8.0	4.7	4.9	78	67.8	62.9	71	65.8	60.9	56.7	54.7	24.5	547
10.0	5.2	5.5	76	66.3	60.8	69	64.3	58.8	54.8	52.8	25.0	545
16.0	6.7	7.0	73	63.2	56.2	66	61.2	54.2	50.7	48.7	25.0	543
20.0	7.4	7.8	72	61.8	54.0	65	59.8	52.0	48.8	46.8	25.0	542
25.0	8.3	8.7	70	60.3	51.6	63	58.3	49.6	46.8	44.8	25.0	541
31.25	9.3	9.8	69	58.9	49.1	62	56.9	47.1	44.9	42.9	24.3	540
62.5	13.4	14.1	64	54.4	40.3	57	52.4	38.3	38.9	36.9	22.2	539
100.0	17.1	18.0	61	51.3	33.3	54	49.3	31.3	34.8	32.8	20.8	538
155.0	21.7	22.8	58	48.4	25.7	51	46.4	23.7	31.0	29.0	19.5	537
200.0	24.9	26.2	57	46.8	20.6	50	44.8	18.6	28.8	26.8	18.7	537
250.0	28.1	29.6	55	45.3	15.8	48	43.3	13.8	26.8	24.8	18.0	536
300.0	31.1	32.7	54	44.1	11.4	47	42.1	9.4	25.3	23.3	17.5	536
350.0	33.8	35.6	53	43.1	7.5	46	41.1	5.5	23.9	21.9	17.0	536
400.0	36.5	38.4	52	42.3	3.9	45	40.3	1.9	22.8	20.8	16.6	536
500.0	41.4	43.6	51	40.8	-	44	38.8	-	20.8	18.8	15.9	536
550.0	43.7	46.0	50	40.2	-	43	38.2	-	20.0	18.0	12.9	536
600.0	46.0	48.4	50	39.6	-	43	37.6	-	19.2	17.2	12.7	535
650.0	48.1	50.6	49	39.1	-	42	37.1	-	18.5	16.5	12.4	535
750.0	52.3	55.0	48	38.2	-	41	36.2	-	17.3	15.3	12.0	535

SWEEP TESTED TO 750 MHz; VALUES ABOVE 250 MHz ARE FOR ENGINEERING INFORMATION ONLY.



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