



GIGALAN CAT.6 U/UTP 23AWGx4P - LSZH (EXP)

Product Type LAN Cable

Product Family GigaLan

Construction RoHS-2 Compliant

Category 6

U/UTP (unshielded)

LSZH

General Characteristics

Features Solid bare copper conductors insulated with thermoplastics polyolefin. The conductors are twisted in pairs. Outside jacket of LSZH (Low smoke zero halogen) compound.

Installation Environment Internal

Operation Environment Non heavy

Compatibility FCS products

Applications

1. Exceeds physical and electrical requirement of ANSI/TIA/EIA-568C.2 standard.
2. The cable is in accordance with RoHS directives (Restriction of Hazardous Substances)
3. It can be used with the following network standards
 - c. GIGABIT ETHERNET, IEEE 802.3ab 1000 baseT, IEEE 802.3an 2006;
 - b. 100BASE-TX, IEEE 802.3u, 100 Mbps;
 - c. 100BASE-T4, IEEE 802.3u, 100 Mbps;
 - d. 100vg-AnyLAN, IEEE802.12, 100 Mbps;
 - e. ATM -155 (UTP), AF-PHY-0015.000 and AF-PHY-0018.000, 155/51/25 Mbps;
 - f. TP-PMD, ANSI X3T9.5, 100 Mbps;
 - g. 10BASE-T, IEEE802.3, 10 Mbps;
 - h. TOKEN RING, IEEE802.5, 4/16 Mbps;
 - i. 3X-AS400, IBM, 10 Mbps;
 - j. Compatible whit RJ-45 Cat.6 male conector;
 - k. TSB-155
 - l. ATM LAN 1.2 Gbit/s, AF-PHY 0162.000 2001;

Standards Compliance

ANSI/TIA-568-C.2, ISO/IEC 11801, IEC 61156-5, IEC 60332, IEC 60754-2 (Acidity of smoke), IEC 61034-2 (smoke density) and compliance to CENELEC/EN 50288-6-1, EN 50173 EN 60332-1-2 and EN 60754-1.

NMX-I-248-NYCE-2008

Certifications

ETL Verified	100634511CRT-001c
ETL 4 connections	3073041
ETL 6 connections	100667694CRT-001c

Constructive characteristic

Conductor	Solid bare copper with nominal diameter 23AWG.		
Insulation	High density Polyethylene. Nominal diameter 1.0mm		
Insulation Resistance	10000 MΩ/km		
Number of Pairs	4 pairs, 23AWG		
Pair	All pairs are twisted in such way to reduce Crosstalk effects. Each conductor is identified according with the following color sequence.		
Color Codes	Pair	Insulation Color "A"	Insulation Color "B"
	1	Blue	White / Blue Stripe
	2	Orange	White / Orange Stripe
	3	Green	White / Green Stripe
	4	Brown	White / Brown Stripe
Cabling	All pairs are assembled, making the core cable. Will be used a central member (Cross web) made of a thermoplastic material to separate all 4 pairs.		
Shield	Unshielded (U/UTP).		
Sheath	LSZH compound, flame retardant, suitable to meet the cable flame rating class		
Nominal Diameter	6.0mm		
Color	Grey, Blue, Green or Orange. Other colors under consult.		
Cable Weight	42 kg/km		
Physical Characteristics			
Cable Flammability Rating	LSZH: Cable shall comply with IEC 60332 Part 3-25: "Test for vertical flame spread of vertically mounted bunched wires or cables". LSZH-1: Cable shall comply with IEC 60332 Part 1-2: "Test for vertical flame propagation for a single insulated wire or cable".		
Installation Temperature	0°C up to 50°C		
StorageTemperature	-20°C up to 70°C		
Operation Temperature	-20°C up to 60°C		
Eletrical Characteristics			
Maximum Unbalance Resistance	5%		
Conductor Max. DC Resistance at 20°C	93.8 Ω/km		
Maximum Mutual Capacitance 1kHz	56 pF/m		

Max. Unbalance 3.3 pF/m
Capacitance Pair x Ground

Characteristic Impedance 100±15% Ω (1 up to 250 MHz)

Dielectric strength 2500 VDC/3s

NVP 68%

**Transmission
Performance**

Freq. (MHz)	Return Loss (dB)		Insertion Loss (dB/100m)		NEXT (dB)		PSNEXT (dB)	
	Min	Typical	Max	Typical	Min	Typical	Min	Typical
1	20.0	35.0	2.0	1.5	75.3	94.0	72.3	88.3
4	23.0	35.7	3.8	3.2	66.3	86.2	63.3	80.0
8	24.5	38.7	5.3	4.6	61.8	81.9	58.8	75.2
10	25.0	37.6	6.0	5.2	60.3	80.9	57.3	74.1
16	25.0	41.9	7.6	6.7	57.2	76.7	54.2	70.9
20	25.0	38.4	8.5	7.5	55.8	74.5	52.8	69.1
25	24.3	39.1	9.5	8.5	54.3	73.6	51.3	67.7
31.25	23.6	38.5	10.7	9.5	52.9	71.5	49.9	65.4
62.5	21.5	35.9	15.4	13.8	48.4	70.2	45.4	62.7
100	20.1	31.9	19.8	17.8	45.3	66.9	42.3	61.4
200	18.0	28.4	29.0	26.1	40.8	62.4	37.8	56.5
250	17.3	26.5	32.8	29.3	39.3	60.1	36.3	53.2
300		25.2		32.5		57.5		51.6
350		23.9		35.3		55.8		49.5
400		23.9		38.0		53.0		47.6
500		24.9		42.8		52.0		48.5
550		25.7		45.0		50.0		47.5
600		24.0		47.0		48.0		46.1

Freq. (MHz)	ACRF (dB)		PSACRF (dB)		Delay Skew Max	Propagation Delay Max
	Min	Typical	Min	Typical		
1	68.0	89.8	65.0	82.5	45ns/100m	570.0
4	56.0	78.3	53.0	70.3		552.0
8	49.9	71.8	46.9	64.6		547.0
10	48.0	69.5	45.0	62.4		545.0
16	43.9	65.5	40.9	58.6		543.0
20	42.0	64.2	39.0	57.0		542.0
25	40.0	62.2	37.0	55.0		541.0
31.25	38.1	59.9	35.1	52.6		540.0
62.5	32.1	53.3	29.1	45.6		539.0
100	28.0	49.2	25.0	40.6		538.0
200	22.0	42.2	19.0	33.8		537.0
250	20.0	39.7	17.0	31.7		536.0
300		36.8		29.3		
350		32.7		26.0		
400		29.8		24.4		
500		25.3		19.5		
550		23.3		17.6		
600		19.6		13.7		

Note: Cable measurements performed on cable samples of 100m (328ft) removed from the reel or packing, laid out along a non-conducting surface supported in aerial spans in accordance with ANSI/TIA 568-B.2-1.

Marking

**FURUKAWA GIGALAN CAT 6 U/UTP 23AWGX4P ZZZZ ETL VERIFIED TO TIA-568-C.2 CAT 6
YAAMMDDHHmm {1}m**

Where:

{1} - Decreasing sequential length marking in meters starting from 305m to 001m or 1000m to 0001m

Traceability of product:

Y- Manufacturing process

AAMMDDHHmm: AA - year; MM - Month; DD - Day; HH - Hour; mm - minute.

ZZZZ: flame rating class LSZH 75°C (when meet IEC 60332-3) or LSZH-1 60°C (for IEC60332-1).

Package

Carton with 305m and/or wooden spool or plywood spool with 1000m