



## GIGALAN CAT 6 U/UTP 23AWGx4P - RoHS

**Product Type** LAN Cable

**Product Family** GigaLan

**Construction** RoHS Compliant

Category 6

U/UTP

PVC (CM/CMR)

### General Characteristics

**Features** 4 pairs twisted cable, using solid bare copper, insulated with a special compound. External jacket using a PVC flame retardant material in according to RoHS Compliance (Restriction of Hazardous Substances).

**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, UL 444, IEC 60332 and compliance to CENELEC/EN 50288-6-1 and EN 50173.

NMX-I-248-NYCE-2008 (CMR)

### Certifications

UL Listed	E160837
ETL Listed	3050027
ETL Verified	J20021181
ETL 4 connections	3073041
ETL 6 connections	100667694CRT-001c
Anatel	00498-13-00256

**Constructive characteristic**

<b>Conductor</b>	Solid bare copper with nominal diameter 23AWG.
<b>Insulation</b>	High density Polyethylene. Nominal diameter 1.0mm
<b>Insulation Resistance</b>	10000 MΩ.km
<b>Number of Pairs</b>	4 pairs, 23AWG
<b>Pair</b>	All pairs are twisted in such way to reduce Crosstalk effects. Each conductor is identified according with the following color sequence.

<b>Color Codes</b>	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

<b>Cabling</b>	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.
<b>Shield</b>	Unshielded (U/UTP).
<b>Sheath</b>	Made of flame retardant PVC compound.
<b>Nominal Diameter</b>	6.0mm
<b>Color</b>	Blue, Grey, Yellow, Light Brown, White, Orange, Brown, Black, Red, Green.
<b>Cable Weight</b>	42 kg/km

**Cross Section**

**Physical Characteristics**

<b>Cable Flammability Rating</b>	CM: standard UL 1581-Vertical tray Section 1160 (UL1685) CMR: standard UL 1666 (Riser)
<b>Installation Temperature</b>	0°C up to 50°C
<b>Storage Temperature</b>	-20 °C up to 80 °C
<b>Operation Temperature</b>	-20°C up to 60°C

**Electrical Characteristics**

<b>Maximum Unbalance Resistance</b>	5%
<b>Conductor Max. DC Resistance at 20°C</b>	93.8 Ω/km

**Maximum Mutual Capacitance 1kHz** 56 pF/m

**Max. Unbalance Capacitance Pair x Ground** 3.3 pF/m

**Characteristic Impedance** 100±15% Ω

**Maximum Propagation Delay** 545ns/100m @ 10MHz

**Maximum Delay Skew** 45ns/100m

**Dielectric strength** 2500 VDC/3s

**NVP** 68%

Transmission Performance	Freq. (MHz)	IL, dB		NEXT, dB		PSNEXT, dB		ACRF, dB		PSACRF, dB		RL, dB	
		TIA Maximum	Typical	TIA Minimum	Typical	TIA Minimum	Typical	TIA Minimum	Typical	TIA Minimum	Typical	TIA Minimum	Typical
	1	2.0	1.5	74.3	94	72.3	88.3	67.8	89.8	64.8	82.5	20	35
	4	3.8	3.2	65.3	86.2	63.3	80	55.8	78.3	52.8	70.3	23	35.7
	8	5.3	4.6	60.8	81.9	58.8	75.2	49.7	71.8	46.7	64.6	24.5	38.7
	10	6.0	5.2	59.3	80.9	57.3	74.1	47.8	69.5	44.8	62.4	25	37.6
	16	7.6	6.7	56.2	76.7	54.2	70.9	43.7	65.5	40.7	58.6	25	41.9
	20	8.5	7.5	54.8	74.5	52.8	69.1	41.8	64.2	38.8	57	25	38.4
	25	9.5	8.5	53.3	73.6	51.3	67.7	39.8	62.2	36.8	55	24.3	39.1
	3125	10.7	9.5	51.9	71.5	49.9	65.4	37.9	59.9	34.9	52.6	23.6	38.5
	62.5	15.4	13.8	47.4	70.2	45.4	62.7	31.9	53.3	25.9	45.6	21.5	35.9
	100	19.8	17.8	44.3	66.9	42.3	61.4	27.8	49.2	24.8	40.6	20.1	31.9
	200	29	26.1	39.8	62.4	37.8	56.5	21.8	42.2	18.8	33.8	18	28.4
	250	32.8	29.3	38.3	60.1	36.3	53.2	19.8	39.7	16.8	31.7	17.3	26.5
	300		32.5		57.5		51.6		36.8		29.3		25.2
	350		35.3		55.8		49.5		32.7		26		23.9
	400		38		53		47.6		29.8		24.4		23.9
	500		42.8		52		48.5		25.3		19.5		24.9
	550		45		50		47.5		23.3		17.6		25.7
	600		47		48		46.1		19.6		13.7		24.0

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**

For CM cables:  
**FURUKAWA GIGALAN U/UTP 23 AWG x 4P ROHS COMPLIANT NBR 14703 ANATEL 00498-13-00256 --- E160837 CM 75°C C(UL)US ETL VERIFIED TO TIA-568-C.2 CATEGORY 6 --- YAAMMDDHHmm {1}**

For CMR cables:  
**FURUKAWA GIGALAN U/UTP 23 AWG x 4P ROHS COMPLIANT NBR 14703 ANATEL 00498-13-00256 --- E160837 CMR 75°C C(UL)US ETL VERIFIED TO TIA-568-C.2 CATEGORY 6 --- YAAMMDDHHmm {1}**

**Where:**

**{1}** - Decreasing length (305 - 001 m)

**Z**- Making Process

**YYMMDDHHmm**: YY-Year, MM-Month, DD - Day, HH - Hour, mm - minute

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**Package**

**Package Type** Reelex pull box package

**Standard Length** 305 meters or in reels.

**Dimension**

**Observations**

- Attend 802.3 at PoE+ and 802.3 af.
- Comply with NEC Article 800.
- Part Numbers: 23400021; 23400022; 23400022; 23400058; 23400066; 23400070 and 23400100.

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