GIGALAN AUGMENTED CABLE CAT6A F/UTP 23AWGX4P LSZH

Product Type	LAN Cable
Product Family	GigaLan Augmented

Construction	RoHS Compliant
	Category 6A
	F/UTP
	LSZH

General Characteristics

Features	4 pairs twisted cable, using solid bare copper, 23 AWG, insulated with a special compound. External jacket using LSZH in accordance with IEC60332-3.
Installation Environment	Internal
Operation Environment	Non heavy
Compatibility	FCS products
Applications	1. Exceeds physical and electrical requirements of ANSI/TIA-568-C.2 2. Cable according with RoHS directive (Restriction of Hazardous Substances) 3. Can be used with all of the following protocols. a) 10GIGABIT ETHERNET, IEEE 802.3an, 10 Gbps; b) GIGABIT ETHERNET, IEEE 802.3z, 1000 Mbps; c) 100BASE-TX, IEEE 802.3u, 100 Mbps; d) 100BASE-T4, IEEE 802.3u ,100 Mbps; e) 100vg-AnyLAN, IEEE802.12, 100 Mbps; f) ATM -155 (UTP), AF-PHY-OO15.000 y AF-PHY-0018.000, 155/51/25 Mbps; g) TP-PMD , ANSI X3T9.5, 100 Mbps; h) 10BASE-T, IEEE802.3, 10 Mbps; i) TOKEN RING, IEEE802.5 , 4/16 Mbps; j) 3X-AS400, IBM, 10 Mbps; k) Support POE+ (in accordance with IEEE 802.3at e TSB-184) 4. Solutions: Data Center, Commercial Building, Government, Financial, Health, Education.
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 50288-10-1 and EN 50173.

Certifications		
ETL Listed CMR/LSZH	G101002425	
ETL Verified	3130563	
ETL 4 connections	101795378CRT-001a	
Anatel	01562-10-00256	
ABNT EcoLabel	199.004	
Product code	2337XXXX XXXX = serial number	
CPR	Dca	

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	Conductor "A"	Conductor "B"
1	White	Blue
2	White	Orange
3	White	Green
4	White	Brown

The color pattern above references the ANSI\TIA-568-C.2 item 5.3.3, which presents two configuration options possible, the Furukawa in this specification illustrates only one.

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.

Ripcord
With ripcord

Shield
Over the cable core is used an aluminum foil tape

Sheath
LSZH compound, flame retardant, suitable to meet the cable flame rating class

Nominal Diameter
7.5 mm

Drain Wire
26 AWG wire in contact with the foil.

Color
Grey, Blue, Green or Orange. Other colors under consult.

Cable Weight
58 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	0ºC up to 50ºC
StorageTemperature	-20° up to 60ºC
Operation Temperature	-20ºC up to 60ºC
	> 400 N
Eletrical Characteristics	
Maximum Unbalance Resistance	4%
Conductor Max. DC Resistance at 20ºC	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 (1 up to 500 MHz)
Maximum Propagation Delay	545ns/100m
Maximum Delay Skew	45ns/100m

Dieletric strength	Between conductors	Between each conductor and shield
	2500 VDC/3s	2500 VDC/2s

NVP	68%

Transmission Performance

Freq.	IL (dB/100m)		NEXT (dB)		PSNEXT (dB)		ACRF (dB)	
(MHz)	TIA/EIA Max.	Typical	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical
1	2.1	1.6	74.3	104.6	72.3	91.4	67.8	100.8
4	3.8	3.2	65.3	93.8	63.3	80.2	55.8	95.6
8	5.3	4.8	60.8	91.3	58.8	78	49.7	89.4
10	5.9	5.3	59.3	95.6	57.3	73.8	47.8	87.4
16	7.5	6.7	56.2	79.9	54.2	72.6	43.7	80.8
20	8.4	7.7	54.8	82.1	52.8	71.8	41.8	77.9
25	9.4	8.7	53.3	85.9	51.3	72.8	39.8	76.6
31.25	10.5	9.6	51.9	75.3	49.9	69.4	37.9	74.6
62.5	15	13.8	47.4	68.6	45.4	60.8	31.9	64
100	19.1	17.6	44.3	66.5	42.3	61	27.8	60.3

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200	27.6	25.2	39.8	63.3	37.8	56.2	21.8	57.5
250	31.1	28.4	38.3	59.5	36.3	53.8	19.8	50.5
300	34.3	31.1	37.1	59.2	35.1	51.9	18.3	49.8
400	40.1	36.3	35.3	57.6	33.3	49.6	15.8	49.7
500	45.3	40.7	33.8	54.4	31.8	48.6	13.8	43.2
550	-	41.0	-	42.2	-	40.2	-	36.3
600	-	42.5	-	34.0	-	33.2	-	35.5
700	-	46.3	-	32.0	-	30.0	-	31.6

Freq.	PSACRF (dB)		RL (dB)		PSANEXT (dB)		PSAACRF (dB)	
(MHz)	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical	TIA/EIA Min.	Typical
1	64.8	93.8	20	35.4	67	90	67	88
4	52.8	88.4	23	37.2	67	90.8	66.2	87.3
8	46.7	81.8	24.5	42.3	67	92.8	60.1	87
10	44.8	77.7	25	36.9	67	92.4	58.2	87.1
16	40.7	71.3	25	40.5	67	91.9	54.1	84.7
20	38.8	69.6	25	39.9	67	85.3	52.2	79.3
25	36.8	67.4	24.3	38.2	67	86.5	50.2	77.8
31.25	34.9	65.8	23.6	39.5	67	86.2	48.3	76.9
62.5	28.8	58.4	21.5	31.3	65.6	85.6	42.3	72.3
100	24.8	53.7	20.1	31.2	62.5	86.6	38.2	68.9
200	18.8	50.8	18	30.2	58	83.6	32.2	60.5
250	16.8	44.8	17.3	26.2	56.5	83.9	30.2	56.9
300	15.3	44.2	16.8	29.5	55.3	81.8	28.7	52.8
400	12.8	42.3	15.9	26.5	53.5	79.7	26.2	46.8
500	10.8	35.4	15.2	21.8	52	76.7	24.2	38.6
550	-	34.6	-	20.4	-	74.0	-	33.0
600	-	34.0	-	17.4	-	72.9	-	30.8
700	-	30.1	-	15.6	-	70.9	-	26.9

Cable Measurements are made at 20 °C in 100 meters cables, pulled out of their packages and released on a non-conductive surface as described in ANSI/TIA-568-C.2.
Alien Crosstalk measurement made at 20 °C in seven 100 meters samples (Six around one configuration) according to ANSI/TIA-568-C.2.

Marking

FURUKAWA GIGALAN AUGMENTED CAT 6A F/UTP 23AWGX4P LSZH - PoE++ (0.5A) 75°C - NBR 14703 ANATEL 01562-10-00256 ETL VERIFIED TO TIA-568-C.2 CAT 6A YAAMMDDHHmm {1}m

Where:

{1} - Decreasing metrical sequential

Traceability

Y- Manufacturing Process

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

Package

Plywood reel or wooden reel

Package Type

Plywood reel suitable for 305 and 1000 meters of cable.

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Observations

Cable recommended for HDBase-T applications.
This cable allows the use of global HDBase-T standard for ultra-high definition audio and video transmission, using internet, control and power up to 100 W.