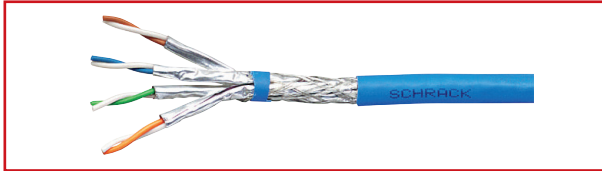


DATA SHEET: S/FTP CABLE CAT.7 AWG23 1200 MHz



ORDERNUMBER:
HSEKP423HQ

APPLICATION

- Installation cable for generic cabling systems.
- Support current and future applications requiring Class D to F (e.g. 10GBase-T, 1000Base-T, 100Base-TX, ATM) as well as VoIP, PoE
- Versions: Simplex

GENERAL STANDARDS

- ISO/IEC 11801, EN 50173-1
- Better than category 7 according to IEC 61156-5, EN 50288-4-1
- Much better than IEEE 802.3an 10 Gigabit Ethernet

CONSTRUCTION AND DIMENSIONS

- Conductor: Simplex: 4 individual screened pairs, all twisted together
- Conductor material: Solid bare copper AWG23/1 (0,58 mm)
- Insulation material: Foamed polyethylene
- Nominal diameter over insulation: 1,45 mm
- Pair-Foil: Laminated aluminium polyester. Aluminium facing outside (PiMF)
- Overall Braid: Solid, tinned copper, coverage $\geq 30\%$
- Ripcord: Nylon
- Jacket: LSOH, FRNC according to:
IEC 61034-1/2, EN 50268-1/2
IEC 60754-1/2, EN 50267-1/2
IEC 60332-1, EN 60332-1
- Outside diameter: Simplex: 7,2 mm \pm 0,3 mm
- Jacket color: Blue, RAL 5015
- Color code pairs:
Pair 1 White / Blue
Pair 2 White / Orange
Pair 3 White / Green
Pair 4 White / Brown

TECHNICAL DATA

- Temperature range during operating: -30°C to +60°C
- Temperature range during installation: 0°C to +50°C
- Min. bend radius during operation: Simplex: 29 mm
- Min. bend radius during installation: Simplex: 58 mm
- Max. pulling strength: Simplex: 110 N
- Burning load: Simplex: 500 kJ/m
- Total cable weight: Simplex: 52 kg/km
- Max. operating voltage: < 72V D.C. and < 50 A.C.
- Max. continuous current per conductor (25°C): 1,5 A

■ ELECTRICAL CHARACTERISTICS AT 20°C ACCORDING TO IEC 61156-5

AT LOW FREQUENCY AND D.C.

	Specification	Unit
• D.C. resistance conductor	< 9,5	Ω/100m
• Resistance unbalance: within a pair / between pairs	< 2 / < 4	%
• D.C. insulation resistance: conductor – conductor and conductor – screen	≥ 5000	MΩ.km
• Dielectric strength conductor – conductor (2 sec)	2,5	kV D.C.
• Dielectric strength conductor – screen (2 sec)	2,5	kV D.C.
• Mutual capacitance	< 56	nF/km
• Capacitance unbalance pair to ground	< 1600	pF/km

AT HIGH FREQUENCY

	Freq. (MHz)	Specification	Unit
• NVP (Nominal velocity of propagation)	4 – 600	0,76	c
• Skew	4 – 600	≤ 25	ns/100m
• Propagation delay	4 – 600	≤ 534 + 36/Vf	ns/100m
• Attenuation	4 – 600	≤ 1,8*Vf+0,01*f+0,20/Vf	dB
• TCL, level 1 (Transverse conversion loss)	1 – 250	> 40 – 10*log (f)	dB
• ELTCL (Equal level transverse conversion loss)	1 – 30	> 35 – 20*log (f)	dB
• NEXT (Near end cross talk)	4 – 600	≥ 102,4-15*log (f) (78 max.)	dB
• PS NEXT (Power sum near end cross talk)	4 – 600	≥ 99,4-15*log (f) (75 max.)	dB
• ACR-N (Attenuation cross talk ratio)	4 – 600	NEXT – Attenuation	dB
• PS ACR-N (Power sum attenuation cross talk ratio)	4 – 600	PSNEXT – Attenuation	dB
• ACR-F (Equal level far end cross talk)	4 – 600	≥ 95,3-20*log (f) (78 max.)	dB
• PS ACR-F (Power sum equal level far end cross talk)	4 – 600	≥ 92,3-20*log (f) (75 max.)	dB
• Input impedance open / short (Zo/s)	4 – 600	100 ± (see table)	Ω
• RL (Return loss)	4 ≤ f ≤ 10	≥ 20 + 5*log (f)	dB
	10 ≤ f ≤ 20	≥ 25	dB
	20 ≤ f ≤ 600	≥ 25-7*log (f/20)	dB
• Coupling attenuation (type II)	30 – 100	≥ 55	dB
	100 – 1000	≥ 55-20*log (f/100)	dB
• Transfer impedance (ZT, grade 2)	1	< 50	mΩ/m
	10	< 100	mΩ/m
	30	< 200	mΩ/m
	100	< 1000	mΩ/m

REFERENCE STANDARD: IEC 61156-5

Frequency	1*	4	10	16	31,3	62,5	100	125	200	300	600	1000*	1200*	MHz
Attenuation	2	3,7	5,9	7,4	10,4	14,9	19	21,4	27,5	34,2	50,1	66,9	74,4	dB/100m
NEXT	78	78	78	78	78	75,5	72,4	70,9	67,9	65,2	60,7	57,4	59,2	dB/100m
PS NEXT	75	75	75	75	75	72,5	69,4	67,9	64,9	62,2	57,7	54,4	56,2	dB/100m
ACR-N	76	74,3	72,1	70,6	67,6	60,6	53,4	49,6	40,4	31,1	10,6	-9,5	-15,2	dB/100m
PS ACR-N	73	71,3	69,1	67,6	64,6	57,6	50,4	46,6	37,4	28,1	7,6	-12,5	-18,2	dB/100m
ACR-F	78	78	75,3	71,2	65,4	59,4	55,3	53,4	49,3	45,8	39,7	35,3	33,7	dB/100m
PS ACR-F	75	75	72,3	68,2	62,4	56,4	52,3	50,4	46,3	42,8	36,7	32,3	30,7	dB/100m
RL	20	23	25	25	23,6	21,5	20,1	19,4	18	17,3	17,3	17,3	17,3	dB/100m

* Limits below 4 MHz are for information only. Values at 1000 MHz and 1200 MHz are for information only.

TYPICAL VALUES

Frequency	1	4	10	16	31,3	62,5	100	125	200	300	600	1000	1200	MHz
Attenuation	1,8	3,3	5,3	6,7	9,4	13,4	17,1	19,3	26,7	30,8	45,5	60,3	67,1	dB/100m
NEXT	103	100	98	97	95	94	93	92	91	90	89	88	87	dB/100m
PS NEXT	100	97	95	94	92	91	90	89	88	87	86	85	84	dB/100m
ACR-N	101	97	93	91	85	81	76	73	64	59	43	28	20	dB/100m
PS ACR-N	98	94	90	88	82	78	73	70	61	56	40	25	17	dB/100m
ACR-F	95	94	93	91	90	87	85	83	77	74	60	50	45	dB/100m
PS ACR-F	92	91	92	88	87	84	82	80	74	71	57	47	42	dB/100m
RL	27	30	32	32	35	33	32	31	30	25	23	21	21	dB/100m

Typical values are for information only.

DESCRIPTION	NVP	COPPERWEIGHT (kg/km)	ORDERNUMBER
S/FTP Cable Cat.7, 4x2xAWG23/1, 1200 MHz, LS0H, blue	76%	25,5	HSEKP423HQ