

**Description**

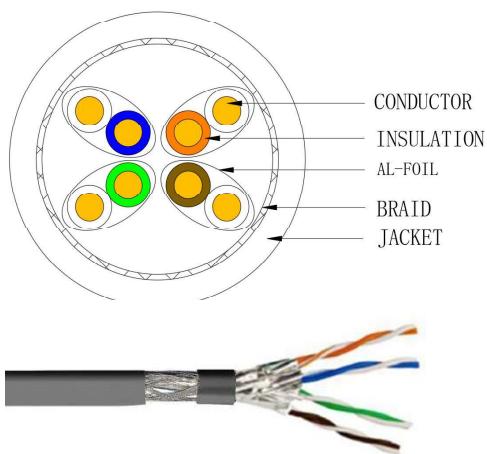
Installation Temperature Range: 0 ~ 50 °C  
 Operating Temperature Range: -20 ~ 75 °C

**Reference Standard**

ISO/IEC 11801, EN 50173, ANSI/TIA-568.2-D  
 IEC 61156-5  
 EN 50288  
 EN 50575  
 EN 50399  
 EN 60332-1-2  
 EN 61034-2  
 EN 60754-2  
 CPR-Dca-S2,d1,a1 verified  
 ROHS 2.0 & REACH Compliant

**Application**

10BASE-T (IEEE 802.3)  
 4/16 Mbps TOKEN RING (IEEE 802.5)  
 100BASE-VG-AnyLAN 100 Mbps TP-PMD  
 (ANSI X3T9.5) 100BASE-T (IEEE 802.3)  
 55/155 Mbps ATM  
 1000BASE-T (Gigabit Ethernet)  
 1.2 Gbps ATM  
 40G BASE-T

**Product figure****Cable Jacket Marking**

CAT8.1 S/FTP 2000MHz 4x2x22AWG/1  
 LSZH CPR(Dca-S2,d1,a1) ISO11801 &  
 EN50173 & ANSI/TIA568.2-D xxxM

**Physical characteristics**

|                               |                                                   |                                                                          |
|-------------------------------|---------------------------------------------------|--------------------------------------------------------------------------|
| Structure                     | Construction                                      | S/FTP                                                                    |
|                               | Number of Pairs                                   | 4 Pairs                                                                  |
| Conductor                     | AWG                                               | 22                                                                       |
|                               | Conductor material                                | 99.99% oxygen-free copper                                                |
|                               | Conductor dimension                               | 1/0.60 ± 0.005 mm                                                        |
| Insulation                    | Insulation material                               | FMPE                                                                     |
|                               | Insulation dimension                              | 1.42 ± 0.05mm                                                            |
|                               | Number colour<br>(Ring or stripe or pure marking) | 1.White & Blue<br>2.White & Orange<br>3.White & Green<br>4.White & Brown |
| Cabling                       | Twisting lay length                               | ≤ 30mm                                                                   |
|                               | Cabling lay length                                | ≤ 200mm                                                                  |
| Filler                        | Filler material                                   | N/A                                                                      |
| Binder                        | Binder material                                   | N/A                                                                      |
| Shield                        | Individual shield & material                      | AL-Foil                                                                  |
|                               | Primary overall shield & material                 | AL -MG braid                                                             |
|                               | Secondary overall shield & material               | N/A                                                                      |
|                               | Shield coverage approx                            | 30%                                                                      |
|                               | Drain wire                                        | N/A                                                                      |
| Outer jacket                  | Jacket material                                   | LSZH                                                                     |
|                               | Jacket thickness nominal                          | 0.50mm                                                                   |
|                               | Overall nominal dimension                         | 7.50 ± 0.30 mm                                                           |
|                               | Jacket rip cord                                   | None                                                                     |
| Mechanical<br>Characteristics | Operating temperature range                       | -20°C ~ +75°C                                                            |
|                               | Bulk cable weight approx                          | -                                                                        |
|                               | Max. recommended pulling tension                  | 110 N                                                                    |
|                               | Min. bend radius (install)                        | 8*O.D.                                                                   |
|                               | Outer jacket tensile strength                     | ≥ 9.0MPa                                                                 |
|                               | Outer jacket elongation                           | ≥ 100%                                                                   |
|                               | Outer jacket aging condition                      | 100°C * 168 hrs                                                          |
|                               | After aging, tensile strength                     | ≥ 70% of Unaging                                                         |
|                               | After aging, elongation                           | ≥ 50% of Unaging                                                         |
|                               | Cold bend (static)                                | No Crack (@ -20° C X 4hrs)                                               |
| Electrical<br>Characteristics | Nom. mutual capacitance                           | ≤ 5.6 nF/100m (@1kHz)                                                    |
|                               | Pair to ground capacitance unbalance              | ≤ 160 pF/100m                                                            |
|                               | Nominal velocity of propagation                   | 72%                                                                      |
|                               | Max. delay skew                                   | 25ns/100m                                                                |
|                               | Max. conductor DC resistance                      | 9.5 Ω /100m(@2°C)                                                        |
|                               | Max. conductor resistance unbalance               | 2%(@ 20°C) within a pair                                                 |
|                               | Min. insulation resistance                        | 5000 MΩ .km                                                              |
|                               | Max. operating voltage - UL                       | 300 V                                                                    |
|                               | Dielectric strength                               | 2.5kV d.c. for 2s                                                        |
|                               | (Conductor/conductor, conductor /screen)          | Or 1.0 kV d.c. for 1 min                                                 |

## Electrical Characteristics

| Frequency | Attenuation | NEXT | PSNEXT | Return loss | ELFEXT | PSELFEXT |
|-----------|-------------|------|--------|-------------|--------|----------|
| (MHz)     | (dB/ 100m)  | (dB) | (dB)   | (dB)        | (dB)   | (dB)     |
| 1         | -           | 78   | 75     | 20.0        | 78.0   | 75.0     |
| 4         | 1.12        | 78   | 75     | 23.0        | 78.0   | 75.0     |
| 8         | 1.57        | 78   | 75     | 24.5        | 78.0   | 75.0     |
| 16        | 2.20        | 78   | 75     | 25          | 76.5   | 73.5     |
| 25        | 2.75        | 78   | 75     | 25          | 72.6   | 69.6     |
| 40        | 3.49        | 78   | 75     | 25.0        | 68.6   | 65.6     |
| 62.5      | 4.37        | 78   | 75     | 23.6        | 64.7   | 61.7     |
| 100       | 5.56        | 75.4 | 72.4   | 22.2        | 60.6   | 57.6     |
| 250       | 8.92        | 69.4 | 66.4   | 19.4        | 52.6   | 49.6     |
| 300       | 9.81        | 68.2 | 65.2   | 18.9        | 51.1   | 48.1     |
| 600       | 14.13       | 63.7 | 60.7   | 16.8        | 45.0   | 42.0     |
| 800       | 16.48       | 61.9 | 58.9   | 15.9        | 42.5   | 39.5     |
| 1000      | 18.58       | 60.4 | 57.4   | 15.2        | 40.6   | 37.6     |
| 1500      | 23.17       | 57.8 | 54.8   | 14.0        | 37.1   | 34.1     |
| 2000      | 27.15       | 55.9 | 52.9   | 13.1        | 34.6   | 31.6     |

| Item No.   | Length(m) | Cable Color  |
|------------|-----------|--------------|
| 21.99.1800 | 100       | Grey RAL7035 |

## Revision history: