# 2XCH 0.5L/1.5 (C-50-2-1), 2XCH 0.5L/1.5 (CA50)

## Coaxial according to CERN specification 461 REV. 6

## Application

The radio-frequency cables described in this chapter are used in transmitter and receiver installations in radio communications as well as in the entire field of commercial radio-frequency technology and electronics.

## Standards

DIN 47264, EN 50117-1, IEC 61196-1

## Flame resistance

gem. IEC 60332-1

## Construction

| | |
|---|---|
| Inner conductor | stranded copper wires, bare (7 x 0.16 mm), diameter 0.48 ± 0.01 mm |
| Insulation | XPE, crosslinked, diameter 1.50 ± 0.05 |
| Outer conductor | copper braid, bare, 95% optical coverage |
| Sheath | FRNC, diameter 2.8 ± 0.1<br>brown, RAL 8017 |
| Printing<br>CERN-Spec 461 Rev. 5 | DRAKA COMTEQ – manufacturing year<br>C-50-2-1 meter marking and batch number |
| Printing<br>CERN-Spec 461 Rev. 6 | DRAKA - manufacturing year<br>CA50 meter marking and batch number |

## Mechanical properties

| | | |
|---|---|---|
| Minimum bending radius | without load | 5 x outer diameter |
| | with load | 10 x outer diameter |
| Temperature | during operation | -30° C to + 70° C |
| | during installation | -15° C to + 55° C |
| Corrosivity | | IEC 60754-2 |

## Electrical properties

at 20°C

| | | |
|---|---|---|
| DC resistance | Inner conductor | 123 Ω/km |
| | Outer conductor | 40 Ω/km |
| Mutual capacitance | | 100 pF/m |
| Velocity ratio | | 67 % |
| Characteristic impedance | 200 MHz | 50 ± 2 |
| Transfer impedance | 10 MHz | ≤ 35 mΩ/m |
| | 100 MHz | ≤ 200 mΩ/m |

# 2XCH 0.5L/1.5 (C-50-2-1), 2XCH 0.5L/1.5 (CA50)

| | | |
|---|---|---|
| Operating voltage | | 2.0 $kV_{rms}$ |
| ***Operating voltage | | 5.0 $kV_{DC}$ |
| Test voltage | Inner/Outer conductor | 5.0 $kV_{rms}$ |
| Partial discharge test | | 2.2 $kV_{rms}$ |
| Insulation resistance | | ≥ 5 GΩ*km |

## Electrical data

at 20°C

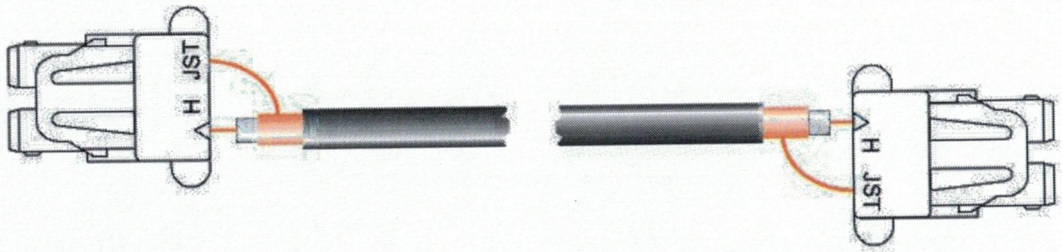
| **Frequency (MHz)** | **Attenuation (dB/100m)** | **Max. power rating (Watts)** (ambient temperature 40°C and max. inner conductor temperature 100°C) | **Return loss (dB)** several peaks are allowed | |
|---|---|---|---|---|
| | nominal | maximum | | |
| 1 | 2.4 | | **Frequency (MHz)** | |
| 10 | 8.6 | | | |
| 100 | 29.5 | | | |
| 200 | 42 | | | |

All further requirements acc. to CERN Spec. 461 Rev. 6

## Technical data

| Product code | Desig-nation | Type | Brand name | Outer diameter mm | Weight kg/km | Standard delivery length m | Drum size *CBS **PWD | Gross weight kg | Copper content | Tensile force N |
|---|---|---|---|---|---|---|---|---|---|---|
| 1002790 | 2xCH | 0.5L/ 1.5 | CA50 | 2.8 | 13.9 | 1000 | 240/97/ 150 | 15.6 | 7.5 | 40 |
| ***1002791 | 2xCH | 0.5L/1.5 | C-50-2-1 red | 3.1 ± 0.1 | 14.3 | 1000 | 370/150/ 160 | 16.0 | 7.5 | 40 |

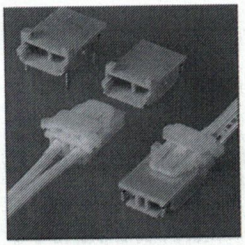
*CBS (cardboard spool)
**PWD (plywood drum)
*** C-50-2-1 with red and reinforced sheath




INFN - Lecce

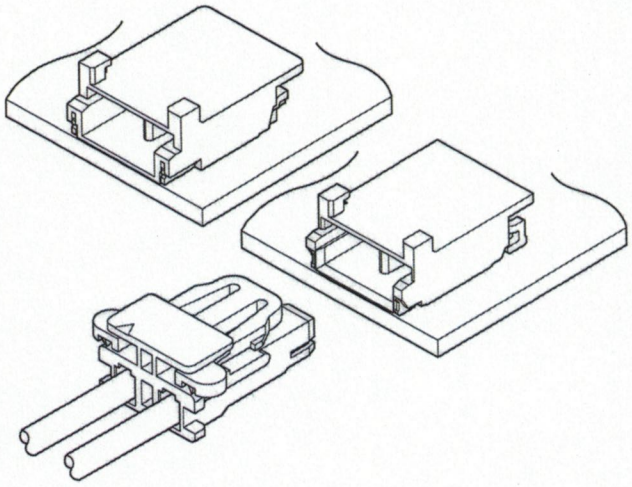
*Cavo HV - DC FE*

04/05/16 - M. Panareo,
Connettori JST BDMR-02VS-2
Cavo Draka HTC-50-2-1



# BD CONNECTOR (3.5mm)

## 3.5mm pitch/Disconnectable Crimp style connectors



***Board-to-wire connector with high withstanding voltage, used for power supply of LCD (Liquid Crystal Display) back light.***

- ***Secure locking mechanism***
- ***High withstand voltage design***
- ***Low profile***
- ***Compatibility***

## Specifications

- Current rating: 1.0A AC, DC (AWG #24)
- Voltage rating: 1,400V AC, DC
- Temperature range: -25˚C to +85˚C (including temperature rise in applying electrical current)
- Contact resistance: Initial value/10m Ω max. After environmental testing/20m Ω max.
- Insulation resistance: 1,000M Ω min.
- Withstanding voltage: 3,000V AC/minute
- Applicable wire: AWG #28 to #24

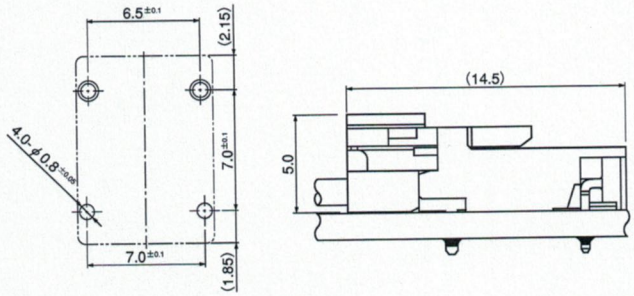
* Compliant with RoHS.
* Refer to "General Instruction and Notice when using Terminals and Connectors" at the end of this catalog.
* Contact JST for details.

## Standards

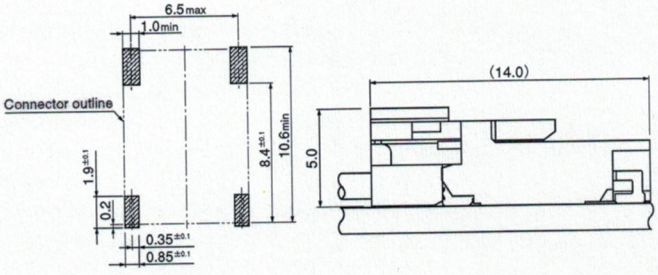
Recognized E60389

## PC board layout (viewed from component side) and Assembly layout

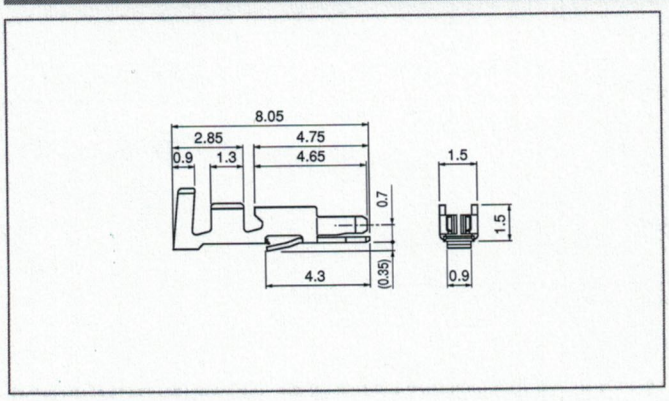
**Through-hole type**




**SMT type**




## Contact



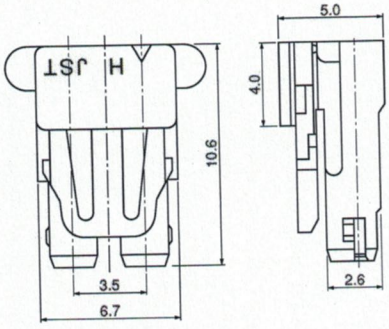

| Model No. | Applicable wire | | InsulationO.D. (mm) | Q'ty / reel |
|---|---|---|---|---|
| | mm² | AWG# | | |
| SBHS-002T-P0.5A | 0.08~0.22 | 28~24 | 0.9~1.7 | 10,000 |

| Material and Finish |
|---|
| Phosphor bronze, tin-plated (reflow treatment) |

***RoHS compliance***
*Note: Contact JST for SBHS-002T-P0.5.*

| Contact | Crimping machine | Applicator | | |
|---|---|---|---|---|
| | | Crimp applicator | Dies | Crimp applicator with dies |
| SBHS-002T-P0.5A | AP-K2N | MKS-L | MK/SBHS-002-05 | APLMK SBHS002-05 |
| | | — | — | — |

## Housing




| Circuits | Model No. | Q'ty / bag |
|---|---|---|
| 2 | **BDMR-02VS-2** | 1,000 |

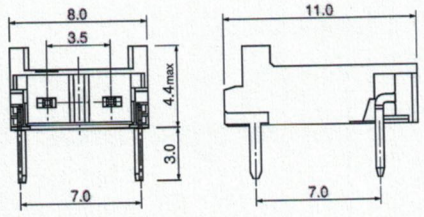
**Material**

PA 66, UL94V-0, natural (white)

***RoHS compliance***

## Header

### Through-hole type



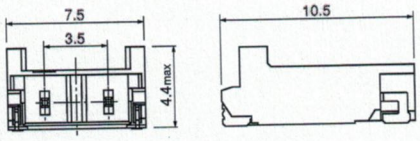

| Circuits | Model No. | Q'ty / box |
|---|---|---|
| 2 | **S02-BDS-3-B** | 1,000 |

**Material and Finish**

Press pin: Brass, Copper-undercoated, tin-plated (reflow treatment)
Wafer: Heat resisting resin, UL94V-0, natural (ivory)
Solder tab: Brass, Copper-undercoated, tin-plated (reflow treatment)

***RoHS compliance*** *This product displays (LF)(SN) on a label.*

### SMT type




| Circuits | Model No. | Q'ty / reel |
|---|---|---|
| 2 | **SM02-BDS-3-TB** | 1,000 |

**Material and Finish**

Post: Brass, Copper-undercoated, tin-plated (reflow treatment)
Wafer: Heat resisting resin, UL94V-0, natural (ivory)
Solder tab: Brass, Copper-undercoated, tin-plated (reflow treatment)

***RoHS compliance*** *This product displays (LF)(SN) on a label.*
*Note: The product listed above is supplied on embossed tape.*