

MiniBridge - Koshiri

SINGLE ROW CONNECTOR

GENERAL



The single row MiniBridge connector Koshiri version with a 1.27 mm pitch offers very high level of mating reliability. The housing geometry avoids damage of the male contacts even in case of improper skewed insertion.

In addition to Koshiri Secure*, the MiniBridge connector fulfils the applicable requirements of LV214 for automotive connectors in IDC technology. Due to its compact design, the cable connector system is ideally suited for space saving connections between PCBs and decentralised function units, particularly in the automotive segment.

Several connection options can be achieved using the straight and angled male and female connectors with 90° and 180° cable outlets.

The male connector has a SMT terminal, the female connector is available with an IDC terminal. The plastic housing is temperature resistant, making the connector suitable for lead-free reflow soldering procedures. Male connectors are supplied in Tape-on-Reel packaging for automatic assembly.

*Requirement for Koshiri Secure:

Signal and current carrying components (contacts) may only be touched by their signal and current carrying opposites (and their catch funnels) during assembly/disassembly. Contact with housing components is structurally not permitted.

Source LV 214

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TECHNICAL DETAILS

| | |
|----------------------------|--|
| Pitch | 1.27 mm |
| No. of Pins | 2, 3, 4, 6, 8, 10, 12 |
| Current rating per contact | up to 8,7 A (depends on cable) |
| Termination | Male connector SMT, female connector IDC |
| Cable | Discrete wire AWG 22/7 |
| Variants | Vertical male connector type P, Right angle male connector type A, Female connector type A with 180° cable outlet, Female connector type P with 90° cable outlet, |
| Interlocking | Female connector red (high vibration/shock load) - unlockable only with a tool, e.g. pen with a round tip |

MATING ADVANTAGES



- Additional tongues at the male and grooves at the female connector allow a pre-alignment and guarantee an exact mating procedure.
- The male connector contact pins are not damaged during improper or skewed mating.

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ELECTRICAL AND MECHANICAL CHARACTERISTICS

TECHNICAL DATA

| Description | Standard | Male Connector SMT Type A and P | Female Connector IDC with Cable Type A und P |
|--------------------------------|-----------------------|---|--|
| Climate category | DIN EN 60068-1 test b | | 55 / 150 / 56 |
| Temperature range | | | -55 / 150 °C |
| Current rating per contact | IEC60512 test 5b | 2-pin version: 20 C° max. 8,7 A 70 C° max. 6,8 A 100 C° max. 5,4 A | depends on cable |
| Air- and creepage distance | | | contact - contact 0.4 mm |
| Operating voltage | IEC 60664 | | The permissible operating voltages depend on the customer application and on the applicable or specified safety requirements. Insulation coordination according to IEC 60664-1 has to be regarded for the complete electrical device. Therefore, the maximum creepage and clearance distances of the mated connectors are specified for consideration as a part of the whole current path. In practice, reductions in creepage or clearance distances may occur due to the conductive pattern of the printed board or the wiring used, and have to be taken into account separately. As a result the creepage and clearance distances for the application may be reduced compared to those of the connector. |
| Dielectric strength | IEC 60512 test 4a | | contact – contact 500 V _{rms} |
| Contact resistance | IEC 60512 test 2a | | < 25 mΩ |
| Insulation resistance | IEC 60512 test 3a | | > 10 ⁴ MΩ |
| Mechanical operation | IEC 60512 test 9a | | 500 mating cycles |
| Pull-out force from the IDC | LV214 PG10 E 10.2 | – | Conductor 0,35 mm ² , 7x0,05 mm ² Mocar 125S: > 53 N Mocar 150C: > 51 N |
| Insertion and withdrawal force | IEC 60512 test 13b | | 1 N per contact |
| Gauge retention force | IEC 60512 test 16e | | > 0,1 N |

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ELECTRICAL AND MECHANICAL CHARACTERISTICS

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| Description | Standard | Male Connector SMT Type A and P | Female Connector IDC with Cable Type A und P |
|-----------------------------------|-----------------|---|--|
| Process-conditions | | | |
| Hand soldering temperature max. | IEC 68-2-20 | 3.5 s at 350 °C | |
| Reflow soldering temperature max. | JEDEC J-STD-020 | > 30 s at 260 °C | |
| Coplanarity | | < 0.1 mm | — |
| Housing Material | | | |
| Plastic material | | LCP | |
| CTI value | IEC 112 | 175 | |
| UL flame rating | | UL 94 V-0 | |
| UL file | | E83005 | |
| Contact Material | | | |
| Base material | | Cu alloy | |
| Mating area | | gold plating | |
| Termination area | | Sn | |
| Environment compatibility | | | |
| Recycling | | no flame-retardant additives, no toxic additives allow easy recycling | |