

INTERNAL CONNECTORS



WORLDWIDE SITES

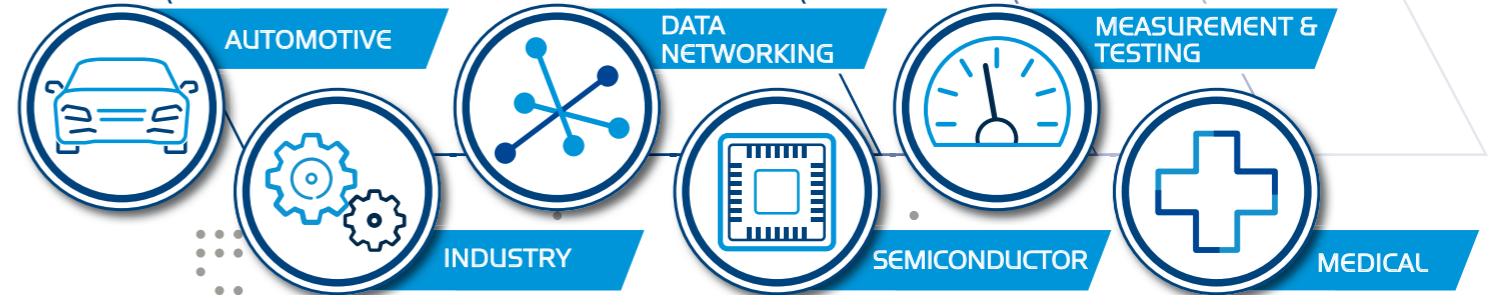


ASIA HQ Tokyo Japan, founded 1956
(Listed in the first section of the Tokyo Stock Exchange)
 Design Center: 1
 Sales Office: 11
 Manufacturing Site: 8 **20**

EMEA HQ Munich Germany, founded 1986
 Design Center: 2
 Sales Office: 5
 Manufacturing Site: 1 **8**

AMERICAS HQ San Jose CA. USA, founded 1983
 Design Center: 1
 Sales Office: 1
 Manufacturing Site: 1 **3**

MARKETS



WORLDWIDE EMPLOYEES



GROUP 2,309 in production
 325 in engineering **3,280**

EMEA 130 in production
 110 in engineering **385**

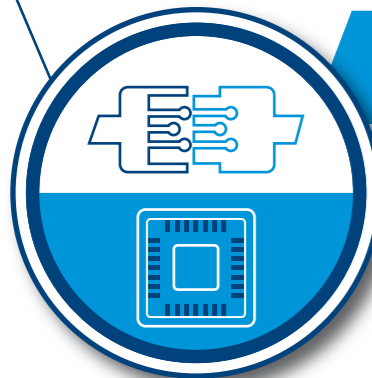
ANNUAL SALES



GROUP
333 Mio. Euro

EUROPE
104.8 Mio. Euro

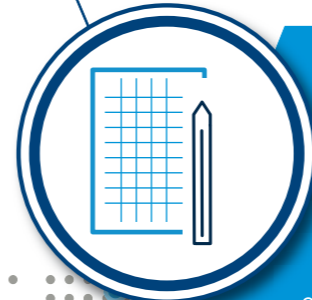
DIVISIONS



CONNECTOR SOLUTIONS
 Standard & customised connectors,
 cable assemblies

TEST SOLUTIONS
 Test & burn-in sockets, test contactors,
 module test adapters, PCB design

DESIGN CENTER



- Complex 3D CAD Construction
- Design FMEA
- Analysis using FEM
 - Structural Mechanics
 - Moldflow for Plastics
 - Thermal Simulation (Flow & Static)
 - Signal Integrity
- PCB Design
- Circuit Simulation
- High Resolution 3D Prototyping
 - Plastics (Photo Polymeric)
 - Metal (LMF Laser Metal Fusion)
- In-house Sample Construction

TEST LABORATORY

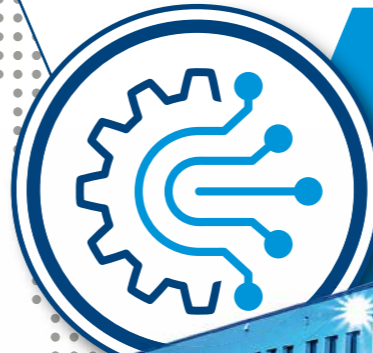


- High Voltage & High Current Testing
- High Frequency Measurements
- Soldering
- SEM (Scanning Electron Microscope)
- EDX (X-Ray spectroscopy)
- Computer Tomography / X-Ray
- X-Ray Fluorescence Spectrometer
- De-Rating

ENVIRONMENT

- Climatic & Temperature Chambers
- Mixed Gas (4 Gases) Testing
- Shock and Vibration Chamber
- Corrosion Tester
- IP Testing
- Bending-Rotation Tester

MANUFACTURING



In our production facility in Frankfurt (Oder) Germany, we manufacture connectors and cable assemblies as well as test contactors on 5,148 m².



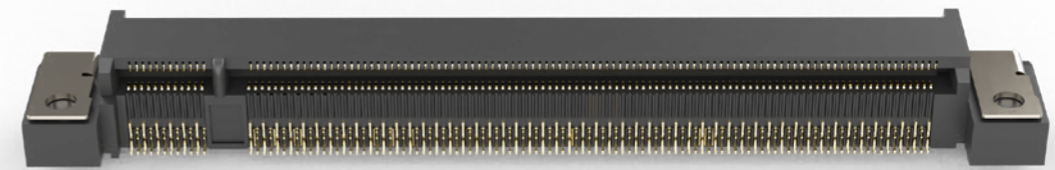


The technical data and specifications of the products shown in this catalogue are for reference only, and apply to products available at the time of catalogue printing in November 2023. Product modification often involves changes to technical data and size, and it is therefore recommended that the buyer request the latest technical data and specifications before placing a purchasing contract.

Future updates to this printed catalogue can be found at <https://www.yamaichi.de/downloads/product-catalogues.html>

SERIES BEC BOARD EDGE CONNECTOR 230 PINS STD. & HIGH-SPEED VERSIONS

The BEC Series for applications with requirements especially for the Automotive Industry. These connectors are able to fulfill tough specifications such as vibration, shock and temperature range. Available in two different versions Standard BEC (page 6) and High-Speed BEC (page 7) with transfer rates up to 5 Gbps



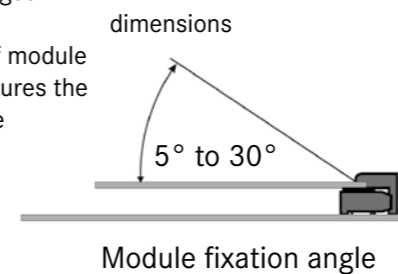
SPECIAL FEATURES

Mechanical Stability

- Connector ensures good contact in applications with vibrations because of the contact shape and form of insulator
- Improved mechanical stability due to enlarged SMT tabs
- Additional fixation of module in the connector ensures the position over lifetime

Tolerance Compensation

- The contact design can compensate tolerances of the module fixation angle and the PCB regardless of thickness within specified



Further Improvements

- Improved EMI protection with additional ground connection
- PCB chamfer on mating area recommended, but not obligatory
- Automatic assembly of module card is possible
- Mating area compatible with Qseven and MXM 1.0 standard cards
- Transferring High-Speed data rates to support USB3.0, HDMI, PCIe2.0 and SATA

General Specifications

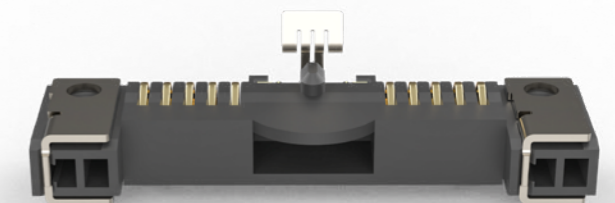
- Number of pins: 230 pins
- Contact type: SMT
- Contact plating:
 - 3 variations possible
 - mating area - Au Flash, 15µ" and 30µ" Au
 - solder area - Au Flash
- 314pin version available on request

POWER CONNECTOR

The optional Power Connector (BECPOW) supports the system with 10 pins, where each pin can transfer 1.5 A. Another function is the fixing support of the module during the mounting. The spring in the middle of the connector holds the module down, so that it is easier to fix with the screws on the flanges.

FEATURES

- Transferring power via 10 x 1.5 A
- For use together with BEC high-speed (BECHS) version screws possible
- Production site TS16949 certified
- Supporting assembly of module through additional spring
- Additional fixation of the module with



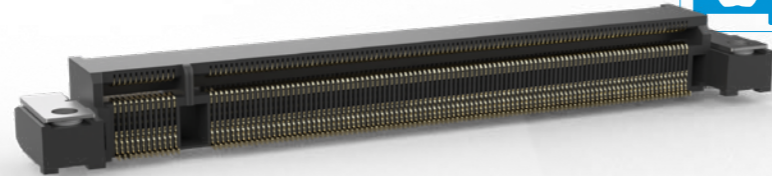
more info on page 7



BEC BOARD EDGE CONNECTOR 230 PINS (SMT)

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 250 MΩ at 500 V DC |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 40 mΩ max. |
| Current Rating: | 0.5 A |
| Voltage Rating: | 50 V DC |
| Operating Temp. Range: | -40°C to +85°C |
| Mating Cycles: | 30 times |



FEATURES

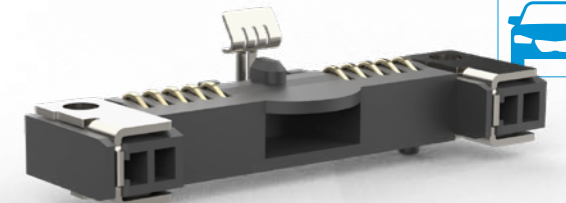
- Contacts designed to follow and balance the PCB regardless of the thickness (within tolerance)
- Fixation designed to offer mechanical stability
- Improved EMI connection with additional ground connection
- PCB chamfer on mating area could be omitted
- Mating area compatible with Qseven and MXM 1.0 standard cards

HIGH SPEED

BECPOW BOARD EDGE POWER CONNECTOR 10 PINS (SMT)

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 250 MΩ at 500 V DC |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 40 mΩ max. |
| Current Rating: | 0.5 A |
| Voltage Rating: | 50 V DC |
| Operating Temp. Range: | -40°C to +85°C |
| Mating Cycles: | 30 times |



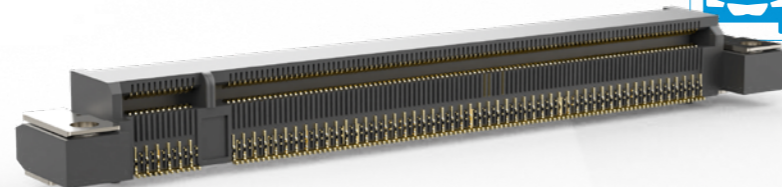
FEATURES

- Transferring power via 10 x 1.5 A
- For use together with BEC High-Speed version
- Supporting assembly of module through additional spring
- Additional fixation of the module with screws at the connector possible
- Mating height 5 mm
- Production site TS16949 certified
- Plating options: Au Flash, 0,3 μm AU and 0,76 μm AU in contact area

BECHS BOARD EDGE CONNECTOR 230 PINS HIGH-SPEED (SMT)

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 250 MΩ at 500V DC |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 40 mΩ max. |
| Current Rating: | 0.5 A |
| Voltage Rating: | 50 V DC |
| Operating Temp. Range: | -40°C to +85°C |
| Mating Cycles: | 30 times |



FEATURES

- Transferring High-Speed data rates to support USB3.0, HDMI, PCIe2.0 and SATA
- Designed for use at Automotive and other rough applications
- Reliable contact design
- Additional fixation of the module with screws at the connector possible
- 230 pins, 90°, 0.5 mm pitch
- Mating height 5 mm
- Production site TS16949 certified
- For transferring of power we advise to use the Power connector (see next page)

HIGH SPEED



SERIES HF311

HF311 FLOATING B-T-B, SMT 180° FEMALE, 0.5 MM PITCH

SPECIFICATIONS

| | |
|-------------------------|-----------------------------------|
| Insulation Resistance: | 250 V Dc for 1min. |
| Voltage Rating: | 50 V AC |
| Withstanding Voltage: | 250 V A for 1 min. |
| Current Rating: | 0.4 A signal pin, 0.5 A power pin |
| Contact Resistance: | 20 mΩ or less 10 mA |
| Operating Temp. Range: | -40°C to +80°C |
| Insertion / Extraction: | 100 times |



FEATURES

- High-Speed Floating B-t-B connector up to 8 Gbps
- 100 Signal pins + 2 ESD pins + 4 Power Pins
- Power Pins up to 5 A
- Floating Area X/Y direction +/-0,5 mm; Z direction +1/-0,5 mm
- Mating height 18 mm (further pin counts & mating heights available on request)
- Mating height plug + socket 18 mm



HF311 FLOATING B-T-B, SMT 180° MALE, 0.5 MM PITCH

SPECIFICATIONS

| | |
|-------------------------|-----------------------------------|
| Insulation Resistance: | 250 V Dc for 1min. |
| Voltage Rating: | 50 V AC |
| Withstanding Voltage: | 250 V A for 1 min. |
| Current Rating: | 0.4 A signal pin, 0.5 A power pin |
| Contact Resistance: | 20 mΩ or less 10 mA |
| Operating Temp. Range: | -40°C to +80°C |
| Insertion / Extraction: | 100 times |



FEATURES

- High-Speed Floating B-t-B connector up to 8 Gbps
- 100 Signal pins + 2 ESD pins + 4 Power Pins
- Power Pins up to 5 A
- Floating Area X/Y direction +/-0,5 mm; Z direction +1/-0,5 mm
- Mating height 18 mm (further pin counts & mating heights available on request)
- Mating height plug + socket 18 mm

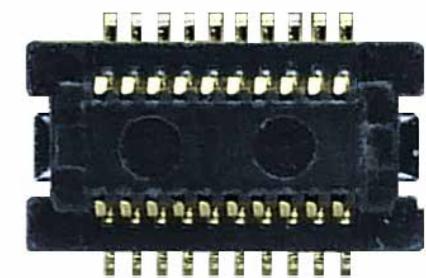


SERIES RDS | RDP

RDS 180° SMT FEMALE HEADER

SPECIFICATIONS

| | |
|------------------------|----------------------------------|
| Insulation Resistance: | 100 MΩ min. |
| Voltage Rating: | 50 V AC |
| Withstanding Voltage: | 200 V AC |
| Current Rating: | 0.5 A |
| Contact Resistance: | 50 mΩ max. initial |
| Operating Temp. Range: | -40°C to +80°C |
| Mating Force: | 90 g max. / contact |
| Unmating Force: | 10 g min. / contact |
| Mating Cycles: | 50 insertions |
| Soldering Temp.: | 230°C min. / 60 sec., 260°C peak |



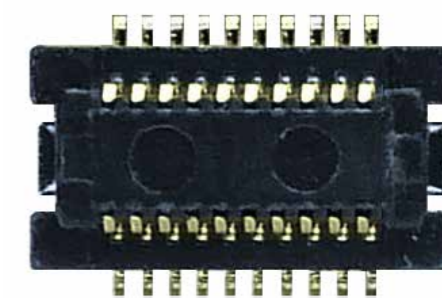
FEATURES

- Pin counts from 10 to 80
- Various mating heights

RDP 180° SMT MALE HEADER

SPECIFICATIONS

| | |
|------------------------|----------------------------------|
| Insulation Resistance: | 100 MΩ min. |
| Voltage Rating: | 50 V AC |
| Withstanding Voltage: | 200 V AC |
| Current Rating: | 0.5 A |
| Contact Resistance: | 50 mΩ max. initial |
| Operating Temp. Range: | -40°C to +80°C |
| Mating Force: | 90 g max. / contact |
| Unmating Force: | 10 g min. / contact |
| Mating Cycles: | 50 insertions |
| Soldering Temp.: | 230°C min. / 60 sec., 260°C peak |



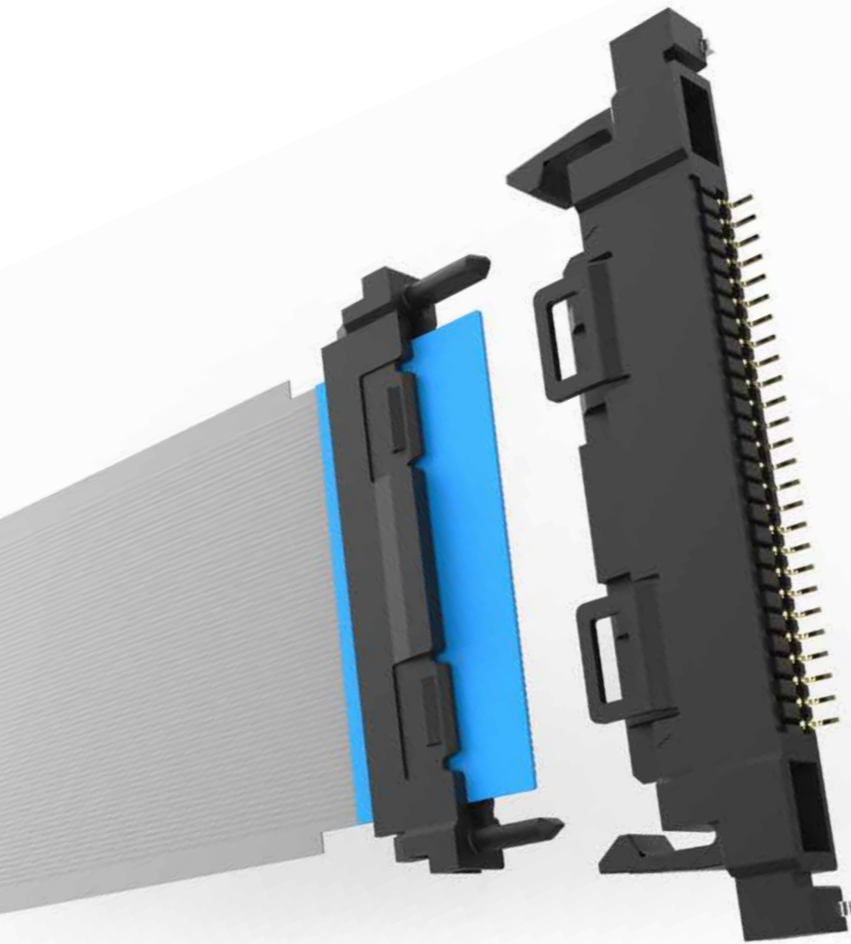
FEATURES

- Pin counts from 10 to 80
- Various mating heights



Y-LOCK PULLFORCE

The Y-Lock connector family is combining a space saving and process securing design with smart and reliable technology. The connector system is designed for applications with tough requirements. Now available in three different versions, Y-Lock is able to fulfill a large spectrum of tasks in regard to mechanical, climatic and electrical specifications. The Y-Lock system has been qualified based on LV214 and is fully suitable for automotive use.



Y-LOCK VERSION 1

Locking function between the supporting tape on the FFC and the connector. Small hooks on the inner housing of the connector insulator ensure the locking function between the FFC and connector.

Y-LOCK VERSION 2

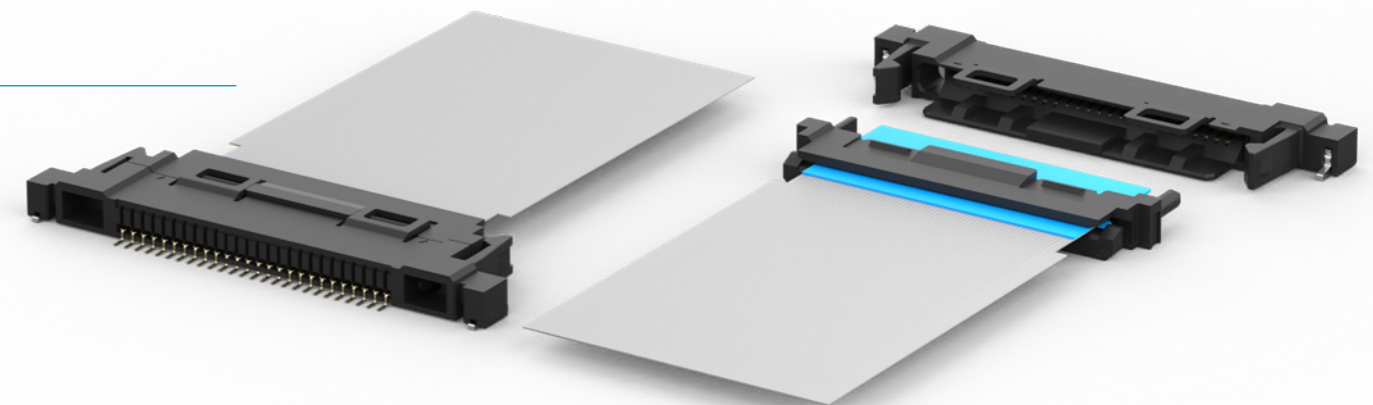
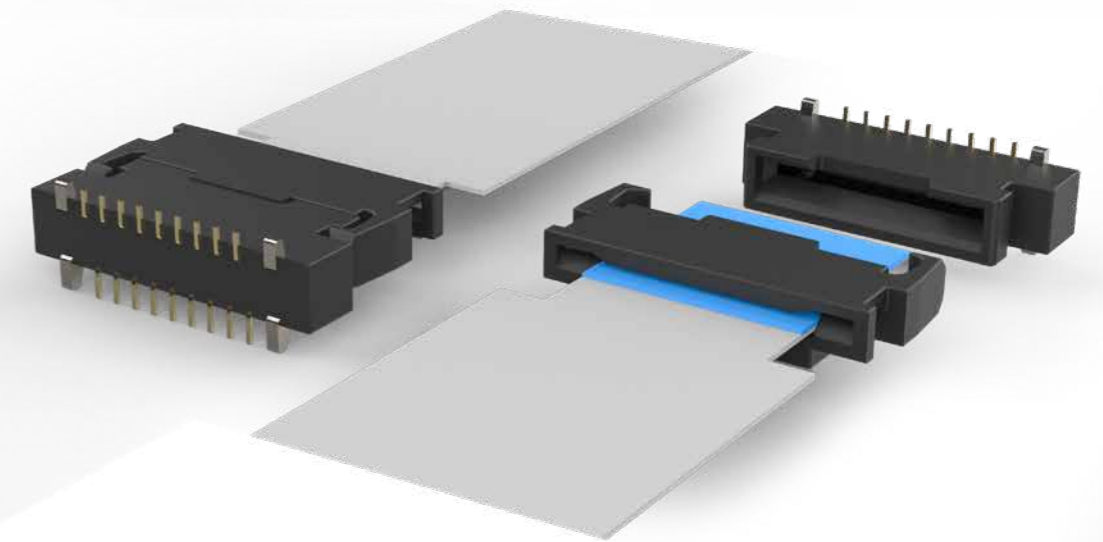
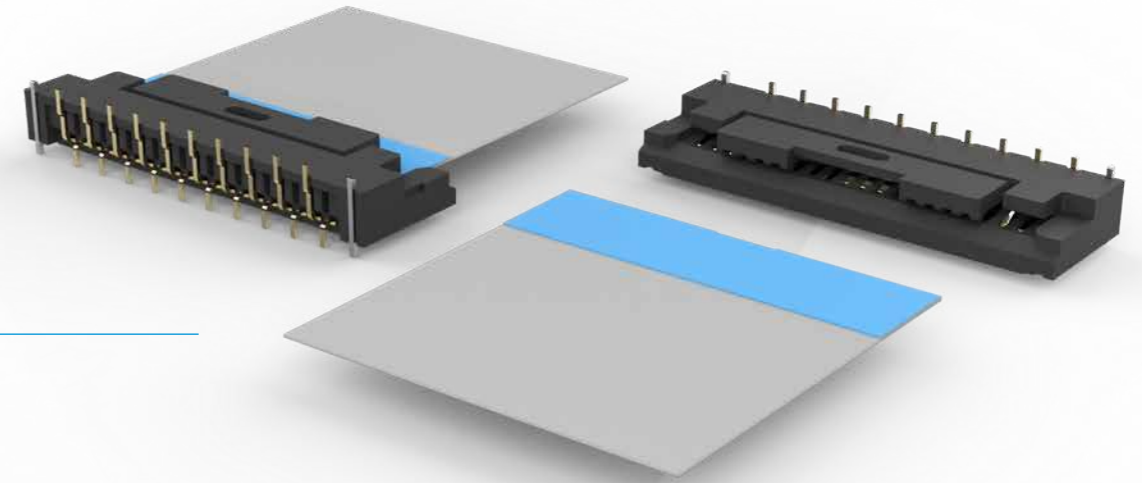
Additional stiffener is assembled mechanically on the FFC. Locking function between stiffener and connector. Poka-Yoke system prevents the FFC from being inserted in the wrong direction. The use of the stiffener is guiding the FFC during insertion.

Y-LOCK VERSION 3

Same as version 2 but with double locking function based on frontal and lateral hooks.

YOUR ADVANTAGES

- Non-ZIF Board-to-Cable System
- FFC only needs to be pressed into the lock (one push lock) and can simply be pulled out again (Pullforce)
- Quick and easy assembly
- Poka-yoke system
- Different number of pin counts available
- Automatic assembly of FFC possible
- Qualified based on LV214





SERIES Y-LPF-1C1

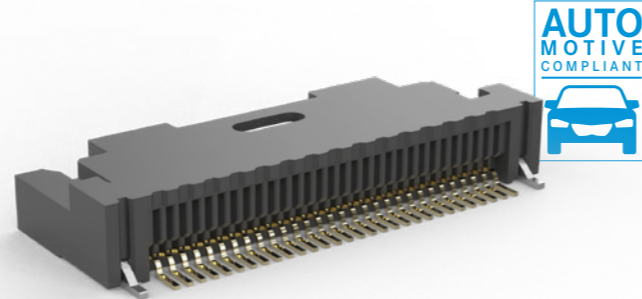
Y-LOCK PULLFORCE VERSION 1 CONNECTOR 180° (0.50 MM PITCH) SMT

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 100 V DC |
| Withstanding Voltage: | 250 V AC for 1 minute |
| Contact Resistance: | 30 mΩ max. at 10 mA |
| Current Rating: | 0.5 A |
| Voltage Rating: | 50 V DC |
| Operating Temp. Range: | -40°C to +105°C |
| Mating Cycles: | 10 times |

FEATURES

- NON-ZIF connector
- Can be used with standard FFC/FPC
- One push lock system
- Available in 90° and 180° Version
Fitting FFC available



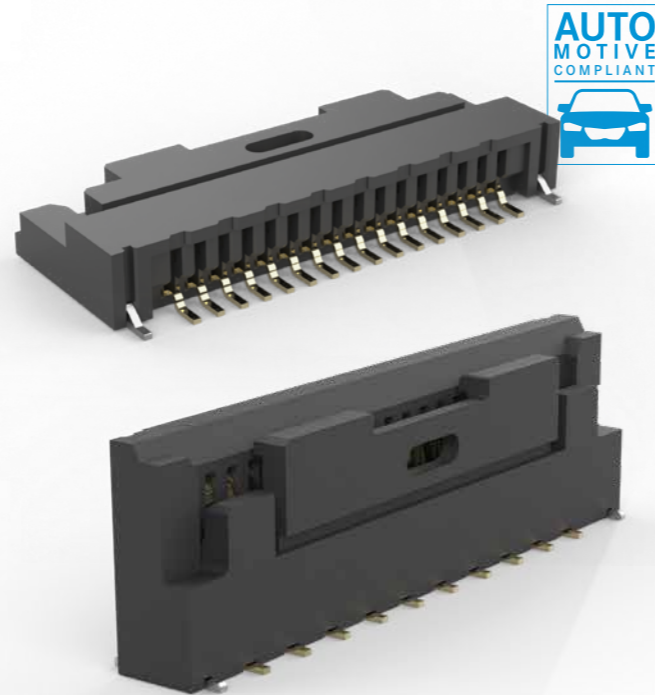
Y-LOCK PULLFORCE VERSION 1 CONNECTOR 90° AND 180° (1.00 MM PITCH) SMT

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 100 V DC |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 20 mΩ max. at 10mA |
| Current Rating: | 1 A |
| Voltage Rating: | 125 V DC |
| Operating Temp. Range: | -40°C to +105°C |
| Mating Cycles: | 10 times minimum |

FEATURES

- NON-ZIF connector
- Can be used with standard FFC/FPC
- One push lock system
- available in 90° and 180°
- available pin counts
12,14,16,18,20,22,24,26,28,30
- Fitting FFC available



SERIES Y-LPF-2C5-18 AND 50

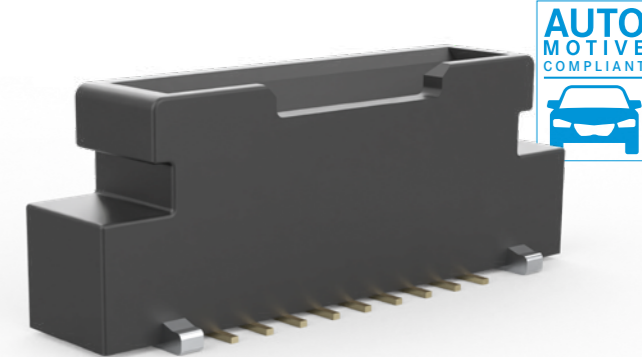
Y-LOCK PULLFORCE VERSION 2 CONNECTOR 180° (0.50 MM PITCH) SMT

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 100 V DC |
| Withstanding Voltage: | 250 V AC for 1 minute |
| Contact Resistance: | 30 mΩ max. at 10mA |
| Current Rating: | 0.5 A |
| Voltage Rating: | 50 V DC |
| Operating Temp. Range: | -40°C to +105°C |
| Mating Cycles: | 10 times |

FEATURES

- NON-ZIF connector
- Can be used with standard FFC/FPC
- FFC only needs to be pressed into the lock (One-Push-Lock)
and can simply be pulled out again (Pullforce)
- Designed for Automotive use



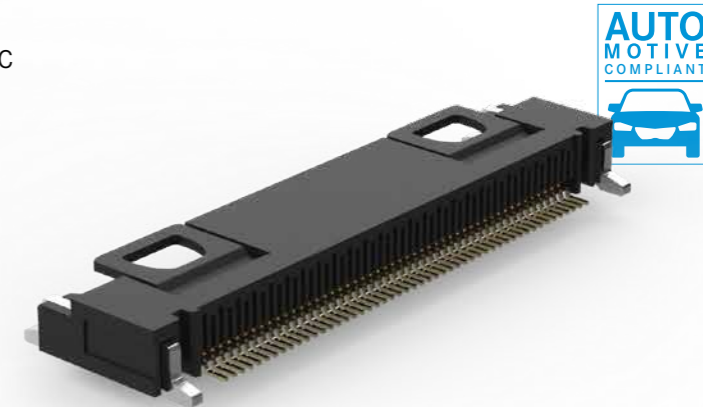
Y-LOCK PULLFORCE VERSION 2 CONNECTOR 180° (0.50 MM PITCH) SMT

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 100 V DC |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 50m Ω max. at 10 mA |
| Current Rating: | 0.5 A |
| Voltage Rating: | 50 V DC |
| Operating Temp. Range: | -40°C to +105°C |
| Mating Cycles: | 10 times minimum |

FEATURES

- NON-ZIF connector
- Can be used with standard FFC/FPC
- One push lock system
- Fitting FFC available
- Designed for Automotive use



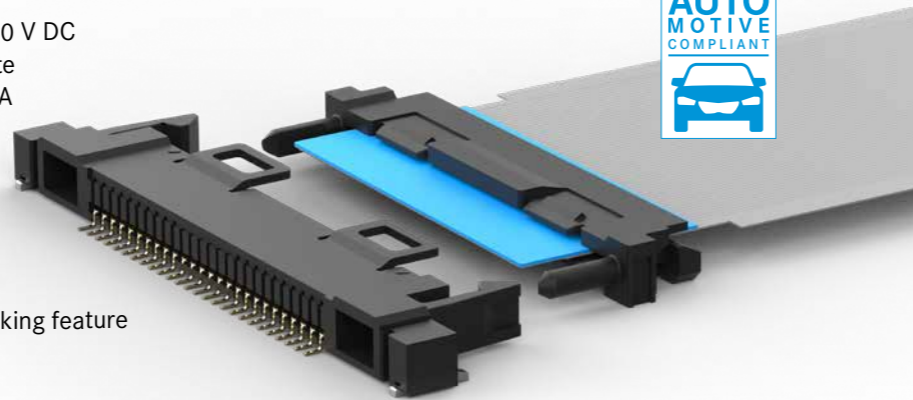


SERIES Y-LPF-3C1 AND 3C2

Y-LOCK PULLFORCE VERSION 3 CONNECTOR 90° (1.00 MM PITCH) SMT

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 100 V DC |
| Withstanding Voltage: | 250 V AC for 1 minute |
| Contact Resistance: | 50 mΩ max. at 10 mA |
| Current Rating: | 0.5A |
| Voltage Rating: | 60 V DC |
| Operating Temp. Range: | -40°C to +105°C |
| Mating Cycles: | 10 times |



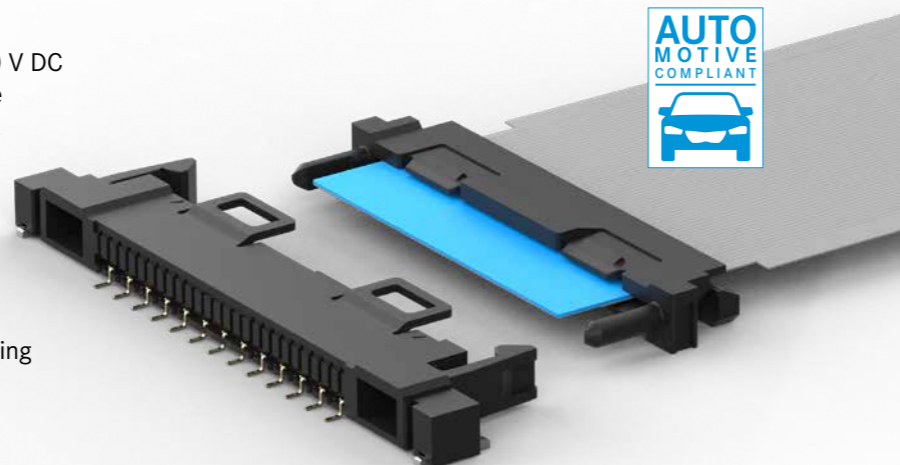
FEATURES

- Y-Lock pullforce Series Version 3 - double locking feature through additional stiffener on FFC
- 20 pins, 1 mm Pitch, 90°
- Qualified based on LV214
- Stiffener is locking in the connector automatically during plug in, removal by pulling on FFC
- Poka Yoka mating function
- Fitting FFC incl. Stiffener is available
- Designed for Automotive use

Y-LOCK PULLFORCE VERSION 3 CONNECTOR 90° (2.00 MM PITCH) SMT

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 100 V DC |
| Withstanding Voltage: | 250 V AC for 1 minute |
| Contact Resistance: | 50 mΩ max. at 10 mA |
| Current Rating: | 0.5A |
| Voltage Rating: | 60 V DC |
| Operating Temp. Range: | -40°C to +105°C |
| Mating Cycles: | 10 times |



FEATURES

- Y-Lock pullforce Series Version 3 - double locking feature through additional stiffener on FFC
- 10 pins, 2 mm Pitch, 90°
- Qualified based on LV214
- Stiffener is locking in the connector automatically during plug in, removal by pulling on FFC
- Poka Yoka mating function
- Fitting FFC incl. Stiffener is available
- Designed for Automotive use



Y-FFC - FLEXIBLE FLAT CABLE

In order to complete the product family of different FFC connectors Yamaichi Electronics offers Flexible Flat Cables (FFC) from its own production – the location of the in-house FFC production is the Yamaichi factory in Frankfurt (Oder), i.e. FFC Made in Germany. The FFCs are produced with latest state of the art production facilities and fulfill the Automotive standards.

Yamaichi Electronics can offer the following customization:

- Pin count up to 200
- Different pitches e.g. 0.5 mm, 1 mm or 2 mm pitch
- Different pitches and conductor widths are possible (e.g. for mixing power and signal contacts)
- Different mating shapes of both side of FFC
- Shielding via shielding tapes available

Yamaichi offers FFCs for their own connector series like Y-Lock or HF601, but also any kind of customized FFC.



The FFC-Manufacturing line in Frankfurt (Oder)



HIGH SPEED SERIES

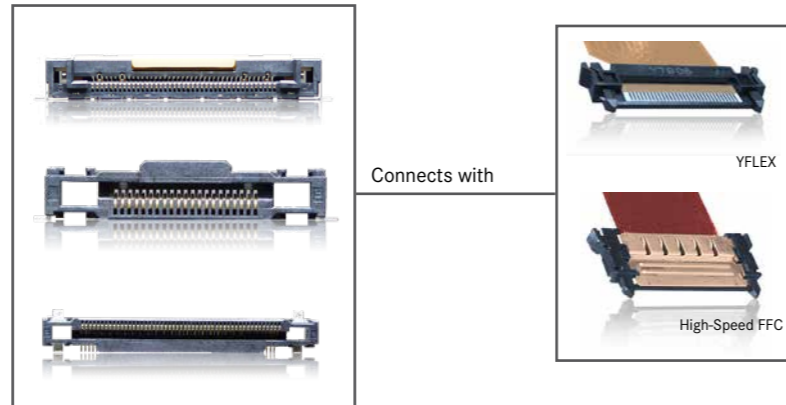
The current market situation needs and is ready for high-speed performance connectors and cables, which support High-Speed "Gbps" for digital consumers, car electronics, telecom network equipment etc...

Yamaichi Electronics is offering a wide range of different High-Speed products with excellent technical behaviour and highest standards of transmitting quality. With our products we are able to offer complete connector and cable systems for a variety of different applications.

OVERVIEW OF THE CONNECTORS AND CABLE SYSTEMS

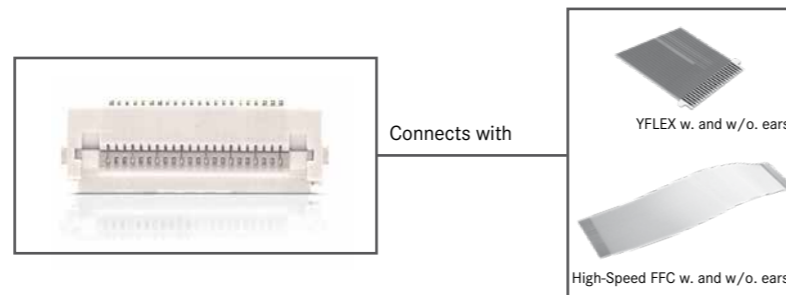
CONNECTOR HF5075

- The series for LVDS, HDMI, S-ATA, PCI-Express applications with transfer rates up to 5 Gbps
- VESA (Video Electronics Standard Association) compliant
- One connector and three possible types of cables to match perfectly customer requirements



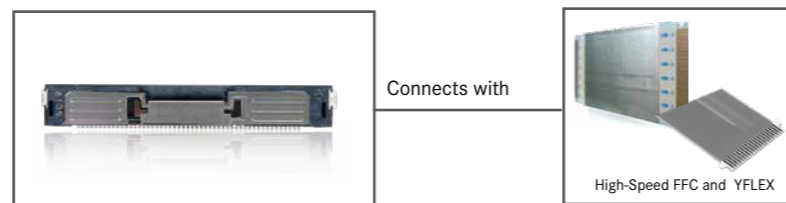
CONNECTOR HF601 SERIES

- The series for HDMI, S-ATA applications with transfer rates up to 5 Gbps
- ZIF-Type connector can be used with two different cable types



CONNECTOR HF513 SERIES

- NON-ZIF connector
- Usable with High-Speed FFC and YFLEX



APPLICATIONS

- Car navigation systems
- Automated Test Equipment
- Medical Imaging
- Industrial Process Control
- Network systems
- Digital TV, Studio Cameras...



SERIES HF5075

NON-ZIF 90° SOCKET FOR HIGH-SPEED APPLICATIONS

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 500 MΩ min. |
| Contact Resistance: | 20 mV / 10 mA |
| Withstanding Voltage: | 150 V AC for 1 minute |
| Voltage Rating: | 50 V AC/DC |
| Current Rating: | 0.5 A |
| Operating Temp. Range: | -40°C to +125°C |
| Mating Cycles: | 20 |

FEATURES

- 30, 40 and 50 pins at 90° available, further versions on request
- Up to 20Gbps data transfer rate (if used with YFLEX cable)
- Push-in-locking
- With and without additional shielding pins
- 0.5 mm pitch
- Matching cable YFlex or High Speed FFC



HIGH SPEED

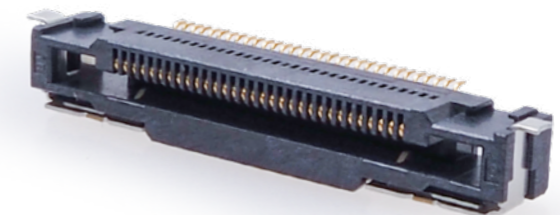
NON-ZIF 180° SOCKET FOR HIGH-SPEED APPLICATIONS

SPECIFICATIONS

| | |
|-------------------------|-----------------------|
| Insulation Resistance: | 100 MΩ min. |
| Contact Resistance: | 100 mΩ max. |
| Withstanding Voltage: | 125 V AC for 1 minute |
| Voltage Rating: | 50 V AC |
| Current Rating: | 0.3 A |
| Operating Temp. Range: | -20°C to +85°C |
| Differential Impedance: | 100 Ω |
| Insertion / Extraction: | 30 times |

FEATURES

- Suitable for LVDS, HDMI, DVI, PCI express and S-ATA data transmission
- Easy operation by side-locking mechanism prevents cable slanted insertion and guarantees secure locking
- Up to 5 Gbps data transmission rate
- 100 Ω differential impedance
- Matching cable YFlex or High Speed FFC



HIGH SPEED



SERIES YFLEX HIGH-SPEED FPC

YFLEX

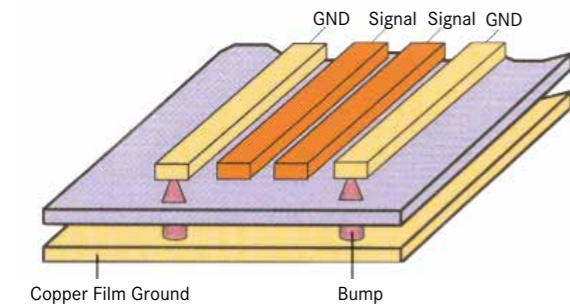
The YFLEX cable can be customized for the following connector types: HF507, HF513 and HF601

FEATURES

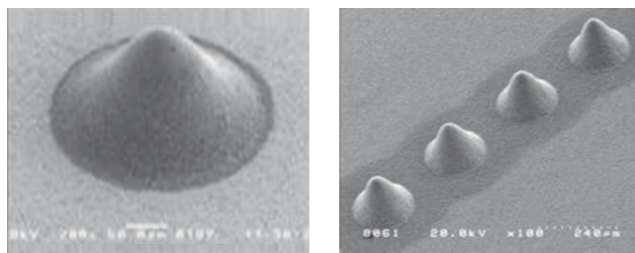
- Available to transmit High-Speed in Gbps with low loss
- Effective to use at harshest temperature, humidity and EMI condition
- Customized depending on the layout and requirement

STRUCTURE TO ACHIEVE HIGH-SPEED TRANSMISSION

LCP achieves the transmission with a low dielectric loss



GND and copper film ground are connected with silver bumps which also protect from EMI



HIGH SPEED



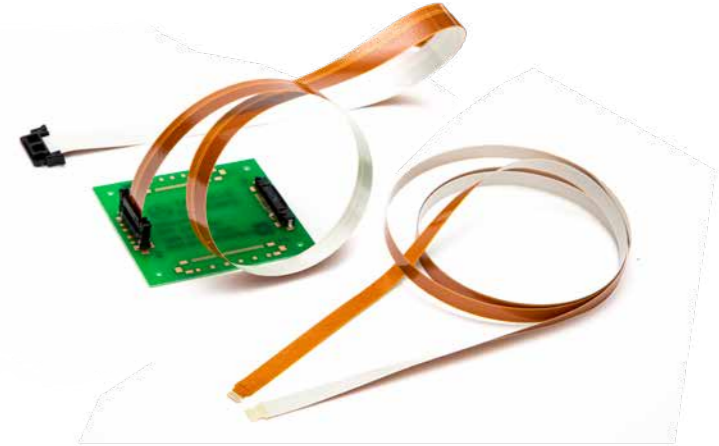
SERIES YFLEX HIGH-SPEED FPC

SINGLE-SIDED, LONG AND HIGHLY FLEXIBLE FPC

Single-sided, long and highly flexible FPC YFLEX consist of copper layer, polyimide cover films and LCP as base material.

ADVANTAGES

- Performance of High-Speed transmission as Gbps band with low loss
- Bending characteristics of 10 million times or more at R = 5.0 mm
- Manufacture of lengths up to a maximum of 1,150 mm
- Accurate impedance matching is possible due to the coplanar structure
- Combination of YFLEX and our High-Speed connector series HF513, HF509, HF601 and HF507 possible



DOUBLE-SIDED HIGH-SPEED FPC

Double-sided FPC consists of two copper layers with top and bottom cover films.

ADVANTAGES

- High-speed transmission up to 112 Gbps is possible with low loss
- FPC resistant to noise by using two conductor layers
- Precise impedance matching with microstrip structure
- Combination of YFLEX and our High-Speed connector series HF513, HF509, HF601 and HF507 available
- Manufacture of lengths up to a maximum of 460 mm

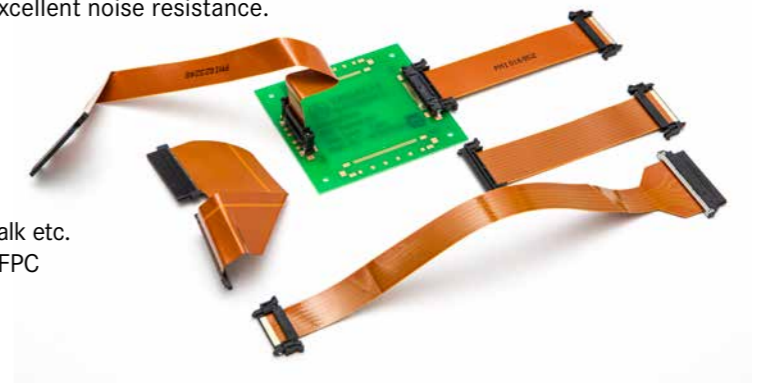


EMI PREVENTION FPC

EMI prevention FPC can be used in wiring areas with concerns about communications quality degradation due to noise in electronic devices. EMI prevention FPC perform excellent noise resistance.

ADVANTAGES

- Supports transmission over 1 Gbps such as LVDS/eDP/MIPI
- Custom wiring design is possible such as impedance matching design, low loss, low crosstalk etc.
- Total quality assurance in combination with our FPC connector





SERIES HF513

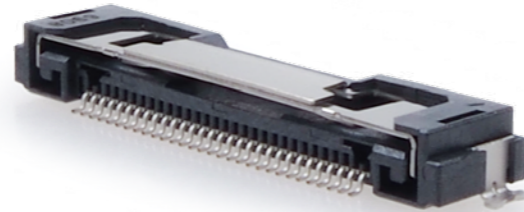
90° HIGH-SPEED NON-ZIF CONNECTOR (0.50 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 500 MΩ min. |
| Contact Resistance: | 20 mV / 10 mA |
| Withstanding Voltage: | 150 V AC for 1 minute |
| Voltage Rating: | 50 V AC/DC |
| Current Rating: | 0.5 A |
| Operating Temp. Range: | -40°C to +125°C |
| Mating Cycles: | 20 |

FEATURES

- 30, 40 and 50 pins at 90° available, further versions on request
- Up to 20 Gbps data transfer rate (if used with YFLEX cable)
- Push-in-locking
- With and without additional shielding pins
- 0.5 mm pitch



SERIES HF601

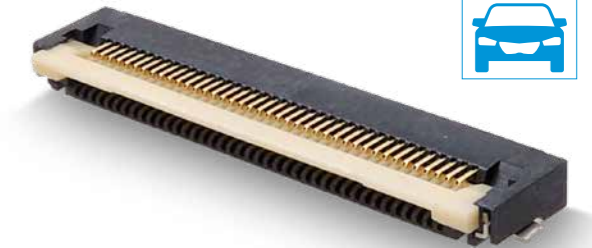
90° ZIF CONNECTOR FLIP TYPE SMT (0.50 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 500 MΩ min. |
| Contact Resistance: | 50 mΩ max. |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Voltage Rating: | 50 V AC |
| Current Rating: | 0.5 A |
| Operating Temp. Range: | -40°C to +105°C |
| Mating Cycles: | 20 times |

FEATURES

- 1 Gbps transmission speed
- Flip type ZIF Connector , SMT
- Super low profile, height = 2 mm
- FFC/FPC with and without positioning part can be used
- Packaging tape and reel (1,200 pcs. per reel)
- Available in 90° and 180°
- Fitting FFC available
- Pin counts from 10 to 60



HIGH SPEED

90° HIGH-SPEED ZIF CONNECTOR FLIP TYPE, SMT (0.50 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 500 MΩ min. |
| Contact Resistance: | 50 mΩ max. |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Voltage Rating: | 50 V AC |
| Current Rating: | 0.5 A |
| Operating Temp. Range: | -40°C to +85°C |
| Mating Cycles: | 20 times |

FEATURES

- Single types can transmit up to 5 Gbps
- FFC with or without ears for additional locking
- Various pin counts in 90° and 180°



HIGH SPEED



SERIES HF601

FLEXIBLE FLAT CABLE, (0.50 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,00 MΩ |
| Conductor Resistance: | 2.2 Ω / meter |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Voltage Rating: | 60 V (UL20706) |
| Operating Temp. Range: | -40°C to +105°C (UL20706) |

MATERIALS AND FINISH

| | |
|------------------|------------------|
| Conductor: | Au plated Cu |
| Insulation Tape: | Polyester, white |
| Supporting Tape: | Polyester, blue |

FEATURES

- Version with locking ears or straight version available
- Length customized
- Shielded version/high speed versions available



SERIES FPC 98210 | 96212

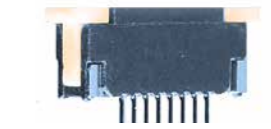
ZIF FOR FFC / FPC CONNECTOR 0.50 MM PITCH 180° SMT

SPECIFICATIONS

| | |
|------------------------|----------------------------------|
| Insulation Resistance: | 100 MΩ minimum |
| Contact Resistance: | 20 mΩ maximum |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Voltage Rating: | 50 V DC |
| Current Rating: | 0.5 A |
| Operating Temp. Range: | -40°C to +80°C |
| Solder Temperature: | 230°C min. / 60 sec., 250°C peak |
| Mating Cycles: | 30 times |

FEATURES

- 180° & 90° SMT Zero Insertion Force connector for 0.50 mm Flexible Flat Cable (FFC) and Flexible Printed Circuit (FPC) appliances
- Pin counts from 4 to 34



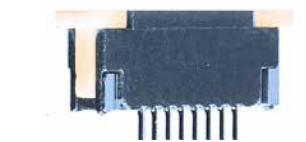
ZIF FOR FFC / FPC CONNECTOR 1.00 MM PITCH 90° SMT

SPECIFICATIONS

| | |
|------------------------|----------------------------------|
| Insulation Resistance: | 100 MΩ minimum |
| Contact Resistance: | 20 mΩ maximum |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Voltage Rating: | 125 V DC |
| Current Rating: | 1A |
| Operating Temp. Range: | -25°C to +85°C |
| Solder Temperature: | 230°C min. / 60 sec., 260°C peak |
| Mating Cycles: | 30 times |

FEATURES

- 180° & 90° SMT Zero Insertion Force connector for 1.00 mm Flexible Flat Cable (FFC) and Flexible Printed Circuit (FPC) appliances
- Top or bottom contact type
- Pin counts from 4 to 50





SERIES FC | NP2

FLEXIBLE FLAT CABLE, 0.50 MM AND 1.00 MM PITCH

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. at 500 V DC
 Conductor Resistance: C1 max. 0.63 Ω/m
 C6 max. 1.826 Ω /m
 Withstanding Voltage: 500 V AC for 1 minute
 Voltage Rating: 30V (UL2896) or 60V (UL20706)
 Operating Temp. Range: -40°C to +80°C (UL2896)
 -40°C to +105°C (UL20706)



MATERIALS AND FINISH

Conductor: Tin Plated Cu or Au Flash Plated
 Insulation: Polyester, white
 Stiffener: Polyester, blue

FEATURES

- UL2896 or UL20706 available
- Number of Conductors with 0.50 mm pitch = 8 to 200
- Number of Conductors with 1.00 mm pitch = 4 to 100
- Shielded version available on request

180° / 90° PIN HEADER, SINGLE AND DUAL ROW (1.27 MM PITCH) TH

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ max.
 Withstanding Voltage: 500 V AC for 1 minute
 Current Rating: 1 A
 Operating Temp. Range: -40°C to +105°C

FEATURES

- Single row pin counts from 3 to 50 and dual row pin counts from 6 to 100

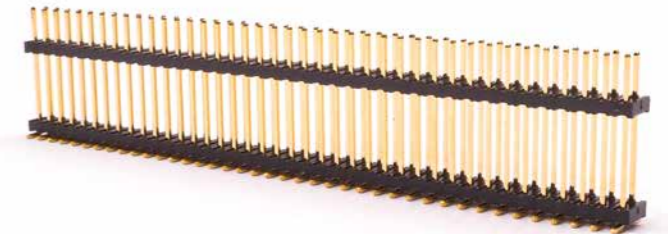


SERIES NP4 | NP7

180° PIN HEADER, SINGLE AND DUAL ROW (1.27 MM PITCH) SMT

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ max.
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 20 mΩ max.
 Current Rating: 2 A
 Operating Temp. Range: -40°C to +105°C



FEATURES

- Single row pin counts from 3 to 50 and dual row pin counts from 6 to 100



SERIES NS3 | NS5

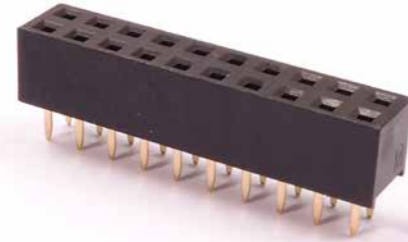
180° FEMALE HEADER, (1.27 MM PITCH) TH

SPECIFICATIONS

Insulation Resistance: 5,000 MΩ min. at 500 V
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 20 mΩ max.
 Current Rating: 1 A
 Operating Temp. Range: -65°C to +120°C

FEATURES

- Pin counts from 6 to 100



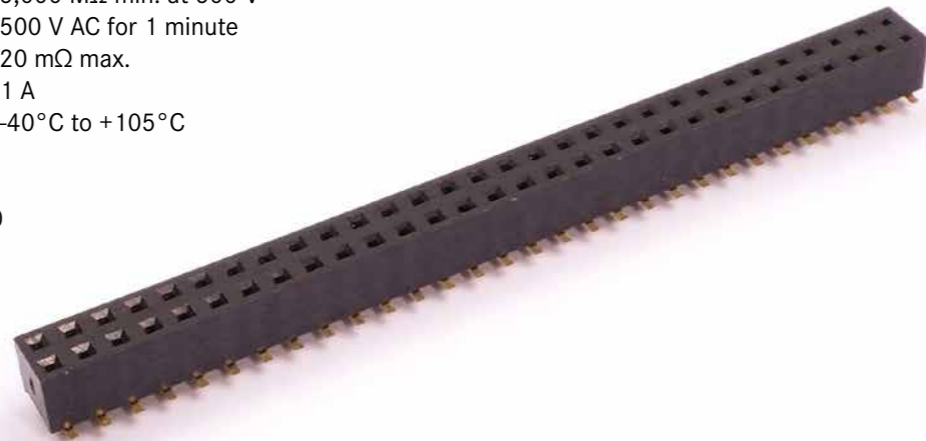
180° FEMALE HEADER, (1.27 MM PITCH) SMT

SPECIFICATIONS

Insulation Resistance: 5,000 MΩ min. at 500 V
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 20 mΩ max.
 Current Rating: 1 A
 Operating Temp. Range: -40°C to +105°C

FEATURES

- Pin counts from 6 to 100



SERIES MBS | MBP

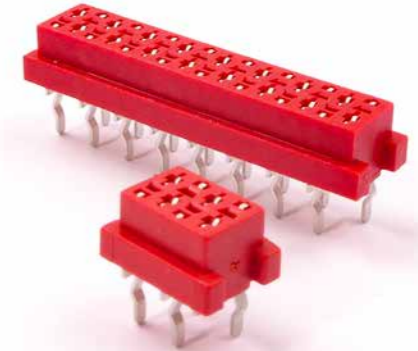
180° FEMALE BOX HEADER W. AND W/O LOCK, (1.27 MM) TH

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. SMT 3,000 MΩ min.
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 20 mΩ max.
 Current Rating: 1.0 A AC/DC
 Voltage Rating: 30 V AC/DC
 Operating Temp. Range: -40°C to +105°C

FEATURES

- Soldering Option: SMT & TH
- 1.27 mm staggered centre line
- Additional positioning spring absorbs relative movements
- Air tight connection
- Pin counts from 4 to 26



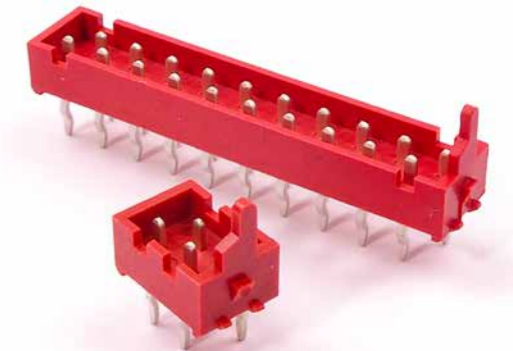
180° MALE BOX HEADER WITHOUT LOCK, (1.27 MM) TH

SPECIFICATIONS

Insulation Resistance: 3,000 MΩ min.
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 30 mΩ max.
 Current Rating: 1.0 A AC/DC
 Voltage Rating: 30 V AC/DC
 Operating Temp. Range: -40°C to +105°C

FEATURES

- 1.27 mm staggered centre line
- Additional positioning spring absorbs relative movements
- Air tight connection
- Pin counts from 4 to 26





SERIES MBS | MCP

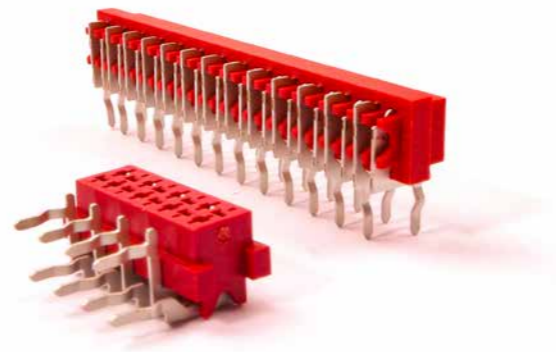
90° FEMALE BOX HEADER W./WO. LOCK, (1.27 MM) TH

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 3,000 MΩ min. |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 30 mΩ max. |
| Current Rating: | 1.0 A AC/DC |
| Voltage Rating: | 30 V AC/DC |
| Operating Temp. Range: | -40°C to +105°C |

FEATURES

- 1.27 mm staggered centre line
- Additional positioning spring absorbs relative movements
- Air tight connection
- Pin counts from 6 to 16



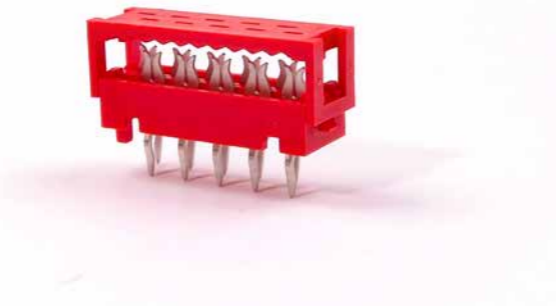
90° MALE IDC PADDLE TYPE (1.27 MM PITCH) TH

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 3,000 MΩ min. |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 30 mΩ max. |
| Current Rating: | 1.0 A AC/DC |
| Voltage Rating: | 30 V AC/DC |
| Operating Temp. Range: | -40°C to +105°C |

FEATURES

- 1.27 mm staggered centre line
- Additional positioning spring absorbs relative movements
- Air tight connection
- Pin counts from 4 to 26



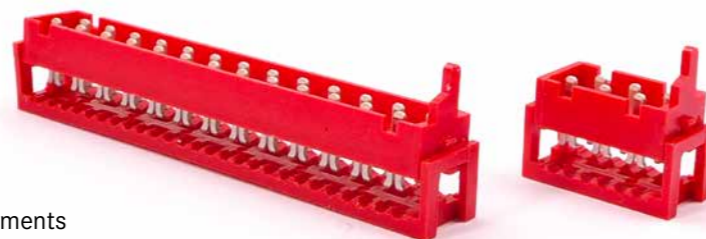
90° MALE IDC FOR FLAT CABLE (1.27 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|-----------------------|
| Insulation Resistance: | 3,000 MΩ min. |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 30 mΩ max. |
| Current Rating: | 1.0 A AC/DC |
| Voltage Rating: | 30 V AC/DC |
| Operating Temp. Range: | -40°C to +105°C |

FEATURES

- 1.27 mm staggered centre line
- Additional positioning spring absorbs relative movements
- Air tight connection
- Pin counts from 4 to 26



SERIES NFP

90° SOLDER DIP LATCH HEADER PLUG (1.27 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 500 V DC |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 15 mΩ max. at 10m A |
| Current Rating: | 1 A |
| Operating Temp. Range: | -20°C to +85°C |
| Soldering Temperature: | 260°C / 5 sec. |

FEATURES

- Contact pitch 1.27 mm connectors for High-Density mounting
- Pin counts from 10 to 100



180° SOLDER DIP LATCH HEADER PLUG (1.27 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 500 V DC |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 15 mΩ max. at 10 mA |
| Current Rating: | 1 A |
| Operating Temp. Range: | -20°C to +85°C |
| Soldering Temperature: | 260°C / 5 sec. |

FEATURES

- Contact pitch 1.27 mm connectors for High-Density mounting
- Pin counts from 10 to 100



IDC TRANSITION HEADER (1.27 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 500 V DC |
| Withstanding Voltage: | 500 V AC for 1 minute |
| Contact Resistance: | 15 mΩ max. at 10 mA |
| Current Rating: | 1 A |
| Operating Temp. Range: | -20°C to +85°C |
| Soldering Temperature: | 260°C / 5 sec. |

FEATURES

- Contact pitch 1.27 mm connectors for High-Density mounting
- Variations include cable connection and B-t-B connection types
- Unique three-fork contact of IDC type allows termination of 0.635 pitch flat cable.
- Pin counts from 10 to 100



JIGS AND TOOLS

- Hand press: FX-003
- Applicable jig: NFG-105

APPLICABLE CABLES

AWG 30 stranded wire, AWG 30 solid wire, 0.635mm pitch

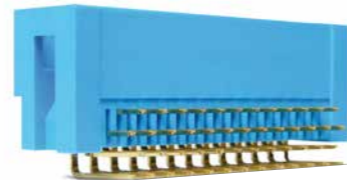


SERIES NFP | NFS

90° SOLDER DIP BOX HEADER (1.27 MM PITCH)

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. at 500 V DC
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 15 mΩ max. at 10 mA
 Current Rating: 1 A
 Operating Temp. Range: -20°C to +85°C
 Soldering Temperature: 260°C / 5 sec.



FEATURES

- Contact pitch 1.27 mm connectors for High-Density mounting
- Pin counts from 10 to 80

180° SOLDER DIP BOX HEADER (1.27 MM PITCH)

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. at 500 V DC
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 15 mΩ max. at 10 mA
 Current Rating: 1 A
 Operating Temp. Range: -20°C to +85°C
 Soldering Temperature: 260°C / 5 sec.



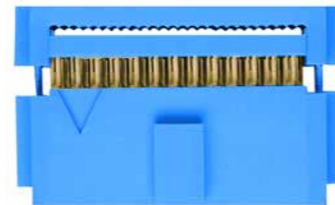
FEATURES

- Contact pitch 1.27 mm connectors for High-Density mounting
- Pin counts from 10 to 80

IDC TYP SOCKET (1.27 MM PITCH)

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. at 500 V DC
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 15 mΩ max. at 10mA
 Current Rating: 1 A
 Operating Temp. Range: -20°C to +85°C



FEATURES

- Contact pitch 1.27 mm connectors for High-Density mounting
- Unique three-fork contact of IDC type allows termination of 0.635mm pitch flat cable
- Pin counts from 10 to 100

JIGS AND TOOLS

- Hand press: FX-003
- Applicable jig: NFA-005

APPLICABLE CABLES

AWG 30 stranded wire, AWG 30 solid wire, 0.635mm pitch

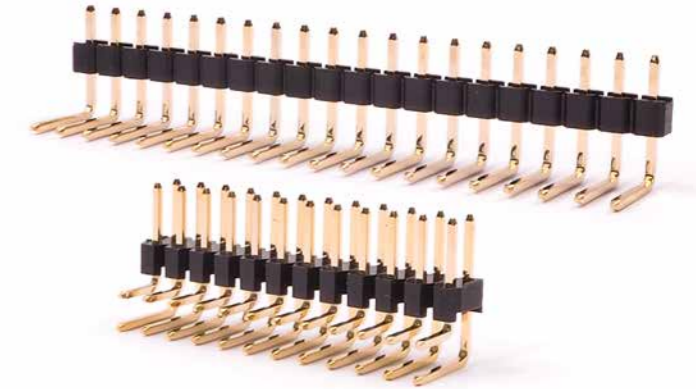


SERIES ZP1 | ZP2 | ZP4

VARIOUS PIN HEADERS WITH 1.5 MM BASE

SPECIFICATIONS

Contact Resistance: 20 mΩ max.
 Insulation Resistance: 5,000 Ω min.
 Current Rating: 1.0 A
 Operating Temp. Range: -65°C to +125°C
 Soldering Temp.: 230°C / 3 sec.



FEATURES

- Pin count from 2 to 80 (Single Row)
- Pin count from 4 to 80 (Dual Row)

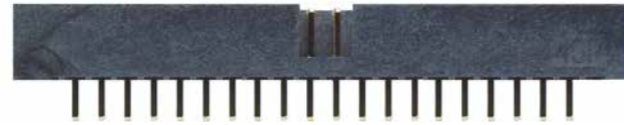


SERIES ZP7

180° / 90° - TH DUAL ROW BOX HEADER

SPECIFICATIONS

Contact Resistance: 30 mΩ
 Insulation Resistance: 3,000 MΩ min.
 Current Rating: 1 A
 Operating Temp. Range: -40°C to +105°C
 Withstanding Voltage: 500 V AC for 1 minute
 Soldering Temp.: 260°C / 3 sec.



FEATURES

- Pin count from 6 to 68
- Mates with ZS1 and ZS1N Series

180° SMT DUAL ROW BOX HEADER

SPECIFICATIONS

Contact Resistance: 30 mΩ
 Insulation Resistance: 5,000 MΩ min. at 500 V DC
 Current Rating: 1.5 A
 Operating Temp. Range: -40°C to +105°C
 Withstanding Voltage: 500 V AC for 1 minute
 Soldering Temp.: 220°C min. / 60 sec., 250°C peak



FEATURES

- Pin count from 4 to 68
- Mates with ZS1 and ZS1N Series



SERIES ZP8 | ZS1 | ZS3A

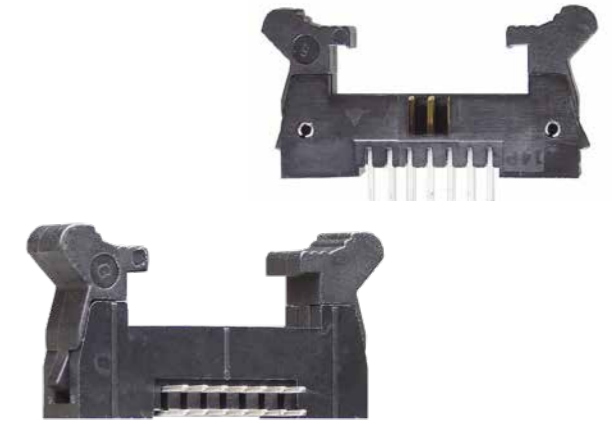
180° ACTIVE EJECT PIN HEADER

SPECIFICATIONS

Voltage Rating: 150 V AC
 Current Rating: 1.0 A
 Operating Temp. Range: -40°C to +105°C
 Withstanding Voltage: 500 V for 1 minute
 Soldering Temp.: 260°C / 3 sec.

FEATURES

- Orientation: 90° & 180°
- Pin count from 10 to 68



180° TH SOCKET FOR PCB MOUNT

SPECIFICATIONS

Contact Resistance: 30 mΩ max.
 Insulation Resistance: 3,000 MΩ min at 500V
 Current Rating: 1 A
 Withstanding Voltage: 500 V AC for 1 minute
 Operating Temp. Range: -40°C to +105°C
 Soldering Temp.: 230°C / 3 sec.

FEATURES

- Pin count from 4 to 80





SERIES Z54A | Z55A | Z56A

90° TH SOCKET FOR PCB MOUNT

SPECIFICATIONS

| | |
|------------------------|-------------------------|
| Contact Resistance: | 20 mΩ max. at 100 mA DC |
| Insulation Resistance: | 1,000 MΩ min. at 500 V |
| Withstanding Voltage: | 500 V AC |
| Current Rating: | 1 A |
| Operating Temp. Range: | -40°C to +105°C |
| Soldering Temp.: | 230°C / 3 sec. |

FEATURES

- Pin count from 6 to 80



180° SMT SOCKET

SPECIFICATIONS

| | |
|------------------------|----------------------------------|
| Contact Resistance: | 20 mΩ max. at 100 mA DC |
| Insulation Resistance: | 1,000 MΩ min. at 500 V |
| Withstanding Voltage: | 500 V AC |
| Current Rating: | 1 A |
| Operating Temp. Range: | -40°C to +105°C |
| Soldering Temp.: | 230°C min. / 60 sec., 260°C peak |

FEATURES

- Pin count from 4 to 80



180° SMT LOW PROFILE SOCKET (HEIGHT 2.5 MM)

SPECIFICATIONS

| | |
|------------------------|----------------------------------|
| Contact Resistance: | 20 mΩ max. at 100 mA DC |
| Insulation Resistance: | 5,000 MΩ min. at 500 V |
| Withstanding Voltage: | 500 V AC |
| Current Rating: | 1 A |
| Operating Temp. Range: | -40°C to +105°C |
| Soldering Temp.: | 230°C min. / 60 sec., 250°C peak |

FEATURES

- Pin count from 6 to 60



SERIES FAS

IDC - SOCKET, 2.54 MM PITCH (2-POINT CONTACT)

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 500 V DC |
| Withstanding Voltage: | 700 V AC for 1 minute |
| Contact Resistance: | 30 mΩ max. at 10 mA |
| Current Rating: | 1 A |
| Operating Temp. Range: | -20°C to +105°C |

FEATURES

- 2.54 mm contact pitch sockets for flat cables with cable-end strain relief
- Variations include latch header plugs (for PC-board connection and IDC) and IDC sockets
- Two-point contact of the flat cable sockets ensures high reliability
- Pin count from 16 to 34



JIGS AND TOOLS

- Hand press: FX-003
- Applicable jig: FA-005

APPLICABLE CABLES

AWG 28 stranded wire, 1.27 mm pitch
AWG 30 solid wire, 1.27 mm pitch

MIL STD. IDC TYPE SOCKET, (2.54 MM PITCH)

SPECIFICATIONS

| | |
|------------------------|---------------------------|
| Insulation Resistance: | 1,000 MΩ min. at 500 V DC |
| Withstanding Voltage: | 700 V AC for 1 minute |
| Contact Resistance: | 30 mΩ max. at 10 mA |
| Current Rating: | 1 A |
| Operating Temp. Range: | -20°C to +105°C |

FEATURES

- 2.54 mm contact pitch connectors for 50 MIL standard flat cables
- Variations include latch header plugs, box header plugs, and flat cable sockets
- RoHS2011/65/EU



JIGS AND TOOLS (For FAS / FAP Type)

- Hand press: FX-003
- Applicable jig: FA-005
- Pin count from 10 to 64

APPLICABLE CABLES

AWG 30 solid wire, 1.27mm pitch



SERIES FAP

MIL STD. LATCH HEADER PLUG, (2.54 MM PITCH)

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. at 500 V DC
 Withstanding Voltage: 1,000 V AC for 1 minute
 Contact Resistance: 30 mΩ max. at 10 mA
 Current Rating: 1 A
 Operating Temp. Range: -20°C to +105°C
 Soldering Temperature: 260°C / 10 sec.



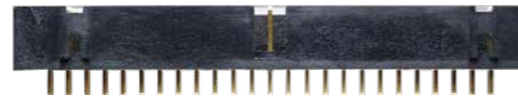
FEATURES

- 2.54 mm contact pitch connectors for MIL standard
- Variations include latch header plugs, box header plugs, and flat cable sockets
- Two types (short latch and middle latch) available
- Pin count from 10 to 64

MIL STD. BOX HEADER PLUG, (2.54 MM PITCH)

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. at 500 V DC
 Withstanding Voltage: 1,000 V AC for 1 minute
 Contact Resistance: 30 mΩ max. at 10 mA
 Current Rating: 1 A
 Operating Temp. Range: -20°C to +105°C
 Soldering Temperature: 260°C / 10 sec.



FEATURES

- 2.54 mm contact pitch connectors for MIL standard
- Variations include latch header plugs, box header plugs, and flat cable sockets
- Pin count from 10 to 64

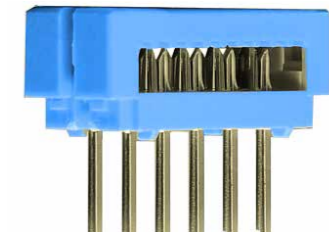


SERIES FGP

PC BOARD TRANSITION HEADER (2 ROWS)

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. at 500 V DC
 Withstanding Voltage: 700 V AC for 1 minute
 Contact Resistance: 30 mΩ max. at 10 mA
 Current Rating: 1 A
 Operating Temp. Range: -20°C to +105°C
 Soldering Temperature: 230°C / 10 sec.



FEATURES

- Flat cable connectors for solder PC board connection
- High density
- Pin count from 10 to 50

JIGS AND TOOLS

- Hand press: FX-003
- Applicable jig: FG-505

CRIMP TYPE SOCKET (DOUBLE ROW, POLARITY KEY)

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min. at 500 V DC
 Withstanding Voltage: 1,000 V AC for 1 minute
 Contact Resistance: 30 mΩ max. at 10 mA
 Current Rating: 3 A
 Operating Temp. Range: -40°C to +105°C



FEATURES

- Crimp-On terminals allow complex wiring
- Solid wire terminals eliminate loss
- Pin count from 10 to 60



BOARD-TO-BOARD / BOARD-TO-CABLE

SERIES FP2

180°/ 90° PIN HEADER SINGLE AND DUAL ROW (2.54 MM PITCH) TH

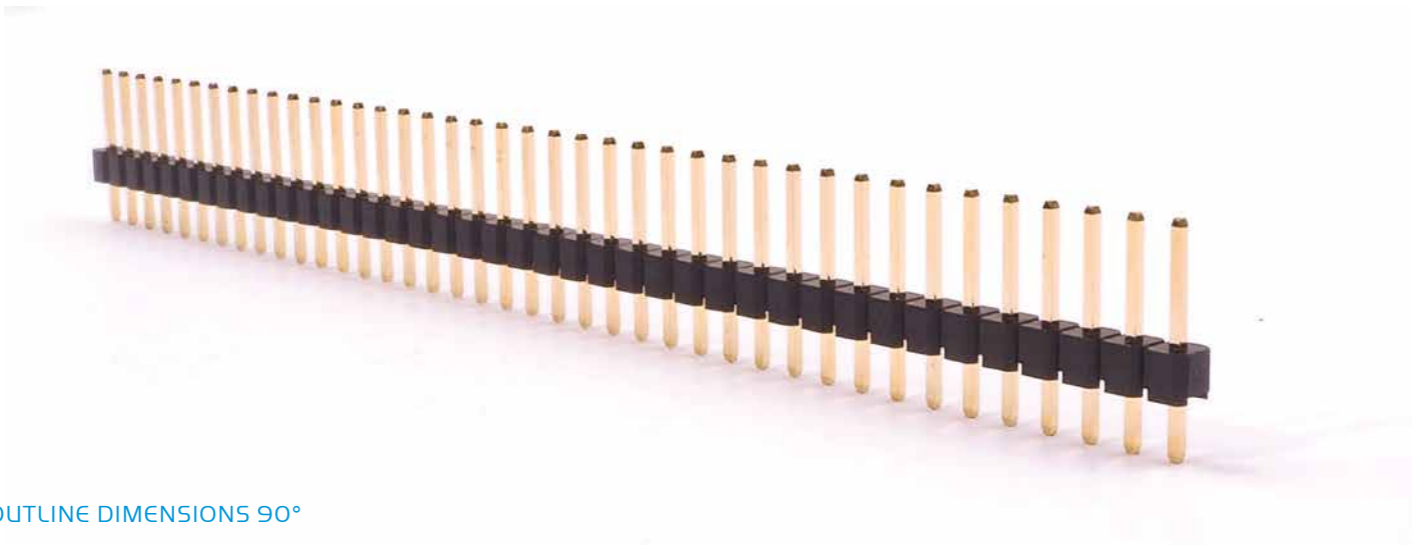
SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min.
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 20 Ω max.
 Current Rating: 3 A
 Operating Temp. Range: -40°C to +105°C

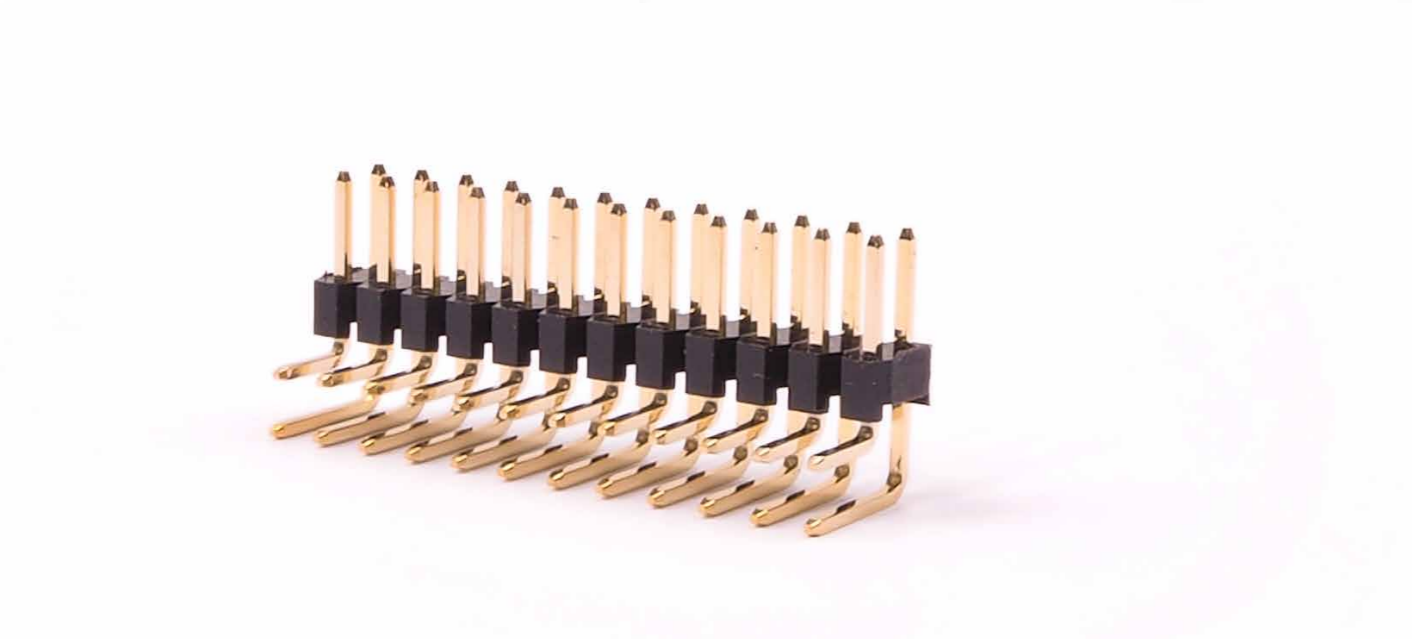
FEATURES

- Pin counts, single row 2 to 40 and dual row 4 to 80

OUTLINE DIMENSIONS 180°



OUTLINE DIMENSIONS 90°



BOARD-TO-BOARD / BOARD-TO-CABLE

SERIES FP7 | FP8

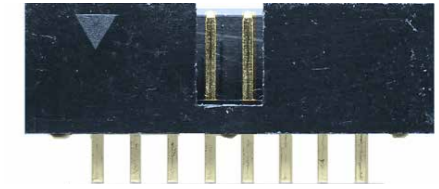
180° BOX HEADER DUAL ROW (2.54 MM PITCH) SMT

SPECIFICATIONS

Insulation Resistance: 5,000 MΩ max. at 500 V DC
 Withstanding Voltage: 1,000 V AC for 1 minute
 Contact Resistance: 10 mΩ max.
 Current Rating: 2 A
 Operating Temp. Range: -55°C to 105°C

FEATURES

- Pin counts, from 10 to 64



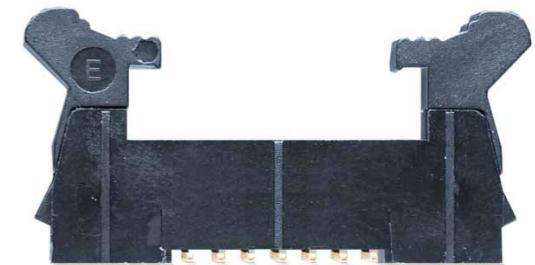
180° MALE HEADER DUAL ROW (2.54 MM PITCH) SMT

SPECIFICATIONS

Insulation Resistance: 3,000 MΩ max.
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 30 mΩ max.
 Current Rating: 2 A
 Operating Temp. Range: -40°C to +105°C

FEATURES

- Pin counts from 6 to 64





BOARD-TO-BOARD / BOARD-TO-CABLE

SERIES FS3 | FS5

180° FEMALE HEADER SINGLE/DUAL ROW (2.54 MM PITCH, 7.1 HT.) SMT

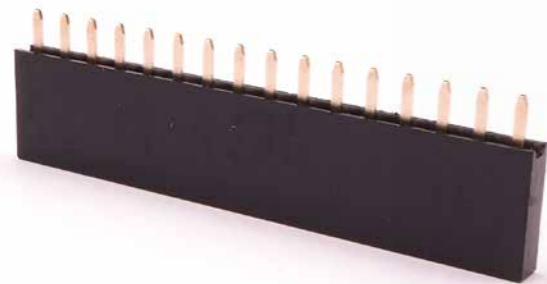
SPECIFICATIONS

Insulation Resistance: 5,000 MΩ max.
 Withstanding Voltage: 500 V AC for 1 minute
 Contact Resistance: 20 mΩ max.
 Current Rating: 3 A
 Operating Temp. Range: -40°C to 105°C

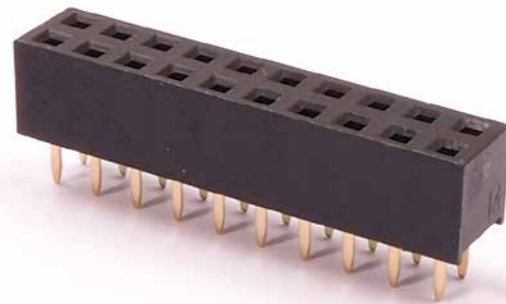
FEATURES

- Pin counts, single row 3 to 40 and dual row 6 to 60

SINGLE ROW

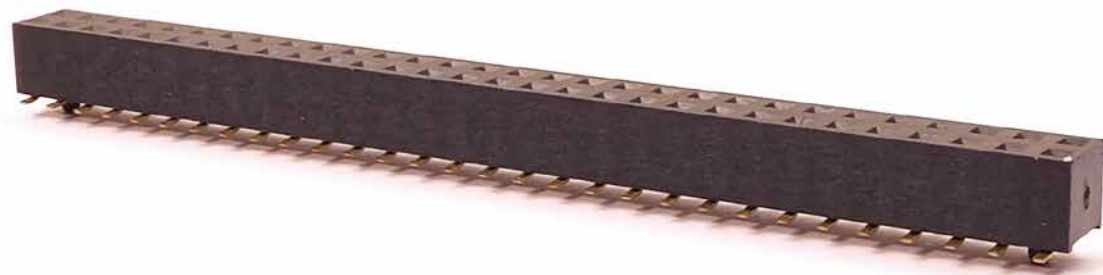


DUAL ROW



180° FEMALE HEADER SINGLE/DUAL ROW (2.54 MM PITCH, 7.1 HT.) SMT

DUAL ROW



BOARD-TO-BOARD / BOARD-TO-CABLE

SERIES BOARDFIT4.2

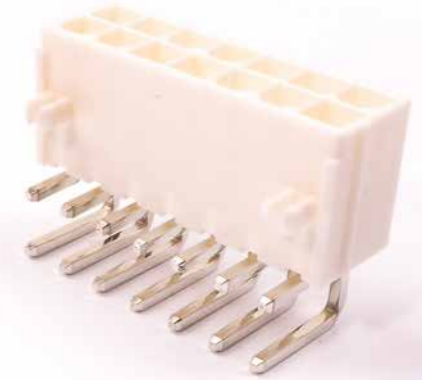
180° & 90° MALE HEADER 4.20 MM PITCH (DUAL ROW) TH

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min.
 Withstanding Voltage: 1,500 V AC for 1 minute
 Contact Resistance: 20 mΩ max.
 Voltage Rating: 250 V AC/DC
 Current Rating: 7 A AC/DC
 Operating Temp. Range: -40°C to +105°C

FEATURES

- Designed for high-current/high-density applications
- For Wire-to-Wire and Wire-to-Board applications
- Fully insulated terminals
- Low Mating force
- Locking function
- Pin counts 2 to 24



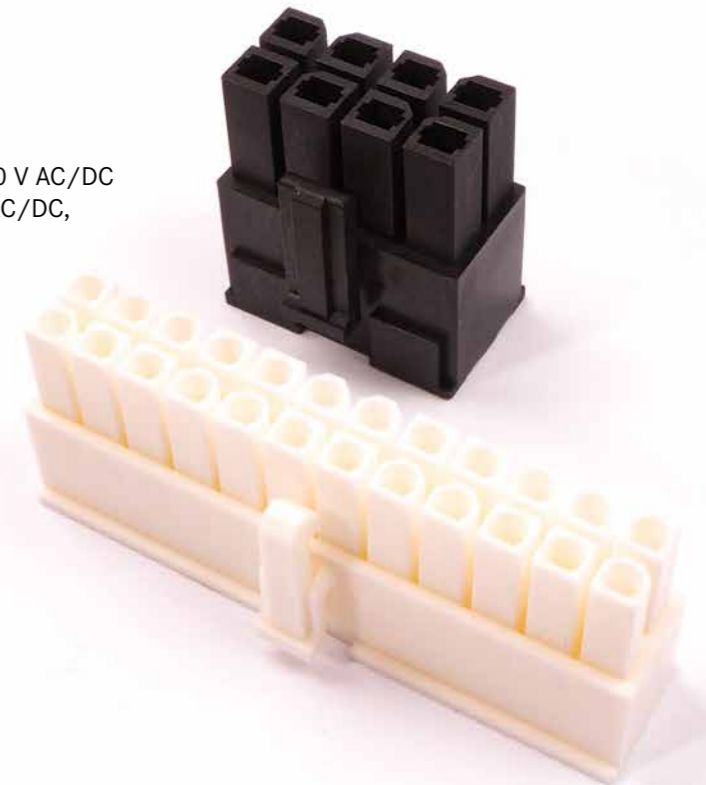
180° & 90° MALE HEADER 4.20 MM PITCH (DUAL ROW) TH

SPECIFICATIONS

Insulation Resistance: 1,000 MΩ min.
 Withstanding Voltage: 1,500 V AC for 1 minute
 Contact Resistance: 20 mΩ max.
 Voltage Rating: Single = 600 V AC/DC Dual = 250 V AC/DC
 Current Rating: Single = 9 A AC/DC Dual = 7 A AC/DC,
 Operating Temp. Range: -40°C to +105°C

FEATURES

- Designed for high current/high density applications
- For Wire-to-Wire and Wire-to-Board applications
- Fully insulated terminals
- Low Mating force
- Locking function
- Order Quantity 1,000 pcs. per bag
- Pin counts 2 to 24





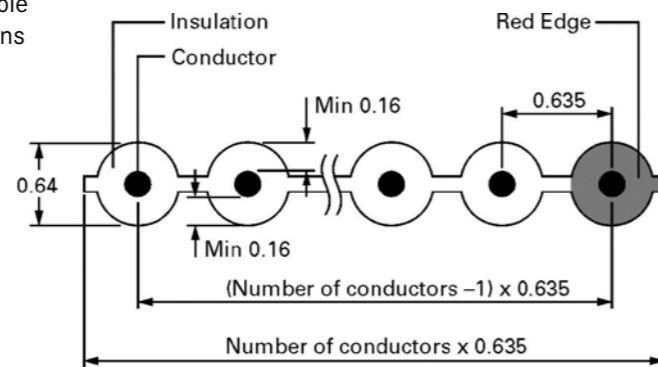
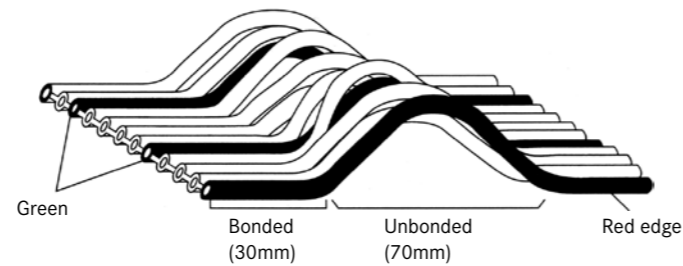
25MIL (0.635 MM) OKIFLEX-B&S TYPE (150 V, 105° C)

SPECIFICATIONS

| | |
|------------------------|---------------------|
| Conductor Resistance: | 358 Ω/km max. |
| Insulation Resistance: | 1 MΩ min. (km) |
| Dielectric Strength: | 2,000 V AC / minute |
| Flame Resistance: | VW-1 |

FEATURES

- 25MIL (0.635 mm) pitch flat cable designed for termination with High-Density (1.27 mm) IDC connectors
- Available in two versions, similar to the 50 MIL flat cable
 - B type is bonded throughout for standard applications
 - S type is bonded/unbonded at regular intervals resulting in greater flexibility if required
- UL Style No. 20028
- Can be used for connector types FAS, FGP, NFS, NFP
- Pin counts 10 to 100



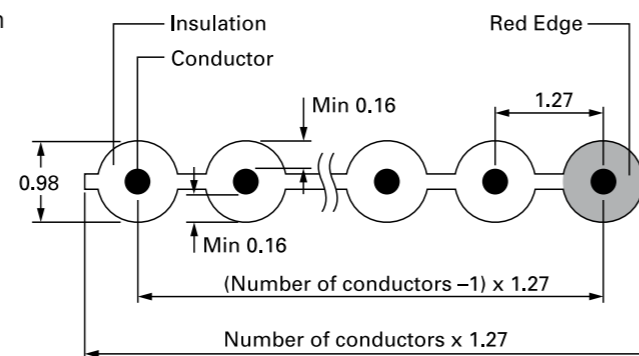
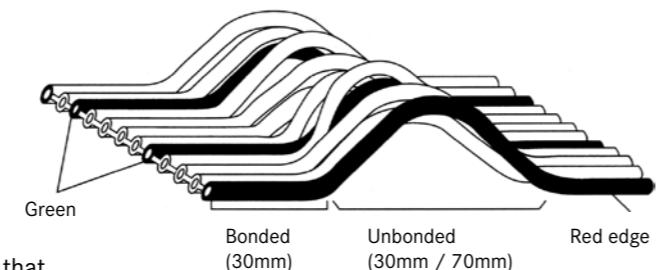
50MIL (1.27 MM) OKIFLEX-S TYPE (300 V, 105° C)

SPECIFICATIONS

| | |
|------------------------|---------------------|
| Conductor Resistance: | 222 Ω/km max. |
| Insulation Resistance: | 10 MΩ min. (km) |
| Dielectric Strength: | 1,500 V AC / minute |
| Flame Resistance: | VW-1 |

FEATURES

- Identical to 50 MIL (1.27 mm) OKIFLEX-B type except that it is intermittently bonded or unbonded at precise intervals
- Cable flexibility is achieved within the unbonded section
- UL Style No. 2651



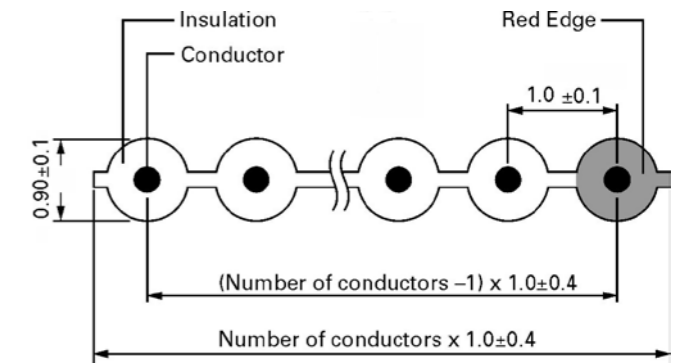
1.00 MM HIGH DENSITY FLEX (300 V, 105° C)

SPECIFICATIONS

| | |
|------------------------|---------------------|
| Conductor Resistance: | 237 Ω/km max. |
| Insulation Resistance: | 100 MΩ min. (km) |
| Voltage Rating: | 300 V |
| Temperature range: | -20°C to +105°C |
| Dielectric Strength: | 2,000 V AC / minute |
| Flame Resistance: | VW-1 |

FEATURES

- 1.0 mm pitch flat cable designed for termination with a high density 2.0 mm IDC connector
- UL Style No. 2651, CSA
- Can be used for connector types type ZS1
- Pin counts 10 to 68



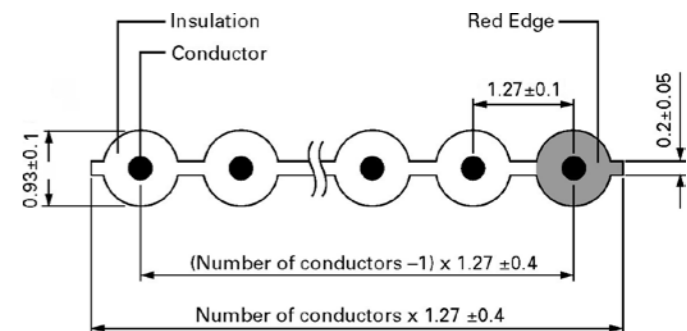
1.27 MM HIGH DENSITY FLEX (300 V, 105° C)

SPECIFICATIONS

| | |
|------------------------|---------------------|
| Conductor Resistance: | 216 Ω/km max. |
| Insulation Resistance: | 100 MΩ min. (km) |
| Current Rating: | 2 A max. |
| Voltage Rating: | 300 V |
| Temperature Range: | -30°C to +105°C |
| Dielectric Strength: | 2,000 V AC / minute |
| Flame Resistance: | VW-1 |

FEATURES

- 1.27 mm pitch flat cable with 28 AWG (7/0.127 mm) conductors
- Ribbed on both sides enabling IDC termination on either side of the cable
- UL Style No. 2651, CSA, VDE 0811
- Can be used for connector types FAS, FGP





SERIES TPFLEX | 7/0.1

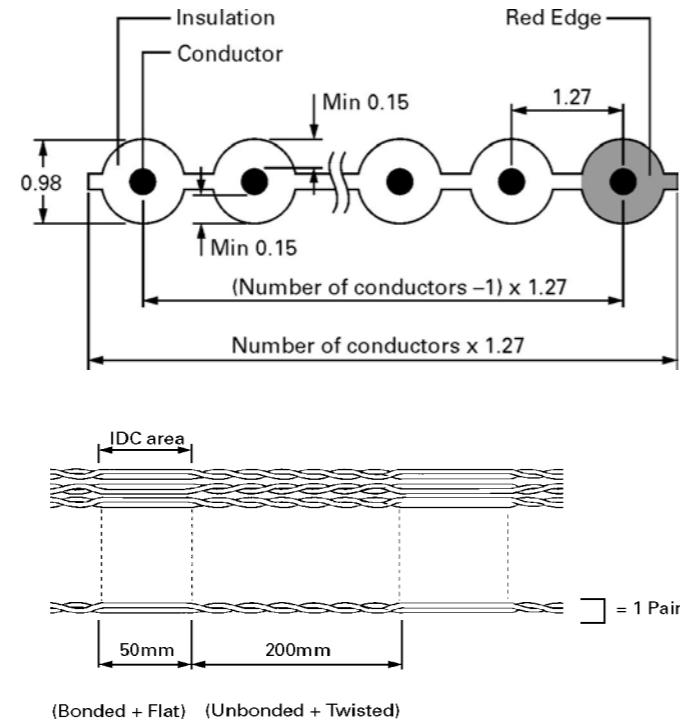
50MIL (1.27 MM) OKIFLEX-TP TYPE (150 V, 80°C)

SPECIFICATIONS

Conductor Resistance: 222 Ω/km max.
 Insulation Resistance: 10 MΩ min. (km)
 Dielectric Strength: 1,500 V AC / minute
 Flame Resistance: VW-1

FEATURES

- Twisted pairs designed to prevent crosstalk
- Twisted pairs are unbonded resulting in flexibility
- Regular flat sections for IDC termination
- UL Style No. 20591
- Can be used for connector types FAS,FGP
- Pin counts 10 to 68



SERIES UL20276

AWG 28 (7/0.1.27 MM) HITACHI MULTI PAIR CABLE (30 V, 80°C)

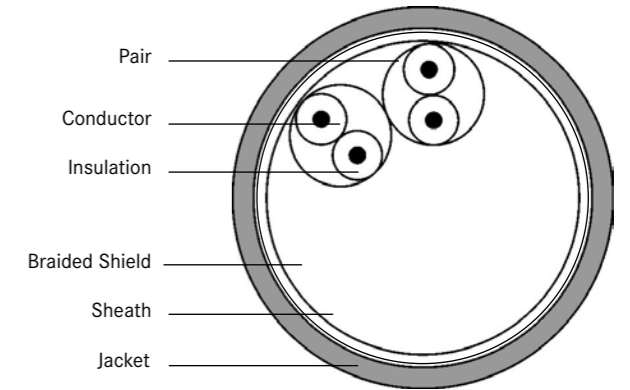
SPECIFICATIONS (WITH SHIELD)

Conductor Resistance: 246 Ω/km max.
 Insulation Resistance: 10 MΩ min. (km)
 Dielectric Strength: 300 V AC / minute
 Flame Resistance: VW-1SC

FEATURES

- High Density Multi twisted-pair cable with 28 AWG conductors in a round PVC jacket
- Irradiated PC thin insulation enables 50 MIL (1.27 mm) flat ends to accept SCSI type High Density IDC connectors
- Braided shielding minimize RFI / EMI
- UL Style No. 20276

CABLE DIMENSIONS



STANDARD CABLE LENGTH

- 200 meters per coil of conductors (pairs) 10P, 14P, 18P, 25P and 34P
- 100 meters per coil for conductors (pairs) 40P and 50P

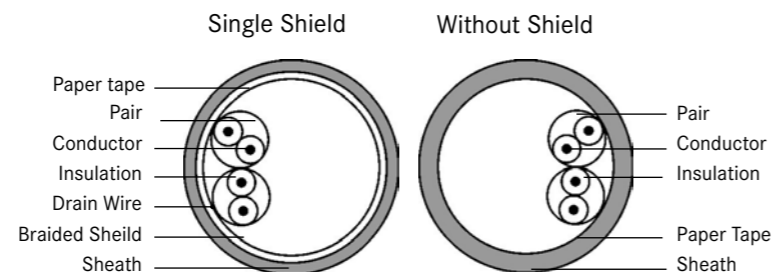
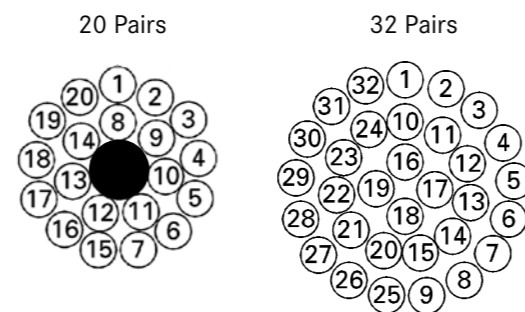
AWG 30 (7/0.1 MM) MULTI PAIR CABLE (30 V, 80°C)

SPECIFICATIONS (WITH SHIELD)

Conductor Resistance: 362 W/km max.
 Insulation Resistance: 1 MΩ min. (km)
 Dielectric Strength: 350 V AC / min.
 Flame Resistance: VW-1

FEATURES

- High Density Multi twisted-pair cable with 30AWG conductors in a round jacket
- Twisted pair effective against Crosstalk
- Single and double shield available for RFI / EMI reduction
- UL Style No. 20276
- Pin counts 10 to 100





INTRODUCTION

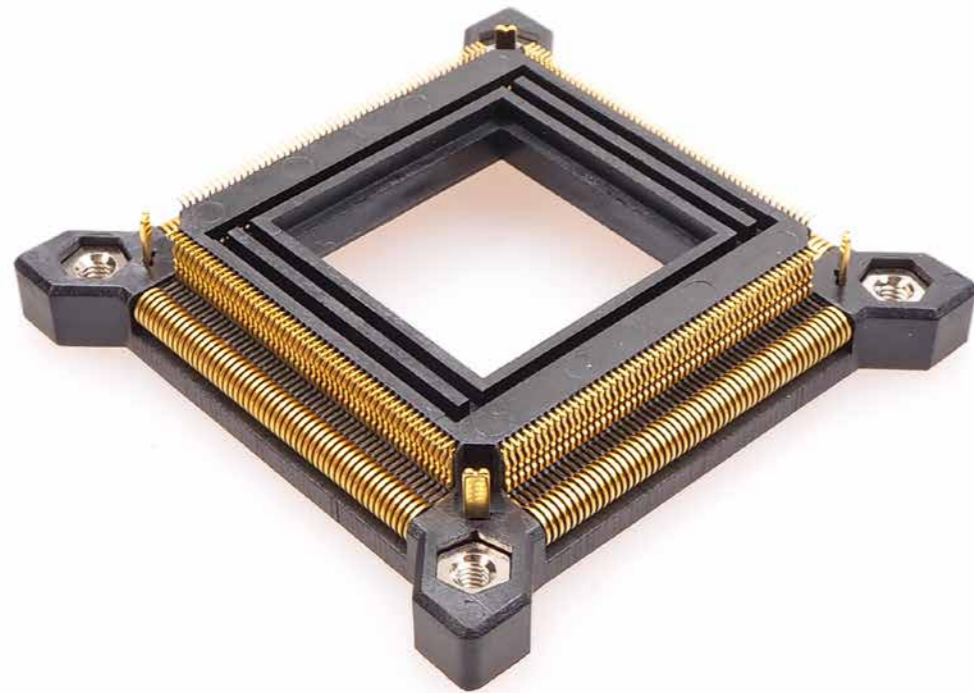
QFP-PRODUCTION USE SOCKET AND EMULATION-ADAPTER

YAMAICHI Electronics IC149-Series is available in many different formats, from 44 pins to 240 pins. It is designed to fit most of the common semiconductors from various manufacturers.

The PC-Board-Layout for this SMT-Socket-Series virtually corresponds to that of the semiconductor. Since the space required for this Socket is the same as the semiconductor itself, there is no need to change the PC-Board-Layout after finishing the experimental stage.

Once the Socket is no longer required for trials or testing, it can be removed without the necessity to redesign the PC-Board-Layout.

The insertion and fixing of the IC can be easily achieved by bolting the engaging top frame. To secure the Socket before soldering, it is also available with positioning pins.



IC149 - Socket



SERIES IC149 | IC160Z

QFP SOCKET

SPECIFICATIONS

Contact Resistance:
30 mΩ max. at 10 mA and 20 mV

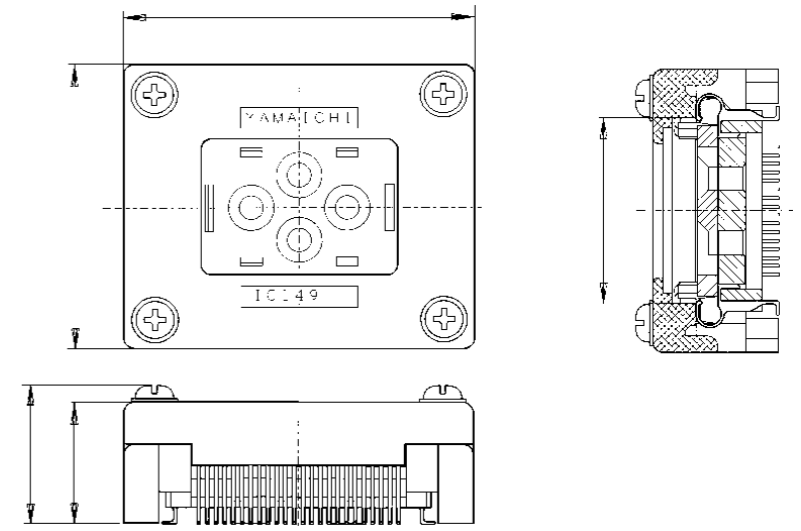
Dielectric Withstanding Voltage:
100 V_{eff} to 700 V_{eff} for 1 minute

Insulation Resistance:
500 MΩ at 150 V DC

Operating Temperature Range:
-25°C to +85°C

available pin counts from 44-240 pin
with and without positioning pin

OUTLINE SOCKET DIMENSIONS



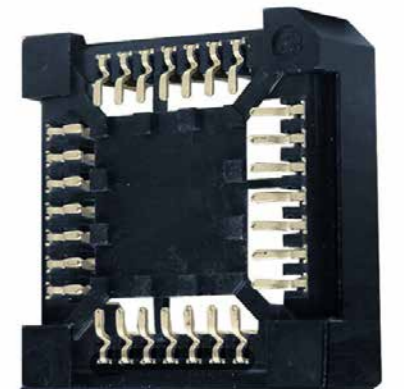
QFP SOCKET

SPECIFICATIONS

| | |
|------------------------------|--|
| Insulation Resistance: | 500 MΩ min. at 500 V DC |
| Withstanding Voltage: | 250 V AC for 1 minute |
| Contact Resistance: | 30 mΩ max. at 10 mA / 20 mV |
| Current Rating: | 1 A max. |
| Operating Temperature Range: | -55°C ~ +85°C |
| Soldering Temperature: | 220°C max. at 60 secs. max / 260° Peak |
| Insertion/Extraction Force: | 0.147 N / Pin min., 1.47 N / Pin max. |
| Mating Cycles: | 20 insertions max. |

FEATURES

- Low profile design (5.0 and 4.6 mm height)
- 2 different terminal styles available
- Designed for automatic mounting (SMT type)
- Sockets for pin counts from 20-84 pins available





INTERNAL CONNECTORS

YED-V1-2|3

TECHNICAL DATA ARE SUBJECT TO ALTERATION WITHOUT PRIOR NOTICE

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