



# EUROPEAN PRODUCT GUIDE CONNECTOR SOLUTIONS I TEST SOLUTIONS

# **ABOUT YAMAICHI ELECTRONICS**

#### WORLDWIDE



Yamaichi Electronics, established 1956 in Tokyo, designs, manufactures and markets high performance interconnection components, including those for use in the most demanding applications of electronic systems. The portfolio covers high precision fine pitch IC sockets, connectors, cable assemblies and flexible printed circuits. Yamachi has production facilities in Japan, the Philippines, Korea, China and Germany and employs 2,900 people worldwide.

#### EUROPE



Yamaichi Electronics Deutschland GmbH, located in Munich, is your European partner for connectivity solutions.

#### CONNECTOR SOLUTIONS

Portfolio: Card readers, board-to-cable and high speed connector systems, internal connectors, input/output connectors, circular connectors push-pull and M12, special industrial and automotive connectors, cables and cable assemblies as well as production sockets.

#### **TEST SOLUTIONS**

Portfolio: Test and Burn-in sockets, modular test contactors, module test adapter systems, receptacles, spring probe pins, PCB solutions and specialities.

### ENGINEERING EXPERTISE FOR OUR EUROPEAN CUSTOMERS

Two design centers in Munich (Germany) and Sousse (Tunisia) react quickly to market challenges and work with the most modern technologies for the realisation of customer needs, from product idea to qualified mass production.



#### PRODUCTION FOR THE EUROPEAN MARKET

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



#### QUALITY

Yamaichi Electronics is approved according to the current DIN EN ISO 9001:2008. The production in Frankfurt (Oder) is ISO 9001:2008 and ISO 14001:2004 certified.

# **CIRCULAR CONNECTORS**

# PUSH-PULL CIRCULAR CONNECTOR Y-CIRC<sup>®</sup> P

The Y-Circ<sup>®</sup> P push-pull circular connector series is designed, qualified and produced in Germany, which means fast reaction to the needs of our European customers.



The high vertical range of manufacturing ensures highest quality and short delivery times.



The product portfolio includes various matching accessories and cable assemblies.

#### Y-Circ<sup>®</sup> P characteristics

- Different connector types with various pin counts
- Various keying systems
- Solder and crimp contacts
- Chrome surface

#### YOUR ADVANTAGES

- Y-Circ<sup>®</sup> P is shorter than existing products
- · New half shell design for easy assembly
- Made in Germany
- Cost benefits



# M12 CIRCULAR CONNECTOR Y-CIRC<sup>®</sup> M

The Y-Circ<sup>®</sup> M series is a circular connector with thread mechanism locking according to M12 specifications. The product portfolio includes the standardised variations from A-coded to high-end X-coded Cat6<sub>A</sub>.

All variations are available as a cable assembly in different lengths and cable types.



#### Y-Circ<sup>®</sup> M characteristics

- A, B, D coding according to IEC 61076-2-101
- Optional high class EMI protection with 360° shielding
- X coding acc. to IEC 61076-2-109
- Optional vibration proof locking



- All-in-One cable assembly solutions
- · Modular system
- Made in Germany

# Y-CON<sup>®</sup> S E R I E S

# INDUSTRIAL RJ45 AND USB Y-CON® SERIES

INDUSTRIAL CONNECTORS

The IP protected, ruggedised Y-Con<sup>®</sup> system includes RJ45 and USB connectors & cable assemblies. A unique feature on the market is the optional integration of power contacts into the RJ45 mating face for transmission of up to 3.1A. The system enables data rates up to Cat6<sub>4</sub>.

### Y-CON<sup>®</sup> RJ45 SYSTEM

IP67/68/69K protected components in plastic or metal housing, special EMI protection







IP20 protected components with special locking feature, additional EMI protection



Cat6, connector, tool-free assembly



#### Plugs and jacks

for use with both IP67/68/69K and IP20 protected componets



#### Y-Con<sup>®</sup> ProfiNet



# Y-CON<sup>®</sup> USB SYSTEM

Standardised USB-A and USB-B connectors integrated into the existing platform, IP67/68/69K and IP20 protection with special locking feature

#### Y-ConUSB modules and pheripherals



# Y-CON<sup>®</sup> CABLE ASSEMBLIES

Cable assemblies with all RJ45, USB and customised components



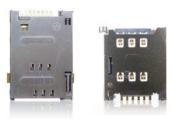
- RJ45 plus power transmission up to 3.1A
- Best in class products concerning protection against vibration, EMI and mechanical forces
- International protection code 67/68/69K
- Applicable for a wide temperature range



# CARD CONNECTORS

# **PRODUCT PORTFOLIO**

#### SIM and microSIM card readers



#### SD/MMC and microSD card readers



#### Ultra high speed card reader (UHS-2SD)



#### Compact Flash I and II / CFAST



#### Combination card connectors



#### **PCMCIA II connectors**



- Broad standard product range of card readers developed for harsh requirements such as those in the automotive industry
- Special technical features like 2-point contacts to ensure a stable contact point
- Very low profile designs
- Different handling mechanisms such as push-push, tray, push-lock

# **HIGH SPEED CONNECTORS**

# **BOARD-TO-CABLE SYSTEMS**

Non-ZIF solutions universal system with pin counts up to 64



for LVDS, HDMI, S-ATA , PCI-Express applications





**ZIF** solutions flip type connector with pin counts from 10 to 60





#### S-ATA cable system



#### YOUR ADVANTAGES

- Transfer rates up to 5Gbps
- · Large field of applications e.g. consumer devices, automotive electronics, telecom network equipment
- Impedance controlled high-speed transmission
- Special YFLEX<sup>®</sup> technology: outstanding electrical performance and dimensional stability, minimisation of EMI

### **TELECOM/DATACOM**

CFP4/CPF2/CFP connector system complete component solutions from connectors to mechanical components following MSA standard





# QSFP connector (eQSFP+)

with transmission capability of 32Gbps per channel, following MSA standard



AdvancedMC connectors for AdvancedTCA, µTCA and MCH





- Telecom products according to PICMG or MSA standard
- Designs based on the latest technical developments

# **INTERNAL CONNECTORS**

# **PRODUCT PORTFOLIO**

#### Board-to-Board and Board-to-Cable connectors

- 0.5mm connectors



- 1.27mm connectors



- 2.00mm connectors



#### - 2.54mm connectors



#### ZIF connectors for FFC and FPC cable



#### Power connectors

transfer up to 9A at a pitch of 3.0 and 4.2mm



Board Edge Connector and High-Speed Board Edge Connector (BEC) 230 pins for module cards (also according to the MXM1.0/Qseven standard), for harsh requirements of automotive and industrial applications



Additional power connector for 10 x 1.5A



Y-Lock<sup>®</sup> Pullforce connector and cable system Non-ZIF system designed with an



easy, quick and secure "One Push Lock" mechanism, 1.0 and 0.5mm pitch board-to-cable system



- Large product portfolio for applications ranging from consumer electronics to industrial systems
- Product range to serve all customer requirements like SMT/TH processing, different pitches and pin counts, different plating versions, horizontal and vertical types
- We offer also cable assembly solutions for all connectors

# **INPUT/OUTPUT CONNECTORS**



# **PRODUCT PORTFOLIO**

FAKRA and HSD connectors





#### **USB** connectors





MiniDIN





#### Modular jacks





### HDMI, DVI and Display Ports





#### D-Sub, HDD-Sub





#### SCSI and Mini Delta Ribbon





- Connectors for all relevant standard interfaces
- Connectors and matching cable assemblies
- Customer specific I/O connector solutions

# CABLES AND CABLE ASSEMBLIES PRODUCTION SOCKETS

# CABLE ASSEMBLIES

We offer standard and customised cable assemblies. With our "All-in-One Service" we provide profound consultancy in the development of customised cable assemblies. We design the solution, source material, produce in our own factory and test with sophisticated equipment - all out of one hand.



# CABLES

Flat cables



Flat / Round cables



Round and Multi Twisted Pairs



YFLEX<sup>®</sup> - FPC for high-speed



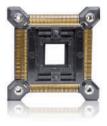
# **PRODUCTION SOCKETS**

Sockets are available in different grid sizes, pin counts and arrays in through-hole technology, as well as customer-specific mounting.

#### SO-DIMM



### QFP / TQFP / BQFP











#### PGA / SPGA



### TEST SOLUTIONS

# **CONTACTING PRODUCTS**

# CONTACTING SEMICONDUCTOR

#### Test & Burn-in sockets

- Pin through hole devices





- SMT devices





Y-RED

#### **Test contactors**

Full customised or unique

modular Y-RED<sup>®</sup> test contactor system for devices starting with 0.3mm pitch, special device form factors and / or electrical and thermal requirements





#### Receptacles

Additional adapter between the PCB and socket makes the socket easily pluggable.



#### Spring probe pins

High reliable contact portfolio ensures to meet customers requirements.



# CONTACTING MODULES

We offer test adapter systems that perfectly meet the challenges of maintaining high-speed signal integrity by means of superior and reliable contact design. Our products include vertical and horizontal test adapters for both burn-in and functional testing.

Test adapters for computer-on-modules such as Qseven, DIMM, ComExpress, SMARC and customised versions



#### Card edge connectors



#### FPC and FFC clip connectors and sockets



- Reliability and endurance
- Impedance controlled
- Volume test ready
- In-line volume test

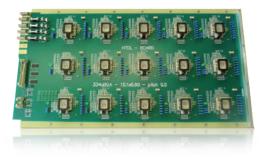
# PCB DESIGN AND SPECIALITIES

# **PCB SOLUTIONS**

Our European Design Center (EDC) for electrical engineering of interconnectivity products and systems (such as test applications, failure analysis and reliability) uses the Altium Designer software for PCB design. Our engineers are experts in all PCB related design challenges and carry out superior PCB design work.



Yamaichi Electronics is a system supplier supporting customers with decades of know-how in test philosophy, contacting, placement and routing of integrated semiconductor components in test environments, for example in DUT/Load Board, HTOL/HAST Board developments etc.



We are certified by the IPC Designer Council as a C.I.D. (Certified Interconnect Designer). Yamaichi Electronics is also a member of FED, the trade association for electronics design.

# CUSTOMER-SPECIFIC DESIGNS

Yamaichi Electronics offers special designs in close cooperation with the customer and according to their requirements and rules.

We have more than 100 contact interfaces with multiple plunger styles for pitches between 0.30 and 2.54mm available in stock.

We can vary the base, spring and plating material. Custom contacts are available, as are several elastomeric contact interfaces. Alternatively we can also provide stamped, etched or eroded contacts.

For milled mechanical and isolator piece parts we use high-temperature and high-resistance proofed plastic materials. Materials with a controlled reduced resistivity are available as well.

• High-Rel applications



• Dockings for manual and automatic handling





• Semi-automatic test cells

