



Quality

Compact

Speedy

Variations

Simple

Technology

Slim

Custom

Research

Micro Coaxial Cable Connector

Half Pitch Connector

Floating Connector

Discrete Wire Cable Connector

Fine Pitch Connector

Interface Connector

Battery Connector

Card Connector

IC Socket

Switch

Backplane Connector

Card Edge Connector

Terminal Block

Backplane

**KEL CORPORATION**

# Connection Technology That Links To The Future



Through close communication with our customers and Relentless R&D activities, KEL gives life to advanced connection technology.

Since our founding in 1962, KEL has specialized as a manufacture of industrial-use connectors. As the trend toward the miniaturization and ever-higher performance of electronic equipment continues to press forward, we have maintained or track record of pursuing outstanding connectivity attributes and high performance in our products.

Relentless research and development has endowed KEL with leading-edge connection technology, such as half-pitch connectors, which we developed one step ahead of the competitors. Drawing on our know-how and long experience, we have acquired the technology and response capability to meet the every need of the electronics industry. KEL places the utmost importance on the communication we have with our customers. Close communication enables us to identify not only the customers' needs that we must fulfill, but also the "wants" that will lead to the next generation, Moreover, through close application to original R&D activities, KEL has also taken the lead in providing products that stand ahead of the rest.

To achieve the bright future that electronics beckons us to, we at KEL are resolved to continue our hard work in the field of connection technology to deliver leading-edge technical proposals and high-performance products. KEL is a company that responds creatively to the steeply advancing technologies and markets. Expect to see that same spirit of innovation and response capability from us going forward.

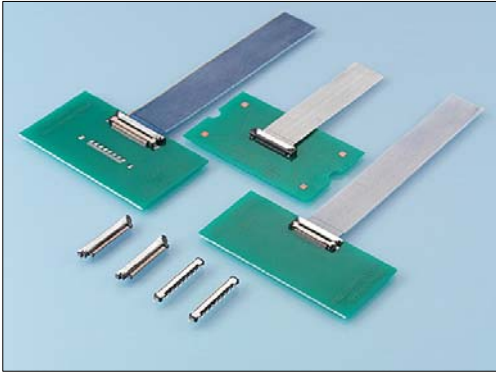


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# Micro Coaxial Cable Connector



## KEL Micro Coaxial Connectors Outline

The connector for micro coaxial cables of our company is the product which realizes small and thin shape of an industry record level, and can contribute to the miniaturization of apparatus. Therefore, a miniaturization and highly efficient of apparatus, such as a cellular phone, a digital camcorder, and medical apparatus, serve as a product suitable for the product called for simultaneously.

The micro coaxial cable is excellent in crookedness nature with the very thin cable. Therefore, it is suitable for the complicated management inside apparatus, the arm of the robot for industry, the main part of a digital camcorder and use of the part asked for a complicated motion called between liquid crystals.

Moreover, since it is a coaxial cable, it excels in high-speed transmission or the measure against a noise, and has become the optimal product for high-end products, such as an electron microscope, medical equipment, a business-use camera.



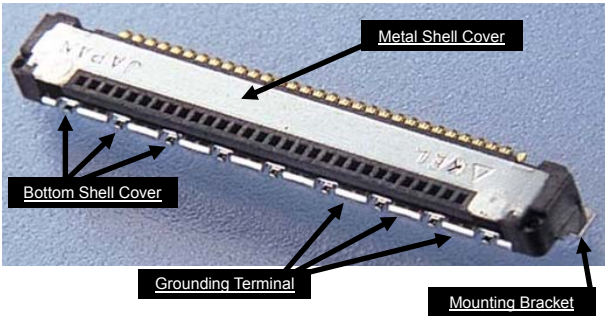
The connector for super thin coaxial cables of our company is taken as the product it was considered that did not drop on a connector portion the transmission characteristic which is the feature of such a coaxial cable as much as possible.

The connector for micro coaxial cables of our 0.5mm pitch "SSL series", I have had in stock a 0.25mm pitch "XSL series" of a 0.4mm pitch "USL series" 0.4mm pitch stack connection type "USLS series" and the industry minimum level, and abundant lineup. The direction troubled by the connection in small apparatus, connection of a movable part, the measure against a noise, etc. should examine the connector for super thin coaxial cables of our company.



# Micro Coaxial Cable Connector

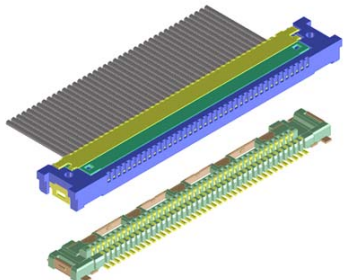
## Grounding of PCB Side Connectors



- All four sides of receptacle are surrounded by metal shell covers with 2mm pitch multiple grounding terminals.

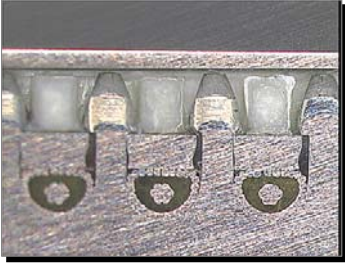
## Benefits of Using KEL Products

- (1) Proven track record of performance and reliability.**
  - First successful application of micro coaxial cables in Mobile phones. More than two million sets supplied.
- (2) IDC Technology.**
  - First ever application of IDC in micro coaxial cable connectors. Achieved compactness, lead free and reliability, all at once.
- (3) Synergy between connector and cable assembly technologies.**
  - KEL is among a handful of connector manufacturers who have a significant cable assembly operation.



# Micro Coaxial Cable Connector

## IDC Cross Section



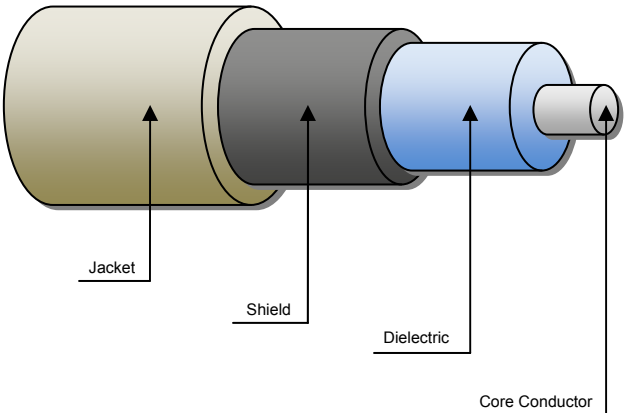
- IDC (Insulation Displacement Contact) technology is used for the cable connection of KEL SSL, USL and USLS Series connectors.

### < The Advantage of IDC >

- (1) Simultaneous IDC will ensure uniform, stable connection quality.
- (2) No Solder Connection – Lead Free.
- (3) No Ground Bars – No need for sub-assemblies.  
(Minimal assembly process)
- (4) Compact product design.

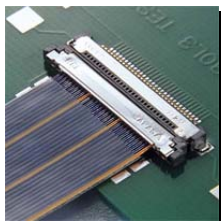


## Micro Coaxial Cable Cores



# Micro Coaxial Cable Connector

## KEL Micro Coaxial Cable Connectors Line-up



<b><u>Series name</u></b>	: SSL series PCB side ; SSL00 series Cable side ; SSL20 series
<b><u>Pitch</u></b>	: 0.5mm
<b><u>Mounting style</u></b>	: SMT (PCB side), I.D.C. (Cable side)
<b><u>Termination</u></b>	: SMT Right Angle (PCB side) SMT Straight (PCB side) Straight (Cable side)
<b><u>Acceptable wire</u></b>	: #40 AWG
<b><u>No. of contacts</u></b>	: 10, 20, 30, 40

<b><u>Series name</u></b>	: USL series PCB side ; USL00 series Cable side ; USL20 series
<b><u>Pitch</u></b>	: 0.4mm
<b><u>Mounting style</u></b>	: SMT (PCB side), I.D.C. (Cable side)
<b><u>Termination</u></b>	: SMT Right Angle (PCB side) Straight (Cable side)
<b><u>Acceptable wire</u></b>	: #42 AWG
<b><u>No. of contacts</u></b>	: 20, 30, 40



<b><u>Series name</u></b>	: USLS series PCB side ; USLS00 series Cable side ; USLS20 series
<b><u>Pitch</u></b>	: 0.4mm
<b><u>Mounting style</u></b>	: SMT (PCB side), I.D.C. (Cable side)
<b><u>Termination</u></b>	: SMT Straight (PCB side) Right Angle (Cable side)
<b><u>Acceptable wire</u></b>	: #42 AWG
<b><u>No. of contacts</u></b>	: 20, 30

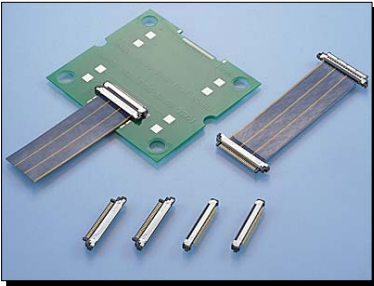
<b><u>Series name</u></b>	: XSL series PCB side ; XSL00 series Cable side ; XSL20 series
<b><u>Pitch</u></b>	: 0.25mm
<b><u>Mounting style</u></b>	: SMT (PCB side), Pulse Heat Soldering (Cable side)
<b><u>Termination</u></b>	: SMT Right Angle (PCB side) Straight (Cable side)
<b><u>Acceptable wire</u></b>	: #44 AWG, #46 AWG
<b><u>No. of contacts</u></b>	: 48



# Micro Coaxial Cable Connector

## 0.5mm Pitch IDC Connector for Micro Coaxial Cable

[ SSL series ]



### [ Outline ]

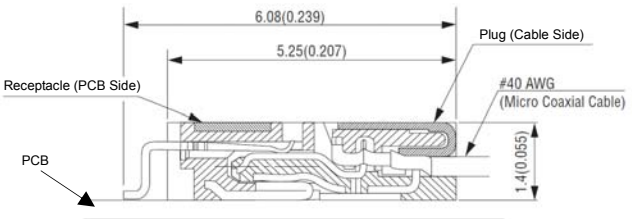
- Pins : 10, 20, 30 and 40
- Contact Tail Style :  
Receptacle (PCB Side) ;  
Straight and Right Angle  
Plug (Cable Side) ; Straight
- Acceptable Wire : #40 AWG

### [ Features ]

- Ultra low profile with 1.4mm(0.055") height.
- 0.5mm(0.020") pitch 2 piece connector.
- Coaxial cable and metal shell on connector provide excellent transmission and EMI protection.
- Allows high speed multi-line transmission through narrow tubes and/or hinges.
- IDC cable assembly. (No solder connection)
- No need for special extracting tools.
- RoHS compliant.

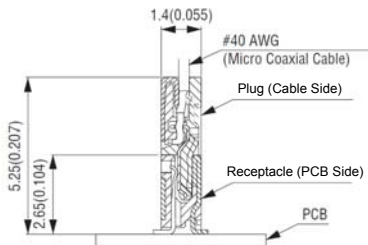
### [ Mating Cross-Section Drawing ]

Receptacle (PCB Side) : Right Angle  
Plug (Cable Side) : Straight



### [ Mating Cross-Section Drawing ]

Receptacle (PCB Side) : Straight  
Plug (Cable Side) : Straight

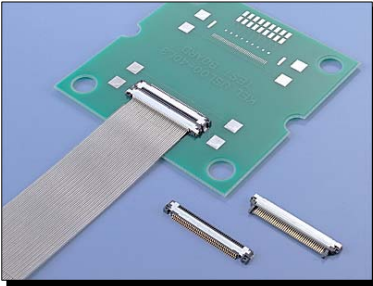




# Micro Coaxial Cable Connector

## 0.4mm Pitch IDC Connector for Micro Coaxial Cable

[ USL series ]



### [ Outline ]

- Pins : 20, 30 and 40
- Contact Tail Style :  
Receptacle (PCB Side) ; Right Angle  
Plug (Cable Side) ; Straight
- Acceptable Wire : #42 AWG

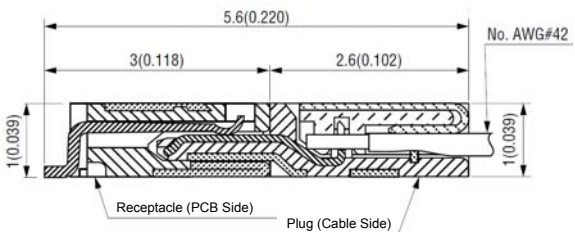
### [ Features ]

- Ultra fine pitch 0.4mm(0.016").
- Low profile 1mm(0.039").
- More than 50% space saving compared to our SSL series. (0.5mm pitch)
- For micro coaxial cable. (#42 AWG)
- Metal shell on connector provides excellent EMI protection and mechanical strength.
- IDC cable assembly. (No solder connection)
- RoHS compliant.

### [ Mating Cross-Section Drawing ]

Receptacle (PCB Side) : Right Angle

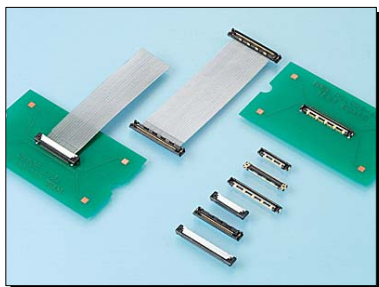
Plug (Cable Side) : Straight



# Micro Coaxial Cable Connector

## 0.4mm Pitch IDC Connector for Micro Coaxial Cable Stacking Type

[ USLS series ]



### [ Outline ]

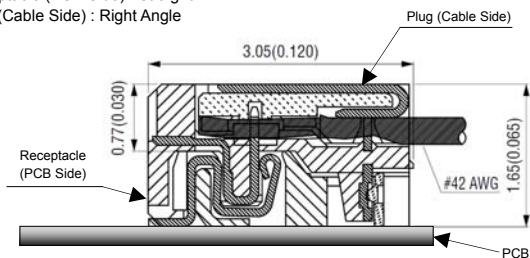
- Pins : 20 and 30
- Contact Tail Style :  
Receptacle (PCB Side) ; Straight  
Plug (Cable Side) ; Right Angle
- Acceptable Wire : #42 AWG

### [ Features ]

- Ultra low profile 1.65mm(0.065") with 0.4mm pitch.
- Mating dimensions : 3.05mm(0.120").
- 3.05mm width for Plug (Cable side) allows inserting the cables through narrow hinge shafts.
- Designed for micro coaxial cable. (#42 AWG)
- Coaxial cable and metal shell on connector provide excellent transmission and EMI protection.
- Highly reliable design with effective contact displacement of 0.35mm(0.014").
- IDC cable assembly. (No solder connection)
- RoHS compliant.

### [ Mating Cross-Section Drawing ]

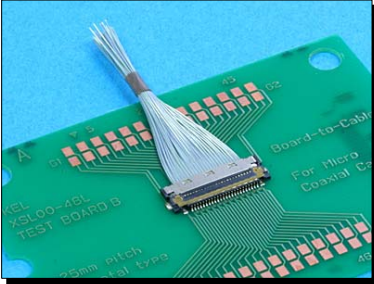
Receptacle (PCB Side) : Straight  
Plug (Cable Side) : Right Angle



# Micro Coaxial Cable Connector

## 0.25mm Pitch Connector for Micro Coaxial Cable

[ XSL series ]



### [ Outline ]

- Pins : 48
- Contact Tail Style :
  - Receptacle (PCB Side) ; Right Angle
  - Plug (Cable Side) ; Straight
- Acceptable Wire :
  - #44 AWG and #46 AWG

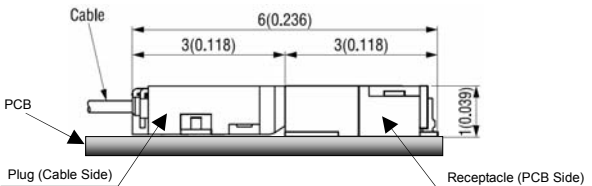
### [ Features ]

- Ultra fine pitch 0.25mm(0.010").
- Ultra low profile 1mm(0.039").
- For micro coaxial cable (#44 AWG, #46 AWG)
- Signal terminals are soldered by Pulse Heat in one shot and keep a stable & highly reliable connection.
- Multiple ground terminals for enhanced data transmission and EMI protection.
- Highly reliable design with effective contact displacement of 0.51mm(0.020").
- The bottom shell of the cable side connector and the entire shell of the board side connector are plated with gold for positive contact.
- Can be automatic or manually placed
- RoHS compliant.

### [ Mating Cross-Section Drawing ]

Receptacle (PCB Side) : Right Angle

Plug (Cable Side) : Straight



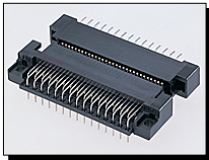
# Half Pitch (1.27mm) 2 Piece Connector



## [ 8900 series ]

- The 8900 series products are easy to use, small, compact half pitch connectors. The new concept has been introduced that has follow-up property and each receptacle and plug has springs. It has accomplished highly reliable products even though it adopts one-point contact.

- Similar to the 8800 series, this series allows 3D mating (horizontal, vertical and stacked), board to board combination and combination with cable types. We have achieved the world's lowest profile of 11.8mm with our cable type. In consideration of high density mating and easy handling, the 8900 series makes both DIP and SMT mating possible. Since the harness assembly employs the same contact mating method as the pressure contact concept for the 8825E series, anyone can connect the connectors easily and surely the same as MIL standard cable connectors.



## [ 8800 series ]

- These next-generation connectors have been sold for more than 20 years. This product is still used in leading electronic devices and its quality, originality, and innovation remain as strong as ever. By precisely meeting the needs of the times, we have achieved good results and developed a product line of various products that are best sellers and are still growing.

- The contact concept of "the contacts with two mating points straight-beam construction" meets the needs of the new era. The 8800 series are connectors that are safe, easy to use, reliable, and offer many different configurations (options). We strongly recommend the use of these products for your business since these products have a great, unrivaled variety, capability to flexibly handle a special order, durability under various uses, and high quality.

# Half Pitch (1.27mm) Connectors

## Low Profile IDC Connector

### 1.27mm Pitch IDC Connector Low Profile Type

[ 8925(E) series ]

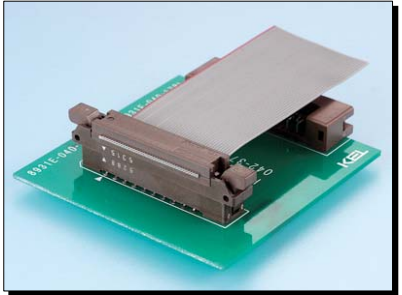


#### [ Outline ]

- Pins : 20, 30, 40, 50, 60, 68, 80 and 100
- Contact Tail Style :  
Plug (PCB Side) ; Straight (DIP/SMT) and Right angle (DIP)
- Acceptable Wire : #30 AWG

#### [ Features ]

- Mating process is reliable and self-aligning.
- Low insertion and withdrawal force.
- Insulator protects contacts from damage.
- Mating height is only 11.8mm. (8925R)
- Ability to make "daisy chain" cable assemblies.
- One-touch locking ejector system. (8925E and 8925R series)
- RoHS compliant.



# Half Pitch (1.27mm) Connectors

## Low Profile IDC Connector

### 8925(E) Series Line-up



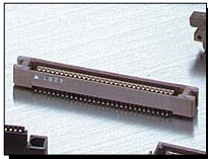
- Series name : 8925 series
- Connector style : Receptacle (Cable side)
- Termination : I.D.C.
- Product type : With strain relief, Without eject lock



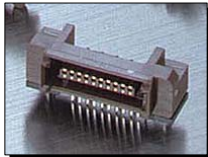
- Series name : 8925E series
- Connector style : Receptacle (Cable side)
- Termination : I.D.C.
- Product type : With strain relief, With eject lock



- Series name : 8925R series
- Connector style : Receptacle (Cable side)
- Termination : I.D.C.
- Product type : Without strain relief, With eject lock



- Series name : 8930E series
- Connector style : Plug (PCB side)
- Termination : SMT
- Terminal style : Straight



- Series name : 8931E series
- Connector style : Plug (PCB side)
- Termination : DIP
- Terminal style : Straight & Right angle

# Half Pitch (1.27mm) Connectors

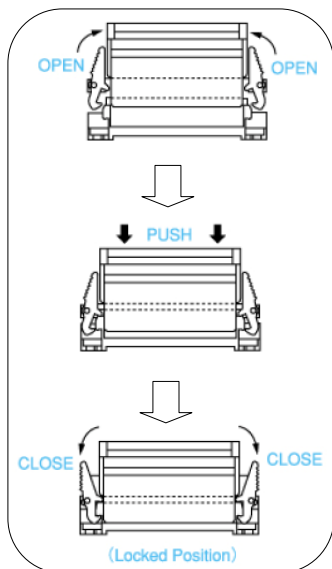
## Low Profile IDC Connector

### 8925(E) Series Mating Combination (Mated Height / Mated Distance)

Plug Connector (PCB Side)	Receptacle Connector (Cable Side)		
	8925 Series	8925E Series	8925R Series
8930E Series (Straight)	Mated Height 15mm (0.591")	Mated Height 15mm (0.591")	Mated Height 11.8mm (0.465")
8931E Series (Straight)	Mated Height 15mm (0.591")	Mated Height 15mm (0.591")	Mated Height 11.8mm (0.465")
8931E Series (Right Angle)	Mated Distance 20.0mm (0.787")	Mated Distance 20.0mm (0.787")	Mated Distance 16.8mm (0.661")

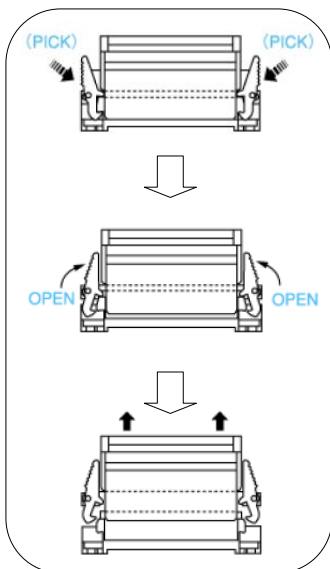
### Locking Ejector System

[ Way to Insert ]



- Open the ejectors 8925(E) series and insert into 8930E/8931E series until the latches fully engage.

[ Way to Withdrawal ]



- Press on both sides of the 8925E series ejectors to release the connector from the plug connector.

# Half Pitch (1.27mm) Connectors

## Low Profile IDC Connector

### Our Custom Harness Manufacturing Support



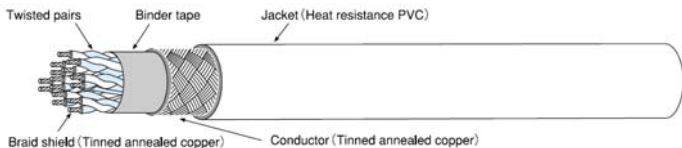
- We are providing cable assemblies (harnesses) with connectors.  
Even if the harness products that you need are not listed in our catalog, we are flexible and can customize a solution for your request. Please feel free to contact your local sales office for more information.

#### [ Custom Harness (Example with small O.D. I/O Cable) ]

- Can be fabricated for smaller diameter and lower weight.
- Make batch by laminating and pressure-welding.
- Optional processes available for noise prevention, connection of braid shields, drain wire connections, conductive tape, etc.
- Various cable lengths are available. (Min. : L=12cm)
- Using small O.D. I/O cable can save space limitation. (#30 AWG)

\* For custom harness, please contact your local sales office.

#### [ Thin-Cable Structure ]



#### < SPECIFICATIONS >

- AWG Size : #28 AWG
- Material : TA (Stranded conductor)
- Max. conductor resistance : 246Ω (km)
- Insulation resistance : 10MΩ (km)
- Dielectric withstanding voltage : 300V AC for 1 minutes



# Half Pitch (1.27mm) Connectors

## Low Profile Board to Board Connector

### 1.27mm Pitch Connector Low Profile Type (Board to Board)



[ 1.27mm Pitch Board to Board Connector ]

- Series name : 8900 series
- Pins : 20, 30, 40, 50, 60, 80, 100 and 120 pins
- Termination : DIP
- Contact tail style  
Receptacle ; Straight and Right Angle  
Plug ; Straight and Right Angle

[ 1.27mm Pitch Board to Board Connector (SMT) ]

- Series name : 8900MS series
- Pins : 20, 30, 40, 50, 60, 80, 100 and 120 pins
- Termination : SMT
- Contact tail style  
Receptacle ; Straight  
Plug ; Straight

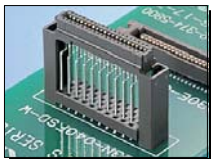


[ 1.27mm Pitch Board to Board Connector Selective Mating Height Type ]

- Series name : 8911-FL series
- Pins : 20, 30, 40, 50, 60, 80 and 100 pins
- Termination : DIP
- Contact tail style  
Plug ; Right Angle
- Standoff height : 1, 1.5, 2, 2.5, 3 and 4mm

[ 1.27mm Pitch Board to Board Connector Flexible Stack Type ]

- Series name : 8903N-FS series
- Pins : 40, 50, 60, 68, 80 and 100 pins
- Termination : DIP
- Contact tail style  
Receptacle ; Straight
- Stacked height : 20, 22, 24, 26, 28 and 30mm



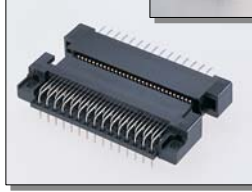
### [ KEL Low Profile Connectors (Half Pitch) Board to Board Mating Matrix ]

Receptacle Connector	Plug Connector			
	8900 Series (Straight)	8900 Series (Right Angle)	8900MS Series (Straight)	8911-FL Series (Right Angle)
8900 Series (Straight)	Yes (Stack)	Yes (Vertical)	Yes (Stack)	Yes (Vertical)
8900 Series (Right Angle)	Yes (Vertical)	Yes (Horizontal)	Yes (Vertical)	Yes (Horizontal)
8900MS Series (Straight)	Yes (Stack) *only 8913	No	Yes (Stack)	No
8903N-FS Series (Straight)	Yes (Stack) *only 8913	No	Yes (Stack)	No

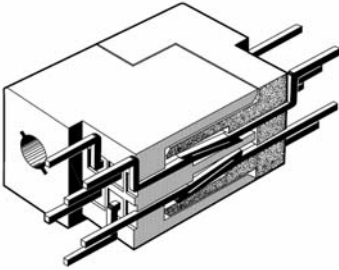
# KEL Half Pitch Connectors (1.27mm Pitch)

## [ Outline ]

- The contact concept of "the contacts with two mating points straight-beam construction" meets the needs of the new era. The 8800 series are connectors that are safe, easy to use, reliable, and offer many different configurations (options).



## [Contact with 2 mating points straight-beam construction ]



- KEL has developed a unique straight beam contact with two independent mating points for male and female half pitch connectors which offers low insertion and withdrawal forces with high reliability. In response to the rapidly changing requirements for connectors, from card edge to standard pitch two piece to half pitch two piece, KEL offers these connectors for today's requirement for high density and reliability.



## [ Movement of contact point ]

- Highly reliable 2 point connection.



- The contact design features 2 mating points and straight beam construction, which offers low insertion force and high reliability.



- This ingenious design creates a long wiping action for both contacts upon insertion, 2 separate contact points for excellent continuity and straight-beam construction resulting in excellent reliability.

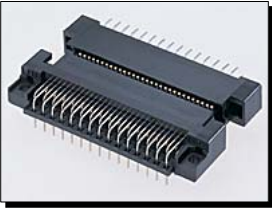


- Mating process of contacts is self-cleaning with a long wiping area.



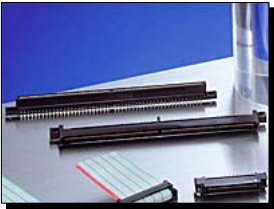
# KEL Half Pitch Connectors (1.27mm Pitch)

## 1.27mm Pitch Board to Board Connectors



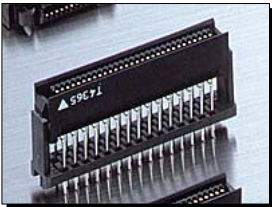
[ 1.27mm Pitch Board to Board Connector ]

- Series name : 8800 series
- Pins : 20, 26, 30, 32, 34, 40, 50, 52, 60, 68, 80 and 100
- Termination : DIP
- Contact tail style :
  - Receptacle ; Straight and Right Angle
  - Plug ; Straight and Right Angle



[ 1.27mm Pitch Board to Board Connector Multi-Pin Type ]

- Series name : 8806/8807 series
- Pins : 120, 140, 160, 180 and 200
- Termination : DIP
- Contact tail style :
  - Receptacle ; Straight and Right Angle
  - Plug ; Straight and Right Angle



[ 1.27mm Pitch Board to Board Connector Flexible Stack Height Type ]

- Series name : 8832E-FS series
- Pins : 20, 30, 40, 50, 60, 80 and 100
- Termination : DIP
- Contact tail style :
  - Plug ; Straight

# KEL Half Pitch Connectors (1.27mm Pitch)

## 1.27mm Pitch Board to Cable Connectors

[ 1.27mm Pitch Board to Cable Connector

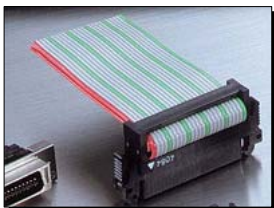
IDC for 1.27mm Flat Cable (Without Locking Ejector System) ]



- Series name : 8822 series
- Pins : 20, 26, 30, 32, 34, 40, 50, 52, 60 and 68
- Termination : Cable side ; I.D.C.  
PCB side ; DIP
- Contact tail style :  
Plug (PCB side) ; Straight and Right Angle
- Product type :  
Cable side ; With strain relief (8822)  
PCB side ; Without hooks (8830)  
With hooks (8831)  
\*Only right angle type

[ 1.27mm Pitch Board to Cable Connector

IDC for 1.27mm Flat Cable (With Locking Ejector System) ]



- Series name : 8822E series
- Pins : 20, 26, 30, 32, 34, 36, 40, 50, 52, 60, 68,  
80 and 100
- Termination : Cable side ; I.D.C.  
PCB side ; DIP
- Contact tail style :  
Plug (PCB side) ; Straight and Right Angle
- Product type :  
Cable side ; With strain relief (8822E)  
PCB side ; Without hooks (8830E)  
With hooks (8831E)  
\*Only right angle type

[ 1.27mm Pitch Board to Cable Connector

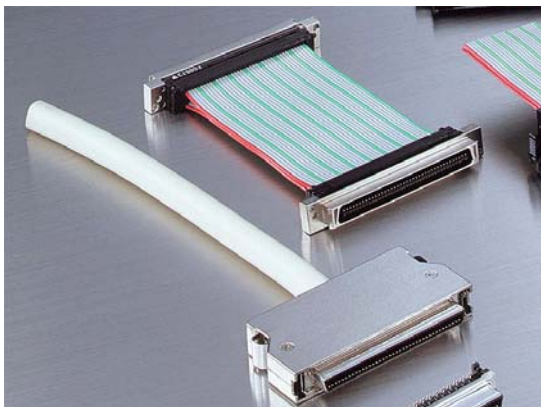
IDC for 0.635mm Flat Cable (With Locking Ejector System) ]



- Series name : 8825E series
- Pins : 20, 26, 30, 32, 34, 40, 50, 60, 68, 80 and 100
- Termination : Cable side ; I.D.C.  
PCB side ; DIP
- Contact tail style :  
Plug (PCB side) ; Straight and Right Angle
- Product type :  
Cable side ; With strain relief (8825E)  
Cable side ; Without strain relief (8825R)  
PCB side ; Without hooks (8830E)  
With hooks (8831E)  
\*Only right angle type

# KEL Half Pitch Connectors (1.27mm Pitch)

## 1.27mm Pitch I/O Connectors (Board to Cable / Cable to Cable)



### [ Outline ]

- The 8840/8850/8855 series are 1.27mm pitch EMI shielded interface connectors. Their design is the optimum for reducing the size, increasing the mounting density, and multiplying the function of electronic devices. In addition, numerous variations are available including receptacles with lateral and longitudinal cable exits.



- Series name : 8840 series
- Pins : 20, 28, 34, 50, 60, 68, 80 and 100
- Product type : Cable side connector  
(Straight cable exit)
- Termination : I.D.C.

- Series name : 8850E series
- Pins : 20, 28, 34, 50, 60, 68, 80 and 100
- Product type : PCB side connector
- Contact tail style : Straight and Right Angle
- Termination : DIP



- Series name : 8855 series
- Pins : 20, 28, 34, 50, 60, 68, 80 and 100
- Product type : Cable plug connector  
(Cable to Cable)
- Termination : I.D.C.

# KEL Harness

## Application Example



- Connector : 8925E series
- Used cable : #30 AWG (7/0.102)  
Round cable specification
- Processing : Shielded
- End use device : MFP
- Application : Connection between units

- Connector : 8825R series
- Used cable : #30 AWG (7/0.102)  
Flat cable specification
- Processing : Mesh processing
- End use device : MFP
- Application : Connection between boards



- Connector : 8825R series
- Used cable : #30 AWG (7/0.102)  
Flat cable specification
- Processing : Cable protection processing
- End use device : MFP
- Application : Connection between boards

- Connector : 8825E series
- Used cable : #28 AWG (7/0.127)  
Round cable specification
- Processing : Shielded + with drain line
- End use device : Ticket gate machine
- Application : Connection between units



- Connector : 8825E series
- Used cable : #30 AWG (7/0.102)  
Round cable specification
- Processing : With cable boots + drain line
- End use device : Communication system
- Application : Connection between units

# 0.5mm Pitch Floating Connector



## [ Outline ]

- Type :  $\pm 0.5\text{mm}$  displacement in XY direction.
- Pins : 30, 40, 50, 60, 80, 90, 100, 120 and 140  
\*Available pin count varies with the product type.
- Contact tail style :
  - Receptacle (Floating side) ; Straight
  - Plug ; Straight and Right Angle
- Mating height : 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14mm  
\*11mm : 140 pin type only

## [ Features ]

- 0.5mm pitch floating connector.
- Location error offsets  $\pm 0.5\text{mm}$  in the XY direction.
- High reliable design with effective contact displacement of 1.25mm.
- Suction area for automated mounting provided.
- Positioning posts are optional for manual mounting.
- 2 mating variations. (Stacked and Vertical)
- Shape of retention clip forming the large fillet.
- RoHS compliant.



# 0.5mm Pitch Floating Connector

## DY Series Product Line-up



### [ DY0X-XXXS-X.....Receptacle (Floating Side) ]

- Pins : 30, 40, 50, 60, 80, 90, 100, 120 and 140
- Contact tail style : Straight
- Termination : SMT
- Product type : Without positioning posts (DY00)  
With positioning posts (DY10)



### [ DY1X-XXXS-X-X.....Plug (Stacked mated) ]

- Pins : 30, 40, 50, 60, 80, 100, 120 and 140
- Contact tail style : Straight
- Termination : SMT
- Stacked height : 5, 6, 7, 8, 9 and 10mm
- \*The product of 30 pin, 40 pin and 50 pin corresponds to the type of 5mm, 6mm and 7mm in the stack height.
- Product type : Without positioning posts (DY10)  
With positioning posts (DY11)



### [ DY1X-XXXFS-.....Plug (High stacked mated) ]

- Pins : 60, 80, 100, 120 and 140
- Contact tail style : Straight
- Termination : SMT
- Stacked height : 11, 12, 13 and 14mm \*11mm : 140 pin only
- Product type : Without positioning posts (DY10)  
With positioning posts (DY11)



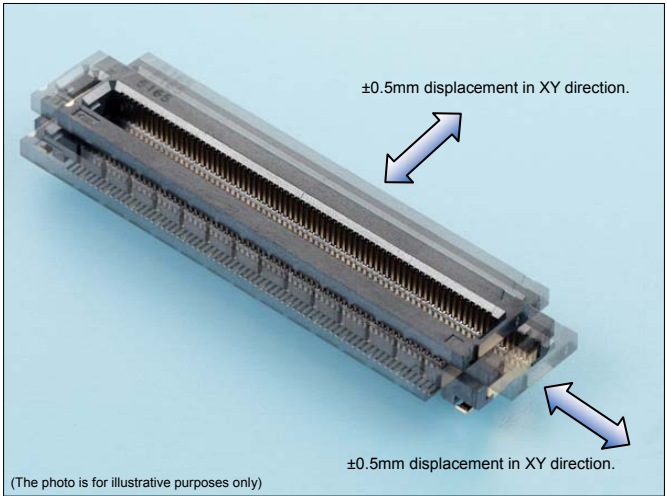
### [ DY1X-XXXL.....Plug (Vertical mated) ]

- Pins : 30, 40, 50, 60, 80, 90 and 100
- Contact tail style : Right Angle
- Termination : SMT
- Product type : Without positioning posts (DY10)  
With positioning posts (DY11)



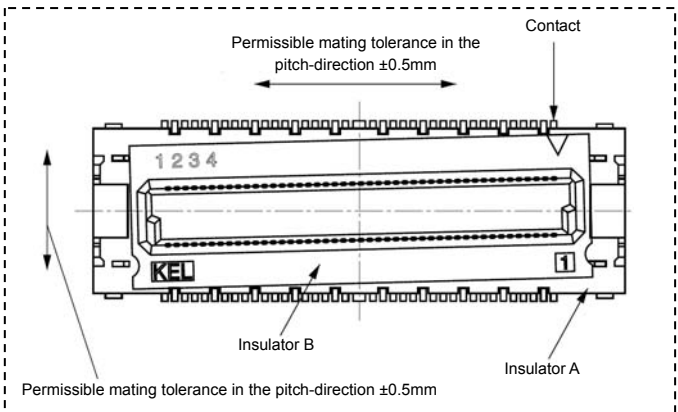
# 0.5mm Pitch Floating Connector

## Floating Connector Outline



### [ Floating Connector Outline ]

- When the connector is mounted on the printed circuit board, a location error in the two directions of horizontal and vertical (XY direction) may occur at both connectors. In addition, if each printed circuit board is fixed to a case by screws after mating connectors, the connectors may have to compensate for the location error because a gap occurs during screwing to the printed circuit board. A connector having a tolerance to compensate for such an error or gap caused by vibration is called a floating connector. The DY series is a 0.5mm fine pitch connector with  $\pm 0.5\text{mm}$  floating mechanism and ensures sufficient compensation for location errors.



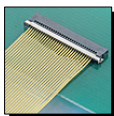
# KEL Products

## Fine Pitch Connectors



### [ TMC series ]

- 0.5mm Pitch 2 Piece Connectors for Micro Coaxial Cable and Discrete Wire Cable



### [ DCC series ]

- 0.5mm Pitch 2 Piece Connectors Low Profile IDC Connector for Discrete Wire Cable



### [ DG01 series ]

- 0.5mm Pitch 2 Piece Connectors Multi-Pin SMT Type



### [ 8600 series ]

- 0.635mm Pitch 2 Piece Connectors SMT Type



### [ 8602E series ]

- 0.635mm Pitch 2 Piece Connectors SMT Type (One-Touch Locking Ejector System)



### [ DJ series ]

- 1mm Pitch 2 Piece Connectors for Media Devices



### [ 87 series ]

- 1mm Pitch 2 Piece Connectors SMT Type

## Interface Connectors



### [ DJ40/50 series ]

- 1mm Pitch 2 Piece Connectors (EMI Shield Interface Connector)

\*Should you want more informations, please contact your local sales office.

# KEL Products

## Battery Connectors



- [ GC/GD series ]
- Battery Connectors  
(GC: 5mm Pitch, GD : 3mm Pitch)



- [ GF series ]
- 2mm Pitch 2 Piece Battery Connectors

## Card Connectors



- [ ISC3 series ]
- ISO IC Card (Smart Card) Connectors  
Landing Contact Type (SMT) \*Long Guide.



- [ ISC5 series ]
- ISO IC Card (Smart Card) Connectors  
Landing Contact Type (DIP) \*Short Guide

## IC Sockets



- [ DM03/04 series ]
- IC Sockets  
144 Pin SO-DIMM Sockets



- [ PCC05 series ]
- IC Sockets  
PLCC Sockets



- [ ICC05 series ]
- IC Sockets  
Dual Inline Sockets



- [ SIC01 series ]
- IC Sockets  
Shrink Dual Inline Sockets

\*Should you want more informations,  
please contact your local sales office.

# KEL Products

## Switches



- [ KDS series ]
- Rotary DIP Code Switches



- [ DSP series ]
- DIP Shorting Plug/Socket  
Strip Header and Shunts

## Backplane Connectors

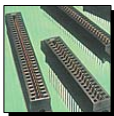


- [ CP series ]
- 2mm Pitch Hard Metric 2 Piece Connectors  
Connectors for CompactPCI Bus



- [ 8300/8400 series ]
- 2.54mm Pitch 2 Piece Connectors  
(Complies with DIN Standard)

## Card Edge Connectors



- [ 4640/4820/1168/1258N series ]
- Card Edge Connectors  
(4640 : 2.54mm Pitch, 4820 : 3.175mm Pitch,  
1168 : 3.96mm Pitch, 1258N : 3.96mm Pitch)

## Flat Ribbon Cable Connectors



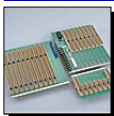
- [ 6100/6200/6200S/6230 series ]
- 1.27mm Pitch Flat Ribbon Cable Connectors  
(MIL Standard : 6200/6200S)

## Terminal Blocks



- [ 7010/7030/7011/7040 series ]
- Terminal Blocks  
(7010/7030/7011 : 10.16mm Pitch, 7040 : 9mm Pitch)

## Backplanes



- [ CPCI series ]
- CompactPCI Bus Backplane

\*Should you want more informations,  
please contact your local sales office.

# KEL Business Fields

## KEL Strive to Support All Types of Electronic Devices

- Ultra-precise, high-performance connectors are our specialty. Customers in all industries value KEL highly for our reliability.



- In order to respond to the ever-increasing standards of performance for electronic equipment, KEL is further polishing its connector design and production know-how. Currently we cover an exhaustive range of application areas, including industrial equipment such as semiconductor manufacturing devices and medical equipment, rolling stock and engineering equipment.



- In the field of electronic equipment, you will find our products in personal computers and office automation devices. We also play a role in recreational equipment and automobile electronics equipment such as car navigation systems and ETC (electronic toll collection) system, as well as flat panel televisions and digital video cameras in the imaging equipment area.



# KEL Company Profile



## [ Company Overview ]

- Trade name : KEL CORPORATION
- Established : July 23, 1962
- Total capital : 1,617 Million Yen
- Total turnover : 7,321 Million Yen (March 2009)
- Employees of Facilities : 288
- President : Kazuyoshi Takahashi
- Head Office Address : 6-17-7 Nagayama, Tama-shi,  
Tokyo 206-0025 Japan
- URL : <http://www.kel.jp>



[Yamanashi Factory]

## [ Location ]

- Head Office
- Yamanashi Factory
- Nagano Factory
- Utsunomiya Sales Office
- Mito Sales Office
- Nagoya Sales Office
- Osaka Sales Office
- North American Branch Office

## [ Overseas Subsidiaries ]









- KEL Taiwan Co., Ltd
- KEL Shanghai Co., Ltd



[Nagano Factory]

# KEL's History

## Challenges We Have Taken on Since 1962.

- 1962 ● - Established in Shibuya-ku, Tokyo
- 1964 ● - Succeeded in first domestic production of cross-contact connectors
- 1967 ● - Head Office and factory moved to Nishi-Gotanda, Shinagawa-ku
- 1972 ● - Opened Osaka Sales Office
- 1975 ● - Nagoya Sales Office opened
- 1976 ● - Came to market with IC sockets
- 1980 ● - Utsunomiya Sales Office opened
- 1982 ● - Yamanashi Factory started operations 
- 1984 ● - Came to market with half-pitch connectors
- 1987 ● - Head Office moved to Tama, Tokyo
- 1988 ● - Mito Sales Office opened
- 1989 ● - North American Branch Office established
- 1990 ● - Shares registered on the OTC market of the Japan Securities Dealers Association
- 1992 ● - Came to market with low profile half-pitch connectors 
- 1992 ● - Nagano Factory started operations
- 1993 ● - Came to market with battery connectors 
- 1995 ● - Came to market with 0.5mm pitch connectors
- 1996 ● - Achieved registration with international quality management system standard ISO9001 (obtained certification)
- 1998 ● - Came to market with 1mm-pitch removable connectors
- 1998 ● - Came to market with micro coaxial cable connector 
- 1999 ● - Came to market with ISO card connector
- 2002 ● - Built and began operating the Environment Test Center in Nagayama, Tama-shi, Tokyo
- 2002 ● - Came to market with 0.5mm pitch I.D.C. connector for 0.5mm pitch micro coaxial cable 
- 2002 ● - Achieved registration with international environment management system standard ISO14001 (obtains certification)
- 2003 ● - Brought to market SSOP sockets
- 2004 ● - Listed stock on the JASDAQ Securities Exchange
- 2004 ● - Came to market with 0.4mm pitch I.D.C. connector for micro coaxial cable 
- 2005 ● - Came to market with 0.635mm pitch Board to Board connector 
- 2005 ● - Came to market with 0.5mm pitch floating connector
- 2006 ● - Came to market with 0.635mm pitch Board to Cable connector
- 2007 ● - Came to market with LGA socket
- 2009 ● - Came to market with 0.5mm pitch connector for micro coaxial cable and discrete wire cable
- 2009 ● - Came to market with 0.25mm pitch connector for micro coaxial cable 
- 2010 ● - Came to market with 2.5mm pitch drawer connector for discrete wire cable (Crimping termination for assembly)



**B.C.E. S.r.l.**

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