



product guide

Sales Offices

DDK Ltd.(Tokyo, Japan)

DDK (THAILAND) Ltd.

Fujikura Electronics (Thailand) Ltd.

Fujikura America Inc.(CA, U.S.A.)

Fujikura Europe Ltd.(London, UK)

Fujikura Hong Kong Ltd.(Hong Kong)

Fujikura Hong Kong Ltd. Shanghai Rep. Office

Fujikura Hong Kong Ltd. Taiwan Brance

Fujikura Asia Ltd.(Singapore)

Tel:+66-2529-1428

Tel:+66-2231-1965

Tel:+1-408-748-6991

Tel:+44-20-8240-2000

Tel:+852-2369-7028

Tel:+86-21-63587733-105

Tel:+886-2-8788-4959

Tel:+65-6271-1151

<http://www.ddknet.co.jp/>

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D-sub Connector

Solder Cup Type

17JE Series

- Solder-cup termination contact for manual soldering
- Number of contacts : 9, 15, 25 and 37
- Connection of cable and plug can be shielded by a metalize-finished hood, improving resistance against EMI

Rated Voltage	300V AC(r.m.s.)
Rated Current	5A / Contact
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	10 mΩ max.
Applicable Cable	AWG 20 max. (Solid wire) AWG 22 max. (Stranded wire)
No. of Contacts	9, 15, 25, 37
Operating Temperature Range	-25°C to +85°C

D-sub Connector

Straight DIP Solder Type

17JE Series

- Number of contacts : 9, 15, 25 and 37
- Studs and hex nuts are available to fasten with mating connector. This connection with PCB and metal shell is grounding and improving the resistance against EMI.

Rated Voltage	300V AC(r.m.s.)
Rated Current	5A / Contact
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	15 mΩ max.
No. of Contacts	9, 15, 25, 37
Operating Temperature Range	-25°C to +85°C

D-sub Connector

Right Angle DIP Solder Type

17LE Series

- 17LE series is connected to a circuit by through hole DIP solder termination style mounting on PCB and fastened on the bracket by stud or jack socket.
- Number of contacts : 9, 15, 25 and 37
- Studs and hex nuts are available to fasten with mating connector. This connection with PCB and metal shell is grounding and improving the resistance against EMI.

Rated Voltage	300V AC(r.m.s.)
Rated Current	5A / Contact
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	15 mΩ max.
No. of Contacts	9, 15, 25, 37
Operating Temperature Range	-25°C to +85°C

D-sub Connector

Crimp Type

17DE Series

- Crimp termination contact for AWG#22 to #30
- Number of contacts : 9, 15, 25 and 37
- Connection of cable and plug can be shielded by a metalize-finished hood, improving resistance against EMI.

Rated Voltage	300V AC(r.m.s.)
Rated Current	3A / Contact
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	20 mΩ max.
Applicable Cable	AWG 22, 24, 28, 30 (Stranded wire) Insulator ϕ 0.8 to ϕ 1.4
No. of Contacts	9, 15, 25, 37
Operating Temperature Range	-25°C to +85°C

D-sub Connector

EMI Hood Kit

17JE Series



- Hood is made with ABS resin. It is light-weight and compact.
- Hood is metalized finish for EMI shield.

Ribbon Connector

Solder-Cup and DIP Type

57 Series



- 57-10 Type : Plug for Rack and Panel
- 57-30 Type : Cable Plug, Top Cable Entry
- 57-50 Type : Cable Plug, Side Cable Entry

Rated Voltage	500V AC(r.m.s.)
Rated Current	5A / Contact
Dielectric Withstand Voltage	1,200V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	5 mΩ max.
Applicable Cable	0.65mm ² , AWG 22 max.(Solid wire) 0.2mm ² , AWG 24 max.(Stranded wire)
No. of Contacts	14, 24, 36, 50
Operating Temperature Range	-55°C to +105°C

- 57-20 Type : Receptacle for Rack and Panel
- 57-40 Type : Panel Receptacle
- 57-60 Type : Receptacle for Cable to Cable

Ribbon Connector

IDC EMI Shielding Type

57FE Series



- Grounding plates are added to 57F series for EMI shield.
- Intermateable with 57 family connectors

Rated Voltage	250V AC(r.m.s.)
Rated Current	1A / Contact
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	35 mΩ max.
Applicable Cable	AWG 30 (Solid wire) AWG 28 (Stranded and Solid wire)
No. of Contacts	14, 24, 36, 50
Operating Temperature Range	-55°C to +105°C

Ribbon Connector

Straight Solder DIP Type

57GE Series



- Straight DIP termination connector with shielded interface for ESD protection
- Intermateable with 57 family connectors

Rated Voltage	500V AC(r.m.s.)
Rated Current	3A / Contact
Dielectric Withstand Voltage	1,200V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	35 mΩ max.
No. of Contacts	14, 24, 36, 50
Operating Temperature Range	-55°C to +105°C

Ribbon Connector

Right Angle Solder DIP Type

57RE Series



Rated Voltage	500V AC(r.m.s.)
Rated Current	3A / Contact
Dielectric Withstand Voltage	1,200V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	35 mΩ max.
No. of Contacts	14, 24, 36, 50
Operating Temperature Range	-55°C to +105°C

- 57RE series is light weight and low cost version to unify end disc latch with shell and insulator with locator.
- Metalized shell for EMI shield
- Intermateable with 57 family connectors

GP-IB Cable Assembly

Comforming IEEE-STD-488-1978 IEC-Pub.625-1

408JE Series



Conductor Resistance	0.14 Ω max. / m
Shield Resistance	0.0085 Ω max. / m
Capacitance	150 pF max. / m (1kHz)
No. of Contacts	24
Operating Temperature Range	-10°C to +60°C

- Intermateable with 57 family connectors

Low Profile Half Pitch Connector

IDC Termination Type

DHF Series



Rated Voltage	250V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	500 MΩ min.at 500V DC
Contact Resistance	35 mΩ max.
Applicable Cable	AWG 28
No. of Contacts	10, 20
Operating Temperature Range	-55°C to +85°C (Cable is excluded.)

- "D" shaped shell polarization to prevent from mis-mating
- High reliable, scoop-proof cantilever contact design

Mini-USB Connector

DUSB-MRC Series

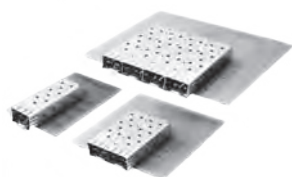


Rated Voltage	30V AC(r.m.s.)
Rated Current	1A / Contact
Dielectric Withstand Voltage	100V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Contact Resistance	50 mΩ max.
No. of Contacts	5
Operating Temperature Range	-55°C to +85°C

- DUSB-MRC series is a Mini-USB connector which is in compliance with USB 2.0
- 480Mbps of high speed data transmission
- Vertical mounting DIP termination
- 5,000 mating cycles

SFP Transceiver Connector & Cage

SPT Series



Rated Voltage	120V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	350V AC(r.m.s.) / 1 minute
Insulation Resistance	100 M Ω min. at 250V DC
Contact Resistance	30 m Ω max.
No. of Contacts	20
Operating Temperature Range	-55°C to +85°C

- SPT series is a connector and cage which is compatible to Small Form-factor Pluggable(SFP/SFP+) specification of Multi-Source Agreement(MSA) for 2.5G optical transceivers.
- 0.8mm pitch 20 pins right angle card edge connector

Industrial Waterproof Rectangular Connector

DIS Series



Rated Voltage	200V AC(r.m.s.)
Rated Current	1.0A / Contact
Dielectric Withstand Voltage	900V DC / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Protection Rating	IP67 (when mating)
No. of Contacts	42
Operating Temperature Range	-25°C to +70°C

- DIS series is light-weight because all body is made with resin except the contacts. One-touch locking mechanism (push-pull) makes easy to mate.
- Waterproof (IP67) configuration keeps the machine from water spray, machining oil and dust. It is suitable to use at the much dust environment such as factory automations.
- The lock mechanism is available to prevent involuntary dis-mating.

Industrial Cable to Cable, Cable to Board Connector

DK-2000 Series



Rated Voltage	250V AC(r.m.s.)
Rated Current	5A max./ Contact
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	10 mΩ max.
Contact pitch	2.5mm
Operating Temperature Range	-55°C to +105°C
Applicable Cable	AWG 18 to 28 (Stranded)
No. of Contacts	3, 6, 8, 12, 20

- DK-2000 series is designed for industrial signal relay connectors.
- "Cable-to-Cable" and "Cable-to-Board" connector styles are available for various applications.
- Crimp termination and solder DIP for PCB mounting are available.

Industrial Cable to Cable, Cable to Board Connector

DK-3000 Series



	DK-3100	DK-3200, 3500
Rated Voltage	250V AC(r.m.s.)	600V AC(r.m.s.)
Rated Current	15A max./ Contact	
Dielectric Withstand Voltage	1,500V AC(r.m.s.)/1 minute	2,200V AC(r.m.s.)/1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC	
Contact Resistance	10 mΩ max.	
Contact Pitch	3.81mm	5.08mm
Operating Temperature Range	-55°C to +105°C	
Applicable Cable	AWG 16 to 28 (Stranded)	
No. of Contacts	3,4,5,6,8,10,12,16,20	2,3,4,6,12,20 2,4,12,20

- DK-3000 series is designed for industrial signal and power connectors.
- "Cable-to-Cable" and "Cable-to-Board" connector styles are available for various applications.
- Crimp termination and solder DIP for PCB mounting are available.

Industrial Cable to Board Connector

DK-3200MR Series



Rated Voltage	600V AC(r.m.s.)
Rated Current	15A max./ Contact
Dielectric Withstand Voltage	2,200V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	10 mΩ max.
Contact Pitch	6.35mm
Operating Temperature Range	-55°C to +105°C
Applicable Cable	AWG 16 to 28(Stranded)
No. of Contacts	6, 12

- DK-3200MR series is connector for board to cable.
- One body type(12 Contacts) and module type (pair of 6 Contacts) are available for cable receptacle.
- The housing with cable clamp is also available.

Industrial Cable to Cable, Cable to Board Connector

DK-5000 Series



Rated Voltage	640V AC(r.m.s.)
Rated Current	30A max. / Contact
Dielectric Withstand Voltage	3,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	2 mΩ max.
Contact Pitch	10.16mm
Operating Temperature Range	-55°C to +105°C
Applicable Cable	AWG 10 to 16 (Stranded)
No. of Contacts	2, 3, 4, 5, 6

- DK-5000 series is designed for industrial power connectors.
- "Cable-to-Cable" and "Cable-to-Board" connector styles are available for various applications.
- Crimp termination and solder DIP for PCB mounting are available.

Industrial Rectangular I/O Connector

DK-METAL Series



DK-2,3 Series (4, 12 pins type)



DK-2,3 Series (30, 36, 50 pins type)



DK-3 Series (40 pins type)

- Waterproof connector designed for industrial equipment
- One-touch lock lever mechanism
- Crimp termination contacts of DK-2000 and DK-3000 series are available.
- Receptacle, plug and cable receptacle styles are available.
- Possible to replace the male and female pins.

Series	DK-2 Series 12 pins type	DK-3 Series 4 pins type
Rated Voltage	250V AC(r.m.s.) / 600V DC	
Rated Current	5A max./ Contact	15A max./ Contact
Dielectric Withstand Voltage	1,500V AC(r.m.s.)/1 minute	2,200V AC(r.m.s.)/1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC	
Contact Resistance	10 mΩ max.	
Applicable Cable	AWG 18 to 28	AWG 16 to 28
Protection Rating	IP67 (when mating)	
No. of Contacts	12	4
Operating Temperature Range	-55°C to +105°C	

Series	DK-2 Series 36,50 pins type	DK-3 Series 30 pins type
Rated Voltage	250V AC(r.m.s.) / 600V DC	
Rated Current	5A max. / Contact	15A max./ Contact
Dielectric Withstand Voltage	1,500VAC(r.m.s.)/1 minute	1,500V AC(r.m.s.)/1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC	
Contact Resistance	10 mΩ max.	5 mΩ max.
Applicable Cable	AWG 18 to 28	AWG 16 to 28
Protection Rating	IP67 (when mating)	
No. of Contacts	36 , 50	30
Operating Temperature Range	-55°C to +105°C	

Series	DK-3 Series (40 pins type)
Rated Voltage	600V AC(r.m.s.)
Rated Current	15A max. / Contact
Dielectric Withstand Voltage	2,200V DC / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Protection Rating	IP67 (when mating)
No. of Contacts	40
Operating Temperature Range	-55°C to +105°C

1.27mm Pitch Stacking Connector

DHB Series



Rated Voltage	250V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	500 MΩ min. at 500V DC
Contact Resistance	35 mΩ max.
Operating Temperature Range	-55°C to +85°C
Stacking Height	10 to 20mm
No. of Contacts	20, 30, 34, 40, 50, 68, 80, 100, 120

- Two different length contact tails are designed to insert into PCB holes easily.
- A variety of stacking heights from 10mm to 20mm, pre-mating contact type and key slot to prevent diagonal inserting are available on various usages.

1.27mm Pitch IDC Connector

DHD Series



Rated Voltage	250V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	500 MΩ min. at 500V DC
Contact Resistance	35 mΩ max.
Operating Temperature Range	-55°C to +85°C (Cable is excluded.)
Applicable Cable	0.635mm pitch Flat Cable AWG 30, AWG 28
No. of Contacts	26, 34, 40, 50, 80, 100

- The flat cable is separated in parallel by upper and lower covers before insulation displacement and flat cable is surely insulated.
- The friction lock type is more space saving than the lock lever type.
- The lock lever type can be mated and unmated easily, and locked surely.

1.27mm Pitch IDC Connector

DHE Series



Rated Voltage	250V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	500 MΩ min. at 500V DC
Contact Resistance	30 mΩ max.
Operating Temperature Range	-20°C to +85°C (Cable is excluded.)
Applicable Cable	0.635mm pitch Flat Cable AWG 30, AWG 28
No. of Contacts	26, 50, 60

- The flat cable is separated in parallel by upper and lower covers before insulation displacement and flat cable is surely insulated.
- Open end cover is designed for daisy chain network.

1.27mm Pitch Flat Cable IDC Connector

FRC-J Series



Rated Voltage	250V AC(r.m.s.)
Rated Current	1A / Contact
Dielectric Withstand voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact resistance	15 mΩ max.
Operating Temperature Range	-55°C to +85°C
Applicable Cable	1.27mm pitch Flat Cable AWG 28 (Stranded and Solid) AWG 30 (Solid)
No. of Contacts	10, 16, 20, 26, 30, 34, 40, 50, 60

- FRC-J series is a connector which connects PCB and 1.27mm pitch flat cable.
- It is suitable to connection on the same PCB and across PCBs.
- Row of contacts are 2 (2.54mm grid)

2.54mm Pitch IDC Connector

Comforming Standard MIL-DTL-83503

FRC5 Series



- Certified by UL (File No. E72124)
- Polarizing key prevents from mis-mating

Rated Voltage	250V AC(r.m.s.)
Rated Current	1A / Contact
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	15 mΩ max.
Operating Temperature Range	-55°C to +85°C
Applicable Cable	1.27mm pitch Flat Cable AWG 28 (Stranded and Solid) AWG 30 (Solid)
No. of Contacts	10, 14, 16, 20, 26, 30, 34, 40, 50, 60, 64

2.54mm Pitch Low-Profile Header Connector

HU5 Series



- HU5 series is 2.54mm pitch contacts grid, double rows and low profile connectors.
- Intermateable with FRC5 series flat cable connectors

Rated Voltage	250V AC(r.m.s.)
Rated Current	1A / Contact
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	15 mΩ max.
Operating Temperature Range	-55°C to +85°C
No. of Contacts	10,14,16, 20, 26, 30, 34, 40, 50

Modular Jack Connector for LAN

285DE Series

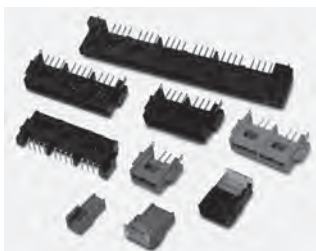


- Compact design for space saving
- Electromagnetic interference measure by covering the whole connector with metal shield.
- Fast Ethernet (100BASE-TX) ■ Through-hole DIP mounting

Rated Voltage	330V AC (r.m.s.)
Rated Current	1A / Contact
Dielectric Withsatnd Voltage	1,000VAC(r.m.s.) / 1 minute
Insulation Resistance	1 MΩ min. at 500VDC
Contact Resistance	50 mΩ max.(Initial)
Operating Temperature	-55°C~ +85°C
Storage Temperature	-55°C~ +85°C

2.54mm Pitch Quick Connector

232D Series



Rated Voltage	250V AC(r.m.s.)				
Rated Current	2A / Contact				
Dielectric Withstand Voltage	750V AC(r.m.s.) / 1 minute				
Insulation Resistance	100 MΩ min. at 500V DC				
Contact Resistance	30 m Ω max.				
Operating Temperature Range	-30°C to +85°C				
Applicable Cable	Solid wires	Diameter of conductor ϕ 0.4mm		Outer diameter of covering: ϕ 0.66mm	
		Diameter of conductor ϕ 0.5mm		Outer diameter of covering: ϕ 0.8mm	
		Diameter of conductor ϕ 0.65mm		Outer diameter of covering: ϕ 1.05mm	
		Diameter of conductor ϕ 0.404mm		Outer diameter of covering: ϕ 0.91mm	
	Stranded wires	AWG 26(7/0.16)		Outer diameter of covering: ϕ 1.0mm	Stranding pitch:15.2 max
		AWG 24(7/0.203)		Outer diameter of covering: ϕ 1.1mm	Stranding pitch:17.8 max
No. of Contacts	2, 4, 6, 8, 12, 16, 24, 32				

- 232D series is 2.54mm pitch connector and designed for connection of main unit and main line in PBX.
- Compact, light-weight and variety of connector styles

0.6mm Pitch Floating Connector

DFW Series



Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	150V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 100V DC
Contact Resistance	100 mΩ max.
Operating Temperature Range	-55°C to +85°C
No. of Contacts	20 to 120

- DFW series is a 0.6mm pitch board-to-board connector.
- Stacking height : 13 to 25mm
- Stacking height can be selected by changing receptacle connectors.
- Floating mechanism : Y(short direction) : ± 0.5mm, X(long direction) : ± 0.5mm
- Effective contact length : 2.0mm

0.6mm Pitch Stacking Connector

DFW2 Series



Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	150V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 100V DC
Contact Resistance	100 mΩ max.
Operating Temperature Range	-55°C to +85°C
No. of Contacts	40,140

- DFW2 is achieved excellent vibration resistance structure to restrain looseness of mating.
- Reliable connection by two-points contact
- 2.5Gbps transmission speed
- Straight plug and right-angle receptacle connectors are available.

0.6mm Pitch Floating Connector

DFZ Series



Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	150V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 100V DC
Contact Resistance	100 mΩ max. (Initial)
Operating Temperature Range	-55°C to +85°C
Stacking Height	11 to 25mm
No. of Contacts	20 to 100

- DFZ series is a 0.6mm pitch Board-to-Board connector which offset alignment errors (X axis, Y axis).
- Floating mechanism : Y(short direction) : ± 0.5mm, X(long direction) : ± 0.5mm
- Effective contact length : 2.0mm
- Two-points-contact structure

0.6mm Pitch Floating Connector (with Power supply)

DFZP Series



Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	150V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 100V DC
Contact Resistance	100 mΩ max. (Initial)
Operating Temperature Range	-55°C to +85°C
Stacking Height	11 to 25mm
No. of Contacts	20 to 100
Power supply contac	4A/pin × 2pin

- DFZP series is a 0.6mm pitch Board-to-Board connector which offset alignment errors (X axis, Y axis).
- Floating mechanism : Y(short direction) : ± 0.5mm, X(long direction) : ± 0.5mm
- Effective contact length : 2.0mm
- Two-point-contacts structure ■ Power supply contact 4A/pin × 2pins

0.5mm Pitch Floating Connector

DFAA Series



Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	150V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 100V DC
Contact Resistance	100 mΩ max. (Initial)
Operating Temperature Range	-55°C to +85°C
Stacking Height	11 to 25mm
No. of Contacts	20 to 100

- DFAA series is a 0.5mm pitch Board-to-Board connector which offset alignment errors (X axis, Y axis).
- Floating mechanism : Y(short direction) : ± 0.5mm, X(long direction) : ± 0.5mm
- Effective contact length : 2.0mm

0.6mm Pitch Stacking Connector with Ground Tab

New!

DFAC Series



Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	150V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 100V DC
Contact Resistance	100 mΩ max. (Initial)
Operating Temperature Range	-55°C~ +105°C
Ground Tab	2Pin(Fixed tab with ground)
Mating style	Straight(Stacking Height 18mm) 50pin,70pin Right angle 50pin

- DFAC series is a 0.6mm pitch Board-to-Board connector.
- Fixed tabs for ground at both ends of the connector
- Space-saving design of 21.4 x 6.5 mm with 50 pins
- The 50 pins can be chosen vertical mating.
- Two-point-contacts structure
- Effective contact length : 2.0mm

0.8mm Pitch Stacking Connector

DFJ Series



Rated Voltage	100V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	350V AC(r.m.s.) / 1 minute
Insulation Resistance	500 MΩ min. at 250V DC
Contact Resistance	45 mΩ max.
Operating Temperature Range	-55°C to +85°C
Stacking Height	10, 13, 14, 15, 16, 17, 18, 19, 20
No. of Contacts	20, 30, 40, 60, 80, 100, 120

- DFJ series is a 0.8mm contact pitch Board-to-Board stacking (Parallel Connection) connector.
- A tactile perceptible lock mechanism upon mating the connectors is available.

0.635mm Pitch Stacking Connector

DFM Series



Rated Voltage	50V AC(r.m.s.)
Rated Current	0.3A / Contact
Dielectric Withstand Voltage	150V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 100V DC
Contact Resistance	100 mΩ max.
Operating Temperature Range	-55°C to +85°C
No. of Contacts	80

- SMT mounting connector of 80 contacts with shell
- Stacking height 16mm and 20mm types are available.
- Cantilever contact design

DIN Connector

Conforming Standard DIN41612,VG95324,IEC603-2,MIL-DTL-55302

128A Series



Rated Voltage	300V AC(r.m.s.)
Rated Current	2A / Contact
Dielectric Withstand voltage	1,000V AC(r.m.s.) /1 minute
Insulation Resistance	1,000 MΩ min at 100V DC
Contact resistance	20 mΩ max.
Operating Temperature Range	-65°C to +125°C
No. of Contacts	20, 26, 30, 32, 40, 44, 50, 64, 90

- Standard, right angle and reverse mounting styles are available for various applications.
- Selective contact loading
- Single-sided contact design

Power Board-to-Board Connector

PD3 Series



Rated Voltage	100V DC
Rated Current	10A / Power Contact
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min.at 500V DC
Contact Resistance	1.0 mΩ max. Power Contact
Operating Temperature Range	-20°C to +105°C
No. of Contacts	Power Contact 5

- PD3 series is a connector for high power supply units.
- Contact is highly reliable by fork-shaped three-points contact design.
- Mounting on PCB is used press-fit contact (Eyelet Type) with low insertion force.

0.35mm Pitch Board-to-Board Connector

FB35 Series

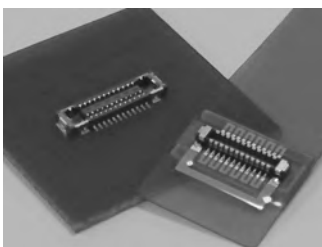


- Pitch 0.35mm, Stacking height 0.7mm, Width (with mating) 2.3mm small board-to-board connector
- Tabs can serve as power contacts (Capability up to 1.5A/Contact), which allows for more efficient use of the available connection pins.
- Connector designed to provide click feel when engaged to reduce assembly errors

Stacking height	0.7mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.3A / Signal Contact 4.0A / Power Contact (Locking Tab)
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 250V DC
Contact Resistance	50 mΩ max.Signal Contact 20 mΩ max.Power Contact (Locking Tab)
Operating Temperature Range	-40°C to +85°C
No. of Contacts	6 to 70

0.35mm Pitch Board-to-Board Connector

FB35C Series

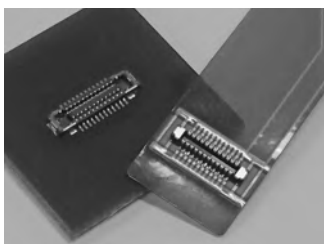


- Pitch 0.35mm, Stacking height 0.7mm, Width (with mating) 1.9mm small board-to-board connector
- This connector has power contacts on both end for space saving.
- Power contact covered on the connector end reinforces connector to prevent from damage in mating.

Stacking height	0.7mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.3A / Signal Contact 3.0A / Power Contact (Locking Tab)
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 200V DC
Contact Resistance	50 mΩ max.Signal Contact 20 mΩ max.Power Contact (Locking Tab)
Operating Temperature Range	-40°C to +85°C
No. of Contacts	10 to 50

0.35mm Pitch Board-to-Board Connector

FB35K Series

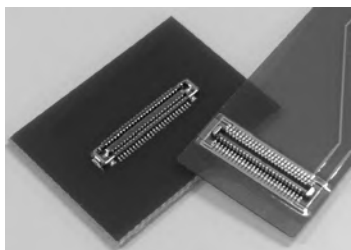


- Pitch 0.35mm, Stacking height 0.6mm, Width (with mating) 1.8mm small board-to-board connector
- This connector has power contacts on both end for space saving.
- Power contact covered on the connector end reinforces connector to prevent from damage in mating.

Stacking height	0.6mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.4A / Signal Contact 3.0A / Power Contact (Locking Tab)
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 200V DC
Contact Resistance	30 mΩ max.Signal Contact 20 mΩ max.Power Contact (Locking Tab)
Operating Temperature Range	-40°C to +85°C
No. of Contacts	10 to 50

0.35mm Pitch Board-to-Board Connector

FB35L Series

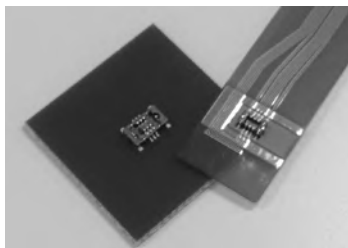


- Pitch 0.35mm, Stacking height 0.7mm, Width (with mating) 1.9mm small board-to-board connector
- This connector has power contacts on both end for space saving.
- Power contact covered on the plug end and on the receptacle end and its inside reinforces connector to prevent from damage in mating.

Stacking height	0.7mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.4A / Signal Contact 3.0A / Power Contact (Locking Tab)
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 200V DC
Contact Resistance	30 mΩ max.Signal Contact 20 mΩ max.Power Contact (Locking Tab)
Operating Temperature Range	-40°C to +85°C
No. of Contacts	10 to 60

0.35mm Pitch Board-to-Board Connector

FB35S Series

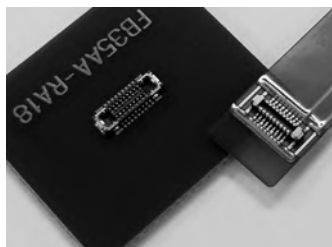


Stacking height	0.7mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.3A / Signal Contact 4.0A / Power Contact (Locking Tab)
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 200V DC
Contact Resistance	50 mΩ max.Signal Contact 20 mΩ max.Power Contact (Locking Tab)
Operating Temperature Range	-40°C to +85°C
No. of Contacts	6 to 50

- Pitch 0.35mm, Stacking height 0.7mm, Width (with mating) 2.1mm small board-to-board connector
- This connector has power contacts on both end for space saving.
- Receptacle is robust structure by insert mold of the locking tab.

0.35mm Pitch Board-to-Board Connector

FB35AA Series



Stacking height	0.8mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.4A / Signal Contact 3.0A / Power Contact (Locking Tab)
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 200V DC
Contact Resistance	30 mΩ max.Signal Contact 20 mΩ max.Power Contact (Locking Tab)
Operating Temperature Range	-40°C to +85°C
No. of Contacts	10 to 50

- Pitch 0.35mm, Stacking height 0.8mm, Width (with mating) 1.8mm small board-to-board connector
- This connector has power contacts on both end for space saving.
- Power contact covered on the connector end reinforces connector to prevent from damage in mating.

0.35mm Pitch Board-to-Board Connector

New!

FB35AB Series



Stacking height	0.6mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.4A / Signal Contact 3.0A / Locking Tab 3.0A / Power Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 200V DC
Contact Resistance	30 mΩ max.Signal Contact 20 mΩ max.Locking Tab 20 mΩ max.Power Contact
Operating Temperature Range	-40°C to +85°C
No. of Contacts	10 to 50

- Pitch 0.35mm, Stacking height 0.6mm, Width (with mating) 1.8mm small board-to-board connector
- There are 4 power contacts that can apply a current of 3A per pin.
- This connector has locking tab for power on both end for space saving.
- Power contact cover the connector end reinforces connector to prevent from damage in mating.

0.35mm Pitch Board-to-Board Connector

New!

FB35AF Series



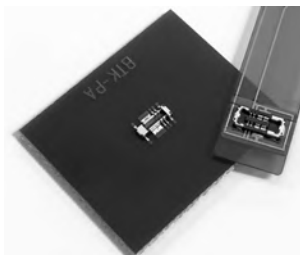
Stacking height	0.5mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.4A / Signal Contact 3.0A / Locking Tab 3.0A / Power Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 200V DC
Contact Resistance	30 mΩ max.Signal Contact 20 mΩ max.Locking Tab 20 mΩ max.Power Contact
Operating Temperature Range	-40°C to +85°C
No. of Contacts	10 to 50

- Pitch 0.35mm, Stacking height 0.5mm, Width (with mating) 1.8mm small board-to-board connector
- There are 4 power contacts that can apply a current of 3A per pin.
- This connector has locking tab for power on both end for space saving.
- Power contact cover the connector end reinforces connector to prevent from damage in mating.

Board-to-Board Connector for Battery

New!

BTK Series



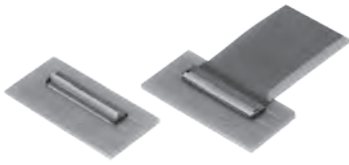
Stacking height	0.7mm
Rated Voltage	30V AC(r.m.s.) / 30V DC
Rated Current	0.5A / Signal Contact 6.0A / Power Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 M Ω min. at 200V DC
Contact Resistance	30 m Ω max.Signal Contact 20 m Ω max.Power Contact
Operating Temperature Range	-40°C to +85°C
No. of Contacts	4

- Stacking height 0.7mm, Width (with mating) 2.2mm small board-to-board connector.
- There are 2 power contacts that can apply a current of 6A per pin.
- This connector has mating directionality and has a mechanism for preventing wrong mating.
- Receptacle power contact is insert molded to strength up.

FPC Connector

0.25mm Pitch Upper and Lower contact point Type

FF10 Series



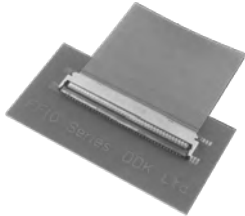
Height	0.95mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	50 mΩ max.
No. of Contacts	51, 70, 80
FPC Thickness	0.15mm
Operating Temperature Range	-55°C to +85°C

- It is suitable for large number of contacts (Maximum at 80 contacts).
- FPC insertion direction free
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

0.25mm Pitch Upper and Lower contact point Type

FF10S Series



Height	1.06mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	50 mΩ max.
No. of Contacts	80
FPC Thickness	0.15mm
Operating Temperature Range	-55°C to +85°C

- It is suitable for large number of contacts (Maximum at 80 contacts).
- Metal shell increase the strength
- Both upper and lower contacts design accepts any FPC insertion directions.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

0.3mm Pitch Upper and Lower contact point Type

FF12 Series



Height	0.9mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	50 mΩ max.
No. of Contacts	6 to 60
FPC Thickness	0.15mm
Operating Temperature Range	-55°C to +85°C

- Both upper and lower contacts design accepts any FPC insertion directions.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Pin Line-up is 6 to 60.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC / FFC Connector

0.5mm Pitch Upper and Lower contact point Type

FF14 Series



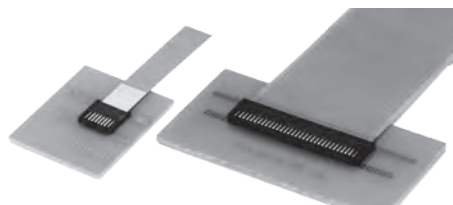
Height	0.9mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Contact Resistance	50 mΩ max.
No. of Contacts	4 to 50
FPC/FFC Thickness	0.12mm, 0.2mm
Operating Temperature Range	-55°C to +85°C

- Both upper and lower contacts design accepts any FPC insertion directions.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Pin Line-up is 4 to 50.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC/FFC/Membrane Connector

0.5mm Pitch Upper and Lower contact point Type

FF14A Series



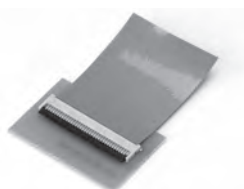
Height	0.9mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Contact Resistance	50 mΩ max.
No. of Contacts	4 to 40
FPC/FFC/Membrane Thickness	0.2mm
Operating Temperature Range	-55°C to +105°C

- FPC, FFC and membrane are mateable. ■ Original cable lock mechanism provides reliable retention of the FPC.
- Both upper and lower contacts design accepts any FPC insertion directions.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC / FFC Connector

0.5mm Pitch Upper contact point Type

FF14C Series



Height	1.0mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.5A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Contact Resistance	50 mΩ max.
No. of Contacts	40,50
FPC/FFC Thickness	0.3mm
Operating Temperature Range	-55°C to +85°C

- Applicable FPC thickness 0.3mm
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Low Profile 0.4mm Pitch Upper contact point Type

FF18 Series



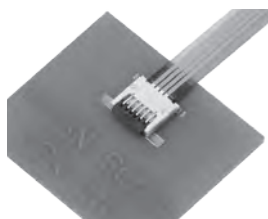
Height	0.66mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.4A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Contact Resistance	50 mΩ max.
No. of Contacts	4 to10
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- Low profile 0.66mm height
- Original cable lock mechanism provides reliable retention of the FPC.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Low Profile 0.4mm Pitch Upper and Lower contact point Type

FF18N Series



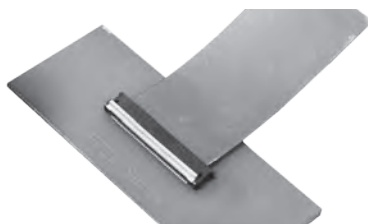
Height	0.66mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.4A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Contact Resistance	50 mΩ max.
No. of Contacts	4 ,10
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- Low profile 0.66mm height ■ Both upper and lower contacts design accepts any FPC insertion directions.
- Original cable lock mechanism provides reliable retention of the FPC.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Robust 0.3mm Pitch Upper contact point Type

FF22E Series



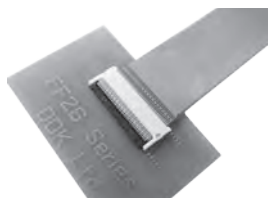
Height	2.57mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	70 mΩ max.
No. of Contacts	84, 92
FPC Thickness	0.20mm
Operating Temperature Range	-55°C to +85°C

- It is suitable for large number of contacts (Maximum at 100 contacts).
- Time saving for FPC inserting operation
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Low Profile 0.2mm Pitch Upper contact point Type

FF26 Series



Height	0.66mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	80 mΩ max.
No. of Contacts	80
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- Low profile 0.66mm height
- It is suitable for large number of contacts (Maximum at 80 contacts).
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Ultra narrow 0.175mm Pitch Upper contact point Type

FF27 Series



Height	0.66mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.3A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	80 mΩ max.
No. of Contacts	16, 26
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- FF27 FPC LIF connector has a pitch of 0.175mm and a mounting height of 0.66mm.
- Tail pitch is 0.35mm, so soldering isn't difficult.
- Original cable lock mechanism provides reliable retention of the FPC.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Low Profile 0.25mm Pitch Upper contact point Type

FF28 Series



Height	0.66mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	80 mΩ max.
No. of Contacts	5, 8, 12, 15, 30, 35, 41, 45
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- FF28 FPC LIF connector has a pitch of 0.25mm and a mounting height of 0.66mm.
- Original cable lock mechanism provides reliable retention of the FPC.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Low Profile 0.175mm Pitch Upper contact point Type

FF29B Series



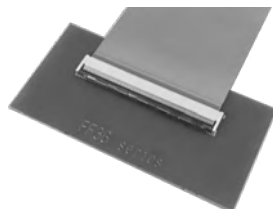
Height	0.66mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.3A / Signal Contact 2.0A / Power Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	100 mΩ max. (Signal contact) 40 mΩ max. (Power contact)
No. of Contacts	15, 16, 20, 22, 25
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- FF29 LIF connector has two Power contacts.
- Original cable lock mechanism provides reliable retention of the FPC.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

0.2mm Pitch Upper and Lower contact point Type

FF36 Series



Height	0.95mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	80 mΩ max.
No. of Contacts	120
FPC Thickness	0.15mm
Operating Temperature Range	-55°C to +85°C

- It is suitable for large number of contacts (Maximum at 120 contacts).
- Both upper and lower contacts design accepts any FPC insertion directions.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Ultra Low Profile 0.35mm Pitch Upper contact point Type

FF51 Series



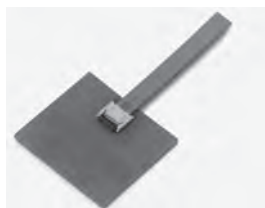
Height	0.5mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	80 mΩ max.
No. of Contacts	4
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- Low profile 0.5mm height
- Original cable lock mechanism provides reliable retention of the FPC.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Ultra Low Profile 0.3mm Pitch Upper contact point Type

FF52 Series



Height	0.5mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	80 mΩ max.
No. of Contacts	8, 15, 17, 19
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- Low profile 0.5mm height
- Original cable lock mechanism provides reliable retention of the FPC.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

Ultra Low Profile 0.175mm Pitch Upper contact point Type

FF57 Series



Height	0.5mm
Rated Voltage	30V AC(r.m.s.)
Rated Current	0.3A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	50 MΩ min. at 250V DC
Contact Resistance	50 mΩ max.
No. of Contacts	16
FPC Thickness	0.12mm
Operating Temperature Range	-55°C to +85°C

- Low profile 0.5mm height ■ Tail pitch is 0.35mm, so soldering isn't difficult.
- Original cable lock mechanism provides reliable retention of the FPC.
- Back-lock mechanism enables to retain FPC against pulling upward direction.
- Original "Back-lock" (oval cam lock) mechanism ensure the reliable connection.

FPC Connector

0.2mm Pitch Shielded Upper and Lower contact point Type

FFX2S Series



Height	1.05mm
Rated Voltage	50V AC(r.m.s.)
Rated Current	0.2A / Contact
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Contact Resistance	50 mΩ max.
No. of Contacts	58
FPC Thickness	0.12mm, 0.18mm(MCX Harness)
Operating Temperature Range	-55°C to +85°C

- The metal shield is attached to improve the EMI performance.
- FFX2S support high speed transmission which results in an excellent solution for applications using ultrafine coaxial cables.
- The metal shield provides a grounding path between the conductors and PCB.
- Original "Double layer contact" design enables to be 0.2mm pitch.
- Original cable lock mechanism provides positive retention of the FPC.

7/16 Style Rugged Coaxial Connector

Conforming Standard IEC 61169-4

7/16 Series



- 7/16 series is rugged 50 Ω coaxial connector.
- Screw coupling retains reliable connection.
- This connector is suitable for connection between the base station and antenna.

Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	3,000V AC(r.m.s.) / 1 minute
Insulation Resistance	10 G Ω min. at 1,000V DC
Contact Resistance	Center Contact : 0.4m Ω max. Outer Contact : 1.5m Ω max.
V.S.W.R.	1.25 max. at DC to 3 GHz

* The specification might be different according to the connector.

N Type Connector

Conforming Standard JIS-C-5411, MIL-PRF-39012

N Series



- 50 Ω impedance
- Screw lock coupling provide reliable connection.
- Many types of connector styles and cable assembly are available to meet various requirements.

Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	3 m Ω max.
V.S.W.R.	1.3 max. at DC to 3 GHz

* The specification might be different according to the connector.

High-frequency Adapter

HG Series



- High frequency range coaxial adapter.
- Low signal degradation and suitable for product evaluation.

	DM(SMA) Type	N Type
Characteristic Impedance	50 Ω	50 Ω
Rated Voltage	AC500V(r.m.s.)	AC500V(r.m.s.)
Dielectric Withstand Voltage	AC1,000V(r.m.s.)/1 minute	AC1,500V(r.m.s.)/1 minute
Insulation Resistance	1,000 M Ω min. at 500VDC	1,000M Ω min. at 500VDC
Contact Resistance	3 m Ω max.	3m Ω max.
V.S.W.R	DC ~ 26.5GHz : 1.1 以下	DC ~ 4GHz :1.04 max.
		4 ~ 8GHz :1.06 max.
		8 ~ 18GHz :1.10 max.

* The specification might be different according to the connector.

BNC Type Connector

Conforming Standard JIS-C-5412, MIL-PRF-39012, DSP-C-6202

BNC Series



- BNC style connector is one of the most popular 50 Ω coaxial connector.
- When you use 75 Ω cable, the frequency shall be less than 200MHz. When the frequency is more than 200MHz, please chose BNC75 series.
- BNC75 series (75 Ω type BNC style connector) can be mated.

Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	3 m Ω max.
V.S.W.R.	1.3 max. at DC to 2 GHz

* The specification might be different according to the connector.

BNC (Isolated) Type Connector

Conforming Standard JIS-C-5412, MIL-PRF-39012

31 Series



- Panel mounting type BNC style receptacle connector
- The outer conductor and mounting panel are isolated.
- The ground contact is installed along the outer conductor and united with insulator adjacent to the contact.

Characteristic Impedance	Unmatched
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	5,000 M Ω min. at 500V DC
Contact Resistance	3 m Ω max. (31-10-CF, 31-10-Cu-CF) 5 m Ω max. (31-10T)

* The specification might be different according to the connector.

BNC (Isolated) Connector

P.C.B. Mounting Type, Conforming Standard MIL-PRF-39012

BNC-RD Series



- BNC-RD series is an isolated BNC receptacle connector for PCB mounting.
- The outer conductor and PCB are isolated by PBT resin housing.
- The ground contact is installed along the outer conductor and united with insulator adjacent to the contact.
- Tuning fork contact design for low cost
- Horizontal and vertical mounting styles are available.

Characteristic Impedance	Unmatched
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	5,000 M Ω min. at 500V DC
Contact Resistance	7 m Ω max.

* The specification might be different according to the connector.

TNC Type Connector

Conforming Standard MIL-PRF-39012

TNC Series



- TNC series is a thread coupling coaxial connector which is modified BNC connector.
- Screw lock coupling enables to ensure reliable connection for vibration and low leakage of high frequency.
- Electrical and mechanical performance are based on BNC series.

Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	3 m Ω max.
V.S.W.R.	1.3 max. at DC to 2 GHz

* The specification might be different according to the connector.

SMA Type Connector

Conforming Standard MIL-PRF-39012

DM Series



- DM series is a SMA type coaxial connector conforming to MIL-PRF-39012.
- 50 Ω impedance and screw lock coupling
- Semi-flexible cable assembly is available.

Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	3 m Ω max.
V.S.W.R.	1.05+0.01 \times frequency (GHz)

* The specification might be different according to the connector.

SMB Type Connector

Conforming Standard JIS-C-5415, MIL-PRF-39012, DSP-C-6205

27DP Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	6 m Ω max.
V.S.W.R.	1.2 max. at DC to 2GHz 1.3 max. at 2 to 3GHz

* The specification might be different according to the connector.

- SMB type coaxial connector conforming to MIL-PRF-39012
- Small size 50 Ω impedance and push-on lock coupling
- Semi-flexible cable assembly is available.

SMB Type Connector

Conforming Standard JIS-C-5415, MIL-PRF-39012, DSP-C-6205

PSC Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	6 m Ω max.
V.S.W.R.	1.2 max. at DC to 4GHz

* The specification might be different according to the connector.

- SMB type coaxial connector conforming to MIL-PRF-39012
- The shell and contact are press-fabricated and insulator is formed by mold to meet low cost requirement.
- Small size 50 Ω impedance and push-on lock coupling

SMB Type Connector (Low Cost Version)

Conforming Standard MIL-PRF-39012

PSC2 Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	6 m Ω max.
V.S.W.R.	1.3 max. at DC to 4GHz
Mating Height	9.0mm max.

* The specification might be different according to the connector.

- SMB type coaxial connector conforming to MIL-PRF-39012
- The shell and contact are press-fabricated and insulator is formed by mold to meet low cost requirement.
- Small size 50 Ω impedance and push-on lock coupling
- Added the spring which prevent the interface form spreading. It improves the strength for the torsional mating and retaining force.

SMC Type Connector

Conforming Standard MIL-PRF-39012

27DS Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	6 m Ω max.
V.S.W.R.	1.2 max. at DC to 1GHz

* The specification might be different according to the connector.

- SMC type coaxial connector conforming to MIL-PRF-39012
- Small size 50 Ω impedance and screw lock coupling

SSMB Type Connector

Conforming Standard IEC-Pub.61169-19

SSMB Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 250V DC
Contact Resistance	7.5 mΩ max.
V.S.W.R.	1.3 max. at DC to 2GHz

* The specification might be different according to the connector.

- Mini-size low profile, push-on lock coupling, conforming to IEC-Pub 61169-19
- Mating height from PCB is available 6mm max. (in combination SP and LR) and 11mm max. (in combination LP and SR).

MMCX Type Connector

5G MMCF Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	5 mΩ max.
V.S.W.R.	1.2 max. at DC to 6GHz

* The specification might be different according to the connector.

- High vibration resistance and impact resistance.
- Compatible with the conventional MMCX type, high reliability by adopting the spring contact
- It is adopted for headphones with a high insertion and removed frequency.

MCX Type Connector

Conforming Standard IEC61169-36

5G MCX Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	Center Contact : 5 mΩ max. Outer Contact : 2.5 mΩ max.
V.S.W.R.	1.2 max. at DC to 6GHz

* The specification might be different according to the connector.

- Low profile push-on lock coupling, conforming to IEC61169-36.
- It is more space-saving design than SMB type and suitable for the equipment which requires the limited space.
- Portable Navigation Device(PND) and other antenna connection applications

SMP Type Connector

Conforming Standard MIL-STD-348A

5G PSD Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	Center Contact : 6 mΩ max. Outer Contact : 3 mΩ max.
V.S.W.R.	1.3 max. at DC to 28GHz

* The specification might be different according to the connector.

- SMP type coaxial connector conforming to MIL-STD-348A
- Push-on lock coupling, excellent performance at high frequency

One-touch Lock Type Connector

PMP Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1D Cable : 300V AC(r.m.s.) / 1 minute 1.5D Cable : 500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 250V DC
Contact Resistance	30 mΩ max.
V.S.W.R.	1D Cable : 1.5 max.at DC to 3GHz 1.5D Cable : 1.5 max.at DC to 6GHz

* The specification might be different according to the connector.

- Original interface and suitable for automotive communication devices
- One-touch lock coupling with lock levers on both side to mate and unmate easily.
- The connector can be mated without up and bottom polarization. Lock is confirmed by click note and feel.
- Designed for digital terrestrial broadcasting tuner (one segment / full segment) and electrical toll collection system and other antenna connection applications.

Push-on Lock Semi-Rigid and Semi-Flexible Cable Type Connector

PDM Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	3 mΩ max.
V.S.W.R.	1.3 max. at DC to 3GHz

* The specification might be different according to the connector.

- PDM series connector is suited to being used with semi-rigid cables, semi-flexible cables, etc., for PHS and cellphone base stations.
- The difference from SMA type is coupling method, push-on type, coupling and decoupling can be done by a simple one-touch operation. ■ Coupling torque control is not required.
- The outside diameter of the plug connector is 9 mm, and a closed entry structure is employed to protect the outer conductor. Therefore, the PDM series connector is resistant to prying.

Floating Coaxial Connector

PML Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	10 mΩ max.
V.S.W.R.	1.2 max. at DC to 3.0GHz

* The specification might be different according to the connector.

- Floating mechanism to offset the mating gap between plug and jack
- Original interface and almost same size as SMA connectors
- Coupling tolerances are ± 0.5mm in the X and Y axis.

Coaxial Terminator

DL Series



Characteristic Impedance	50 Ω
Frequency Range	DC to 10GHz
V.S.W.R.	1.2 max.
Power Rating	0.25W(DM,PDM,SSMA) / 1W(N,BNC)

* The specification might be different according to the connector.

- DL series is a small broadband reflection-free coaxial terminator using chip resistors.
- This terminator can be used over a wide range of frequency for a wide variety of applications.
- Standard connector shapes are SMA type (DM series), BNC, N, SSMA and push-on type SMA.

Coaxial Arrester

ARR Series



Characteristic Impedance	50 Ω
Insulation Resistance	100 M Ω min. at 100V DC
Contact Resistance	6 m Ω max.
V.S.W.R.	N type : 1.2 max. at DC to 6GHz TNC type : 1.25 max. at DC to 6GHz SMA type : 1.2 max. at DC to 3GHz
Insertion Loss	0.3dB max. at DC to 6GHz
DC Breakdown Voltage	150V min. at 100V /sec.
Impulse Breakdown Voltage	700V min. at 100V / μ sec.
Max.Impulse Discharge Current	10,000A max. (8/20 μ sec.)

* The specification might be different according to the connector.

- ARR series connector was developed to prevent surges that occur due to lightning strikes from causing damage to equipment. Specifically, the surge voltage is introduced into a gas arrester so that this gas arrester discharges electricity.
- ARR series connector with lug terminals for grounding is also available.
- Standard connector shapes are N, TNC, and DM (SMA). Any connector shapes will be provided by customer's request.

75 Ω BNC Type Connector

BNC75 Series



Characteristic Impedance	75 Ω
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	3 m Ω max.
V.S.W.R.	1.3 max. at DC to 1GHz

* The specification might be different according to the connector.

- 75 Ω of BNC style connector
- BNC style connectors can be mated.
- Bayonet coupling mechanism for reliable connection

75 Ω BNC Type Connector

5G BNC75 Series for 12G-SDI



Characteristic Impedance	75 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	3 m Ω max.
Return Loss	20dB min. at DC to 3GHz 10dB min. at 3 to 12GHz

* The specification might be different according to the connector.

- Suppress impedance mismatching to the utmost and realizes compatibility with the 12G-SDI standard.
- Line up : Receptacle : Angle type, Straight type
Plug : Straight type (for 5.5 C and 3 C)

75 Ω SMB Type Connector

27CP Series



Characteristic Impedance	75 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Contact Resistance	6 m Ω max.
V.S.W.R.	1.5 max. at DC to 500MHz

* The specification might be different according to the connector.

- 27CP series is 75 Ω connector of SMB(50 Ω).
- Provide easy push-pull coupling mechanism.
- 27CP series is not intermateable with 27DP(50 Ω) series.

75Ω SSMB Type Connector

SSMB75 Series



Characteristic Impedance	75 Ω
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	10 mΩ max.
V.S.W.R.	1.3 max. at DC to 1GHz

* The specification might be different according to the connector.

- SSMB75 series is 75 Ω connector of SSMB(50 Ω)
- Mini-size low profile, push-on lock coupling
- Right angle receptacle is available array type (one to five rows).
- SSMB75 series is not intermateable with SSMB(50 Ω) series.

Bayonet Lock Coaxial Connector

5G BM1 Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Resistance	3 mΩ max.
V.S.W.R.	1.2 max. at DC to 3GHz 1.3 max. at 3 to 6GHz

* The specification might be different according to the connector.

- BM1 series is miniaturized BNC connector and it is same size as SMA connectors.
- Compared with BNC connectors, it is 50% space-saving.
- It is adopted the bayonet lock coupling, so it is unnecessary to control the torque while coupling. It can be easily to mate and unmate.

Compact Coaxial Connector

PSH Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	500 MΩ min. at 100V DC
Contact Resistance	Center Contact : 20 mΩ max. Outer Contact : 10 mΩ max.
V.S.W.R.	1.3 max. at DC to 3GHz 1.5 max. at 3 to 6GHz

* The specification might be different according to the connector.

- PSH series is a compact coaxial connector for wireless LAN and portable PC.
- Adopting crimp type to the outer conductor and contact to achieve low cost.
- Applicable cable size are ϕ 0.81mm, ϕ 1.13mm, ϕ 1.32mm and ϕ 1.37mm.
- Compact and low profile: Mating Height 2mm (max. 2.2mm) and 2.5mm (max. 2.6mm)
- Applicable frequency range is up to 6GHz.

Compact Coaxial Connector

PSH2 Series



Characteristic Impedance	50 Ω
Dielectric Withstand Voltage	200V AC(r.m.s.) / 1 minute
Insulation Resistance	500 MΩ min. at 100V DC
Contact Resistance	Center Contact : 20 mΩ max. Outer Contact : 10 mΩ max.
V.S.W.R.	1.3 max. at DC to 3GHz 1.5 max. at 3 to 6GHz

* The specification might be different according to the connector.

- Area occupied by the substrate has been achieved about 55% smaller compared with the PSH series.
- Applicable cable size is ϕ 0.81mm.
- Compact and low profile: Mating Height 1.5mm (MAX1.6mm)
- Applicable frequency range is up to 6GHz.

MIL-DTL-5015 Compatible Connector

Conforming Standard MIL-DTL-5015

D/MS A/B Series



- D/MS series connectors are intermateable and intermountable with MIL-DTL-5015 connectors.
- D/MS series connectors are designed for use in a wide range of general industrial applications.

Service Rating	Operating Voltage (V)		Dielectric Withstand Voltage AC (r.m.s.)	Insulation Resistance
	DC	AC(r.m.s.)		
INST	250	200	1,000	5,000 M Ω min at 500V DC
A	700	500	2,000	
D	1,250	900	2,800	
E	1,750	1,250	3,500	
Contact Size	Rated Current (A)		Wire Size	
	Single Wick	Muilti Wick		
#16	22	13	AWG16 to 22	
#12	41	23	AWG12 to 14	
#8	73	46	AWG 8 to 10	
#4	135	80	AWG 4 to 6	
#0	245	150	AWG 0 to 2	

Intermateable with CE02-2A&D/MS Series

Conforming Standard MIL-DTL-5015

D/MS(D190) Series



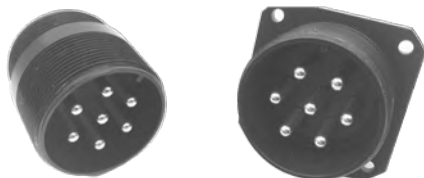
- D/MS (D190) series is intermateable with CE02-2A, D/MS and MIL-DTL-5015 connectors.
- These connectors meet the performance criteria of most factory automatin applications as they withstand exposure to moisture, oil and vibration.

Service Rating	Operating Voltage (V)		Dielectric Withstand Voltage AC (r.m.s.)	Insulation Resistance
	DC	AC(r.m.s.)		
INST	250	200	1,000	5,000 M Ω min at 500V DC
A	700	500	2,000	
D	1,250	900	2,800	
E	1,750	1,250	3,500	

Waterproof connector for relay

Conforming Standard MIL-DTL-5015

D/MS(D263) Series



- D/MS(D263) is a relay type receptacle compatible with the plugs of the D/MS(D190) series, CE02 and CE05.
- In compliance with MIL-DTL-5015, the D/MS connector and the electrical specification are the same and compatible.
- The insert array shares the insert of the D/MS connector (except 10SL size)

Service Rating	Operating Voltage (V)		Dielectric Withstand Voltage AC (r.m.s.)	Insulation Resistance
	DC	AC(r.m.s.)		
INST	250	200	1,000	5,000 M Ω min at 500V DC
A	700	500	2,000	
D	1,250	900	2,800	
E	1,750	1,250	3,500	

One-touch lock connector for welding robot

Conforming Standard VG95234 and MIL-DTL-5015

D/MS(D264)、D/MS(D346) Series



Service Rating	Operating Voltage (V)		Dielectric Withstand Voltage AC (r.m.s.)	Insulation Resistance
	DC	AC(r.m.s.)		
INST	250	200	1,000	500 M Ω min at 500V DC
A	700	500	2,000	
D	1,250	900	2,800	

Contact Size	# 16	# 12	# 8	#4	# 0
Rated Current	13A	23A	46A	80A	150A

- D/MS(D264), D/MS(D346) series are connectors with one-touch lock structure conforming to VG95234.
- Because it uses high-strength resin insert, it is excellent in cable tensile strength.
- It has waterproofness of IP 67 and it can be used even under the condition of cutting oil and cooling water.

Waterproof Connector

Conforming Standard MIL-DTL-5015

D/MS E/F/R Series



- D/MS(F/R) series provides a set of moisture-resistant and oil-resistant connectors.
- This series use synthetic rubber for their inserts to cope with the various environments.
- The products in the D/MS series are compatible and complied with MIL-DTL-5015.

Service Rating	Operating Voltage (V)		Dielectric Withstand Voltage AC (r.m.s.)	Insulation Resistance
	DC	AC(r.m.s.)		
INST	250	200	1,000	500 MΩ min at 500V DC
A	700	500	2,000	
D	1,250	900	2,800	

Reverse Bayonet Coupling Connector Conforming Standard VG95234 and MIL-DTL-5015

DCA Series



- Quick positive bayonet coupling ■ Audible, tactile and visual indication of full coupling ■ IP67 when mated and used with suitable accessories, grommet or a waterproof backshell ■ Contacts available in both crimp and solder terminations
- High shock and vibration capabilities ■ Intermatable with existing VG95234 connectors
- Available in both OD chromate finish and RoHS compliant Nickel plating

Service Rating	Operating Voltage(V)		Dielectric Withstand Voltage AC (r.m.s.)	Insulation Resistance
	DC	AC(r.m.s.)		
INST	250	200	1,000	500 MΩ min at 500V DC
A	700	500	2,000	
D	1,250	900	2,800	

Contact Size	# 16	# 12	# 8	#4	# 0
Rated Current	13A	23A	46A	80A	150A

Reverse Bayonet Coupling Connector Conforming Standard VG95234 and MIL-DTL-5015

DCA-A-F Series



- DCA-A-F series is a reverse bayonet coupling connector based on VG95234.
- High rust prevention by applying cationic electrodeposition coating.
- Compared to MIL standard screw type mating, this connector can easily check the mating visually and can greatly improve work efficiency.
- It has high reliability due to its robust structure, and can be used for a wide variety of applications with a wide variety of products.

Service Rating	Operating Voltage(V)		Dielectric Withstand Voltage AC (r.m.s.)	Insulation Resistance
	DC	AC(r.m.s.)		
INST	250	200	1,000	500 MΩ min at 500V DC
A	700	500	2,000	
D	1,250	900	2,800	

Contact Size	# 16	# 12	# 8	#4	# 0
Rated Current	13A	23A	46A	80A	150A

Waterproof Connector

Conforming Standard JIS-B-6015

CE01 Series



- CE01 series connectors conform to JIS-B-6015.
- These connectors meet the performance criteria of most factory automation applications as they withstand against exposure, oil and vibration. ■ Bayonet-lock coupling. ■ Waterproof type design.

Contact Size	# 20	# 16	# 12	# 8
Rated Current	5A	13A	23A	46A
Service Rating	INST	A	D	
Rated Current	AC(r.m.s.)	200V	500V	900V
	DC	250V	700V	1,250V
Dielectric Withstand Voltage AC(r.m.s.)/1minute	1,000V	2,000V	2,800V	
Insulation Resistance	5,000 MΩ min at 500V DC			
Contact Resistance	8 mΩ max.	4 mΩ max.	2 mΩ max.	0.6 mΩ max.
Operating Temperature Range	-55°C to +125°C (Humidity 85% max.)			
Protection Rating	IP67 (when mating)			

Waterproof Plug Connector

Conforming Standard JIS-B-6015,MIL-DTL-5015

CE02-6A Series



Contact Size		#16	#12	#8
Rated Current		13A	23A	46A
Service Rating		A		D
Rated Voltage	AC(r.m.s.)	500V		900V
	DC	700V		1,250V
Dielectric Withstand voltage AC(r.m.s.)/1minute		2,000V		2,800V
Insulation Resistance		5,000 MΩ min. at 500V DC		
Contact Resistance		6 mΩ max.	3 mΩ max.	2 mΩ max.
Operating Temperature Range		-55°C to +125°C		
Protection Rating		IP67 (when mating)		

- CE02-6A series is a waterproof plug connector with a protection circuit (Earth) based on JIS-B-6015.
- CE02-6A series is intermateable with MIL-DTL-5015 style connectors such as the D/MS series.

Waterproof Receptacle Connector

Conforming Standard MIL-DTL-5015

CE02-2A Series



Contact Size		#16	#12	#8
Rated Voltage	AC(r.m.s.)	250V	350V	
	DC	350V	500V	
Dielectric Withstand Voltage		1,000V AC(r.m.s.) /1minute	1,500V AC(r.m.s.)/1minute	
Insulation Resistance		1,000 MΩ min. at 500V DC		
Contact Resistance		6 mΩ max.	3 mΩ max.	2 mΩ max.
Operating Temperature Range		-40°C to +125°C		
Protection Rating		IP67		

- CE02-2A series provides a set of vibration-resistant waterproof and oilproof.
- This series uses synthetic rubber for its front inserts to cope with the various environments.
- CE02-2A series are compatible with D/MS series and comply to MIL-DTL-5015.

European Safety Standard Connector

EN 61984(DIN VDE 0627)

CE05 Series



Contact Size	#16	#12	#8	#4
Rated Voltage	13A	23A	46A	80A
Dielectric Withstand Voltage	2,000V to 3,000VAC(r.m.s.) / 1 minute			
Insulation Resistance	5,000 MΩ min. at 500V DC			
Operating Temperature Range	-55°C to +125°C			
Protection Rating	IP67 (when mating)			
Wire Size (AWG)	22 to 16	14 to 12	10 to 8	6 to 4

- It conforms to European safety standards.
- The CE05 series is compatible with D/MS one.

Circular Connector

Conforming Standard JIS-C-5432

JM Series



Rated Voltage	250V AC(r.m.s.)/ 350V DC
Rated Current	5 A /Contact Dia. φ 1.0 mm
	10A/Contact Dia. φ 1.6 mm
Insulation Resistance	1,000 MΩ min. at 500V DC
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Contact Resistance	5 mΩ max. at 1A DC
Impact Resistance	10 to 55 Hz, 1.5mm
Impact Resistance	Acceleration 50G
Operating Temperature Range	-25°C to +85°C

- JM series connectors conform to JIS-C-5432.
- These connectors are used in a wide variety of industrial machinery applications.
- Miniature and High Density #20 and #16 contact sizes are available.
- 5 key designs prevents mis-mating. Quick and Easy Termination.

Waterproof Connector

Conforming Standard JIS-C-5432

WEB Series



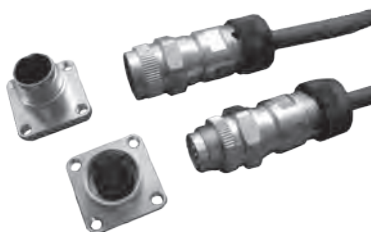
Rated Voltage	250V AC(r.m.s.) / 350V DC
Rated Current	5 A /Contact Dia. ϕ 1.0 mm 10A/Contact Dia. ϕ 1.6 mm
Insulation Resistance	1,000 M Ω min. at 500V DC
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Contact Resistance	5 m Ω max. at 1A DC
Vibration Resistance	10 to 55 Hz, 1.5mm
Impact Resistance	Acceleration 50G
Operating Temperature Range	-25°C to +85°C
Protection Rating	IP67 (when mating)

- WEB series connectors meet the performance criteria of most factory automation applications as they are waterproof and withstand exposure to water, oil and vibration. ■ Turn-Lock mating
- Rotating plug connector 90 degrees after mating makes click sound to confirm locking and releasing exactly.
- Miniature & High Density Miniature and High Density Insert arrangements are same as JM Series connectors (conforming to JIS-C-5432).

AISG Standard Connector

Conforming Standard IEC60130-9

5G AIC Series



Rated Current	5A / Contact
Rated Voltage	250V AC (r.m.s.)
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 500V DC
Operating Temperature Range	-40°C to +100°C
Wire Size	AWG 28 to 18
Protection Rating	IP67 (when mating)

- AIC series is a connector based upon the AISG standard (IEC60130-9).
- For AISG and 3G antenna
- Cable connection by crimping: A high reliable connection method was adopted.

DeviceNet Micro-style Connector

Conforming Standard DeviceNet

CM02 Series



Rated Current	3A / Contact
Rated Voltage	125V DC
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 M Ω min. at 250V DC
Operating Temperature Range	-25°C to +70°C
Contact Size	Pin Contact Dia. ϕ 1mm
No. of Contacts	5
Protection Rating	IP67 min.(when mating)

- CM02 series is a waterproof connector that complies with Micro-style of the Device Net standard.
- This connector can be used in various applications even under adverse environmental conditions.
- UL recognized product: File No. E72124
- Cable connection by crimping: A high reliable connection method was adopted (plug/jack).

M12 Sized Connector

Conforming Standard NECA4202

CM02B Series



Rated Current	3A / Contact
Rated Voltage	125V DC
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	Connector / 1,000 M Ω min at 500V DC Assembly / 100 M Ω min at 500V DC
Operating Temperature Range	-25°C to +70°C
Contact Size	Pin Contact Dia. ϕ 1mm
No. of Contacts	4
Protection Rating	IP67 (when mated)

- CM02B series connector was developed for connecting various sensors. It complies with the standard NECA4202 (Nippon Electric Control Equipment Industries Association).
- The sensor wiring work can be significantly reduced.
- Designed as a waterproof, oil-resistant structure, this connector can be used under adverse environmental conditions.

DeviceNet Micro-style Harness

Conforming Standard DeviceNet

CM02B Series

Molding Cable Assembly



Rated Current	3A / Contact
Rated Voltage	125V DC
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Operating Temperature Range	-20°C to +70°C
Contact Size	Pin Contact Dia. ϕ 1mm
No. of Contacts	5
Protection Rating	IP67 (when mating)

- CM02B series is a waterproof connector that complies with Micro-style of the Device Net standard.
- This connector can be used in various applications even under adverse environmental conditions.
- UL recognized product: File No. E72124 ■ Solder termination for the receptacle
- Cable connection by crimping: A high reliable cable connection method was adopted(plug/jack).

DeviceNet Mini-style Connector

Conforming Standard DeviceNet

CM03 Series



Rated Current	8A / Contact
Rated Voltage	24V DC
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	Connector : 1,000 MΩ min. at 250V DC Assembly : 100 MΩ min. at 250V DC
Operating Temperature Range	-40°C to +70°C
Contact Size	Pin Contact Dia. ϕ 2mm
No. of Contacts	4 and 5
Protection Rating	IP67 (when mating)

- CM03 series is a waterproof connector that complies with Mini-style of the Device Net standard.
- Designed as a waterproof structure (IP67), this connector can be used in many applications even under adverse environmental conditions.
- Sequence structure: The pin contact length is changed to allow contact with different timing.

DeviceNet Mini-style Connector

Conforming Standard DeviceNet

CM03A Series



Rated Current	13A / Contact
Rated Voltage	25V DC
Dielectric Withstand Voltage	1,600V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Operating Temperature Range	-40°C to +70°C
Contact Size	Pin Contact Dia. ϕ 2mm
No. of Contacts	4 and 5
Protection Rating	IP67 (when mating)

- CM03A series is a waterproof connector that complies with Mini-style of the Device Net standard.
- Designed as a waterproof structure (IP67), this connector can be used in many applications even under adverse environmental conditions.

DeviceNet Mini-style Harness

Conforming Standard DeviceNet

CM03A Series

Molding Cable Assembly



Rated Current	8A (5-Pin type) ,10A (4-Pin type) / Contact
Rated Voltage	125V DC
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500 V DC
Operating Temperature Range	-40°C to +70°C
Contact Size	Pin Contact Dia. ϕ 2mm
No. of Contacts	4 and 5
Protection Rating	IP67 min. (when mating)

- CM03A series is a waterproof connector that complies with Mini-style of the Device Net standard.
- Designed as a waterproof structure (IP67), this connector can be used in many applications even under adverse environmental conditions.

M12 Sized Harness

CM04T Series



Rated Voltage	30V AC(r.m.s.) / 36V DC
Rated Current	1.5A / Contact
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	100MΩ min. at 250V DC
Operating Temperature Range	-40°C to +85°C
No. of Contacts	8
Protection Rating	IP67 min. (when mating)

- For various kinds of industrial devices (sensors,actuators).
- Small size & high density : 8 pins/M12 size
- UL94V-0 insulator flammability rating
- Overmold style cable assembly
- CM04T series is a waterproof connector for sensors and electronical appliances.

M8 Sized Harness

Conforming Standard NECA4202

CM08 Series



Rated Current	1A / Contact
Rated Voltage	125V DC
Dielectric Withstand Voltage	1,000V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Operating Temperature Range	-25°C to +70°C
Contact Size	Pin Contact Dia. φ 1mm
No. of Contacts	3 and 4
Protection Rating	IP67 (when mating)

- CM08 series is a small size and sealed circular connector developed for various sensors to aid their connection.
- This series conforms to NECA 4202 official standards of the Japan Electric Control Equipment Industry Association.

One-Touch Lock Type Small Sized Connector

CM09 Series



Rated Current	1A / Contact
Rated Voltage	24V DC max.
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC
Operating Temperature Range	-25°C to +70°C
Applicable Cable	AWG 20 to 24
No. of Contacts	25 and 32
Protection Rating	IP67 min. (when mating)

- CM09 series is a small circular waterproof connector with one-touch lock mating (push-on, turn-off).

One-Touch Lock Type Small Sized Connector

CM09Y Series



Rated Current	1A / Contact
Rated Voltage	30V DC max.
Dielectric Withstand Voltage	500V AC(r.m.s.) / 1 minute
Insulation Resistance	100 MΩ min. at 500V DC
Operating Temperature Range	-25°C to +70°C
Applicable Cable	AWG 24 to 28 (Crimp type)
No. of Contacts	25
Protection Rating	IP67 min. (when mating)

- CM09Y series is a water-proof small-size circular connector which is one-touch: push-on, turn-off operation.
- CM09Y series is the product which is reduced the CM09 series in size and weight.
- The plug connector improved cable strength by structure.

One-Touch Lock Type Small Sized Connector

CM10 Series(D6)



Rated Current	3A / Contact
Rated Voltage	200V AC(r.m.s.) max.
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute (2 pin) 900V AC(r.m.s.) / 1 minute (10 pin)
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Size	# 22
Operating Temperature Range	-25°C to +85°C
No. of Contacts	2 and 10
Protection Rating	IP67 min. (when mating and Rece. only)

- Solid structure with a metal shell
- One-touch and reliable locking mechanism of push-on and turn-off
- With a grounding contact (Position 10)
- Angle plug available for low-profile mounting
- Lighter in weight by 30% than CM10

One-Touch Lock Type Small Sized Connector

CM10 Series(D)



Rated Current	3A / Contact
Rated Voltage	200V AC(r.m.s.) max.
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute (2 pin) 900V AC(r.m.s.) / 1 minute (10 pin)
Insulation Resistance	1,000 MΩ min. at 500V DC
Contact Size	# 22
Operating Temperature Range	-25°C to +85°C
No. of Contacts	2 and 10
Protection Rating	IP67 min. (when mating and rece only)

- Solid structure with a metal shell
- One-touch and reliable locking mechanism of push-on and turn-off
- With a grounding contact (Position 10)
- Angle plug available for low-profile mounting
- Finish : Black trivalent chromium treatment (RoHS compliant finish)

Industrial Ethernet Integrated Harness

CM21 Series



	CM21 Jack/ CM21 Plug	CM21 Jack/ Modular Plug	CM21 Plug/ Modular plug	Both ends Modular Plug
Rated Current	3A /Contact	1A /Contact		
Rated Voltage	30V DC			
Dielectric Withstand Voltage	1,000V AC (r.m.s.) / 1 minute			
Insulation Resistanc	Min. 100M Ω / 500V DC			
Operating Temperature	- 25℃~+ 70℃			
Protection Rating	IP67 (mated)	CM21 : IP67, Modular Plug : IP20		IP20
Number of Contacts	4			

- Two positioning keys conforming to IEC61076-2-101 M12 D-Coding standard prevents the operators from having cross plugging problems
- By adopting M12 (1mm pitch) thread for the coupling ring, the smooth mating and dis-mating are achieved.
- The plug connector has an O-ring which completely prevents water and dust from intruding inside when the connectors are mated.
- We are preparing a modular plug corresponding to core wire size AWG 22 so we can manufacture harness combining CM21 connector and modular plug in addition to CM21 connector harness at both ends.

One-Touch Lock Type Small Sized Connector

CMV1 Series



No. of Contacts	2 Contacts	10 Contacts
Rated Current	3A / Contact	
Rated Voltage	200V AC(r.m.s.) max.	
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute	900V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC	
Contact Size	# 22	
Operating Temperature Range	-25°C to +85°C	
Protection Rating	IP67 min. (when mating)	

- CMV1 series is a water-proof small-size circular connector which is One-touch: Push-on, Turn-off operation.
- It can be mated to the receptacle of CM10 series. It is improved anti-vibration and operability by revising the contact and frame.
- 10 contacts type is adopted sequence mechanism which the ground contact mates first and breaks last.

Screw Type Small Circular Connector

CMV1S Series



No. of Contacts	2 Contacts	10 Contacts
Rated Current	3A / Contact	
Rated Voltage	200V AC(r.m.s.) max.	
Dielectric Withstand Voltage	1,500V AC(r.m.s.) / 1 minute	900V AC(r.m.s.) / 1 minute
Insulation Resistance	1,000 MΩ min. at 500V DC	
Contact Size	# 22	
Operating Temperature Range	-25°C to +85°C	
Protection Rating	IP67 min. (when mating)	

- CMV1S series is a thread coupling plug connector which is combine water-proof with strong body by adopting the metal shell.
- CMV1S series acquired further anti-vibration performance by adopting the thread coupling.
- 10 contacts type is adopted sequence mechanism which the ground contact mates first and breaks last.

Submersible Connector

89M Series



Shell Size	22 , 28 , 32 , 36
Style	Straight Plug, Box Receptacle Cable Receptacle

- 89M series connector is a waterproof connector designed to be used outdoors and in water.
- The coupling side is waterproofed with O-rings, and the cable connection side with gaskets. This allows this connector to resist water pressure of a maximum of 1.96 MPa (equivalent to the pressure at a depth of 200 m).

Submersible Connector

89J Series



Shell Size	22 , 28 , 32 , 36
Style	Straight Plug, Box Receptacle Cable Receptacle

- The coupling side is waterproofed with flat gaskets, and the cable connection side with gaskets having a trapezoidal cross section.
- It can be used in water at a depth of up to a maximum of 1.8 m.

[Comparison table]

○ 17 Series

	17JE		17LE	17DE
No. of contacts	9, 15, 25, 37			
Connection	Electric wire	P.C.B.	P.C.B.	Electric wire
Connection method	Solder	Solder DIP	Solder DIP	Crimping
Type	-	Straight	Right angle	-

○ 57 Series

	57		57FE	57GE	57RE
No. of contacts	14, 24, 36, 50				
Connection	Electric wire	P.C.B.	Ribbon electric wire	P.C.B.	P.C.B.
Connection method	Solder	Solder DIP	Insulation-displacement	Solder DIP	Solder DIP
Type	-			Straight	Right angle

○ Stacking Connector Series

	DHL	DHB	DFJ	DFM	DFW	DFW2	DFZ	DFZP	DFAA	DFAC
No. of contacts	40, 50	20 ~ 120	80	20 ~ 120	40, 140	20 ~ 100	50, 70	50		
Contact pitch(mm)	1.27	0.8	0.635	0.6	0.5	0.6				
Mating height(mm)	7, 9	10 ~ 20	16, 20	13 ~ 25	Right angle	11 ~ 25	18	Right angle		
Effective mating length(mm)	1.5	1.8	2							
2 points contact	-									
Floating	-		X,Y direction ± 0.5 mm	-		X,Y direction ± 0.5 mm	-			
Remarks	-	Shield structure	-	2.5Gbps transmission	-	With power contact	-	With ground tab		

○ FB Series

	FB35	FB35C	FB35K	FB35L	FB35S	FB35AA	FB35AB	FB35AF
No. of contacts	6 ~ 70	10 ~ 50	10 ~ 60	6 ~ 50	10 ~ 50			
Contact pitch(mm)	0.35							
Mating height(mm)	0.7	0.6	0.7	0.8	0.6	0.5		
Mating width(mm)	2.3	1.9	1.8	1.9	2.1	1.8		

○ FF Series

	FF10	FF10S	FF12	FF14	FF14A	FF14C	FF18	FF18N	FF22E	FF26
No. of contacts	51,70,80	80	6 ~ 60	4 ~ 50	4 ~ 40	40, 50	4 ~ 10	4, 10	84, 92	80
Contact pitch(mm)	0.25		0.3	0.5			0.4		0.3	0.2
Height(mm)	0.95	1.06	0.9			1	0.66		2.57	0.66
Contact	Upper and lower					Upper only	Upper and lower	Upper only		
Applicable FPC thickness(mm)	0.15			0.12or0.2	0.2	0.3	0.12		0.2	0.12
Applicable FFC thickness(mm)	-	-	-	0.12or0.2	-	0.3	-	-	-	-

	FF27	FF28	FF29B	FF36	FF51	FF52	FF57	FFX2	FFX2S
No. of contacts	16, 26	5 ~ 45	15 ~ 25	120	4	8 ~ 19	16	26,58,100	58
Contact pitch(mm)	0.175	0.25	0.175	0.2	0.35	0.3	0.175	0.2	
Height(mm)	0.66			0.95	0.5			0.95	1.05
Contact	Upper only			Upper and lower	Upper only			Double layer	
Applicable FPC thickness(mm)	0.12			0.15	0.12				0.12or0.18
Applicable FFC thickness(mm)	-	-	-	-	-	-	-	-	-

○ D/MS Series

	D/MS A/B	D/MS(D190)	D/MS(D263)	D/MS(D264) D/MS (D346)	D/MS E/F/R
Standard	MIL-DTL-5015				
Lock method	Screw			VG95234 (Mating method)	-
Waterproof property	Non waterproof			IP67	E:Non waterproof F/R:IP55
Product	Plug		-	Plug	Plug
	Box Rece	-	Box Rece	Box Rece	Box Rece
	Cable Rece & Wall Rece	-	Cable Rece & Wall Rece	Wall Rece	-
Insert material	Resin(UL94V-0)				Rubber
UL	UL		Scheduled to acquire UL		Non UL

【Memo】