

Technology to Inspire Innovation

The JAE logo consists of the letters 'JAE' in a bold, black, sans-serif font. Above and below the letters are two thick, horizontal blue bars. The background of the entire page is a light gray grid of various connector components.

JAE

Connector Selection Guide 2015 - 2016



E-Catalog

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View all JAE connectors at www.JAE.com

Contact marketing@jae.com to request the electronic version of this connector guide.



About JAE

In 1953, Japan Aviation Electronics Industry, Ltd. began with the ambition of becoming a leading manufacturer in the aviation and space industries in Japan. Since then, we were able to expand and also specialize in designing and manufacturing connectors and gyroscopes.

Always keeping our corporate philosophy **“Explore, Create, and Practice”** in mind, we were able to successfully establish 3 strong product lines:

- Connectors
- User Interface Solutions
- Aerospace

JAE strives to be the number one partner for global customers by staying innovative and creative in an industry where technology is continuously evolving and advancing.

JAE Electronics, Inc., a subsidiary of parent company JAE, designs, manufactures and markets electronic components, fiber optic connectors, LCD monitor connectors, waterproof electrical connectors, connectors for commercial energy storage systems, and other digital systems. A global company, JAE is a recognized leader in providing solutions to complex design requirements. By combining divergent technologies from experience gained in the aerospace industry, JAE has been able to transfer these technologies into advanced connector designs. From connectors on Japan's Bullet Train, to the smallest hand-held video camera, JAE continues to meet the most demanding applications in the industry.

Technology to Inspire Innovation

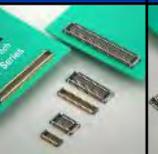
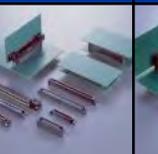
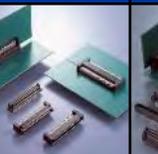


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Board-to-Board Connectors



Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	WP10	WP21	WP25D	WP3	WP6/C	WP7	WP9	WR	KX14/15	KX24/25	TX24/25
Photo											
Pitch	N/A	0.35mm	0.35mm	0.4mm	0.4mm	0.4mm	0.4mm	0.5mm	0.8mm	0.8mm	1.27mm
Stacking Heights	0.7mm	0.6mm	0.7mm	1.0mm	0.8mm	0.7mm	0.8mm	4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 8.0, 9.0mm	5.0, 6.0, 8.0, 9.0, 11.0, 12.0mm	N/A	12.0-24.0mm (±2.0mm)
Pin Count (Parallel)	2 Signal 4 Power	10,20,22,24, 30,34,40,42, 46,54	10,28,38 (+2 power pins)	16,20,22,24, 30,36,40,42, 50, 64,70,80	10,12,16,20, 24,30,40,50	10,16,20,24, 26,28,30,32, 34,40,50,70	10,14,20,24, 30,32,40,60	20,30,40,50, 60,70,80,100 120,160	20,30,40,50, 60,70,80	80,100,120, 140,180 (coplanar)	30,40,50, 60,80,100, 120
Pin Count (Right Angle)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	30,40,50,60, 70,80,120	20,30,40,50, 60,70,80	80,100,120, 140,180	30,40,44,50, 60,80,100, 120
Board Mount	SMT	SMT	SMT	SMT	SMT	SMT	SMT	SMT	SMT	Thru-hole	Thru-hole
Current Rating	0.4A 5A Power	0.3A	0.3A 0.2A Power	0.4A	0.3A	0.2A	0.3A	0.3A	0.5A	0.5A	1.0A
Voltage Rating	50VAC 50VDC	50VAC 50VDC	50VAC 50VDC	50VAC 50VDC	50VAC 50VDC	50VAC 50VDC	50VAC 50VDC	200VAC 300VDC	200VAC 300VDC	200VAC	250VAC
Durability	30 cycles	30 cycles	30 cycles	50 cycles	30 cycles	30 cycles	50 cycles	500 cycles	500 cycles	500 cycles	500 cycles
Features	High power connector ideal for connecting batteries.	Smallest footprint and lowest height.	Hybrid connector with signal pins plus 2 high power contacts.	High retention force.	Shielded variation available for 24 and 30 position with common footprint.	High retention force for low pin counts and low insertion force for high pin	Small connector width helps reduce board mounting space.	9 different vertical stack heights.	Mating guide and key to prevent mis-mating.	Robust mating guide. Click response when mated.	Ribbon type contacts ensure reliable electrical continuity.

View all JAE connectors at www.JAE.com

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Socket side: **WP10-S###VA10-R15000**
 Pin side: **WP10-P###VA10-R15000**

Orderable in Reels of 15000

Socket side: **WP21-S###VA1-R8000**
 Pin side: **WP21-P###VA1-R8000**

Orderable in Reels of 8000

Socket side: **WP25D-S###VA1-R8000**
 Pin side: **WP25D-P###VA1-R8000**

Orderable in Reels of 8000

Socket side: **WP3 - S###VA1 - R6000**
 Pin side: **WP3 - P###VA1 - R6000**

Orderable in Reels of 6000

Socket side: **WP6 - S###VA2 - R6000**
 Pin side: **WP6 - P###VA2 - R6000**

Shielded version:

Socket side: **WP6C - S###VA1 - R6000**
 Pin side: **WP6C - P###VA1 - R6000**

Orderable in Reels of 6000

For pin counts up to 32:

Socket side: **WP7A - S###VA1 - R6000**
 Pin side: **WP7 - P###VA1 - R6000**

For pin counts above 32:

Socket side: **WP7B - S###VA1 - R6000**
 Pin side: **WP7B - P###VA1 - R6000**

Orderable in Reels of 6000

Socket side: **WP9 - S###VA1 - R6000**
 Pin side: **WP9 - P###VA1 - R6000**

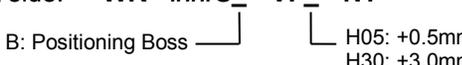
Orderable in Reels of 6000

Socket side: **WH1S###WA1-E6000**
 Pin side: **WH1P###WA1-E6000**

**Not pictured. Please visit www.jae.com for more info.*

Orderable in Reels of 6000

Socket side: **WR - ###S - VF - N1**

B: Positioning Boss 

Vert Pin side: **WR - ###P - VF - N1**

B: Positioning Boss 

R/A Pin side: **WR - ###P - HF - HD - A1E**

Receptacle: **KX14 - ##K 2 DE**
 Stack Height: 2, 5, 8mm

Straight Plug: **KX15 - ##K 3 DE**
 Stack Height: 2, 3, 4mm

R/A Plug: **KX15 - ##K L DLE**
 Right angle

Receptacle: **KX24 - ###R - LT - H1**
 Plug: **KX25 - ###P - LT - H1**

LT: Right-angle 
 6ST: Straight 

H: Hook pin 

Receptacle: **TX24 - ###R - LT - H1E**
 Plug: **TX25 - ###P - LT - H1E**

Stacking Height: 
 Receptacle: 6, 10, 12mm
 Plug: 6, 8, 12mm

H: Hook pin
 N: No hook pin

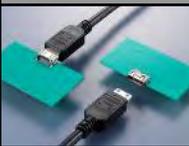
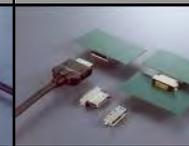
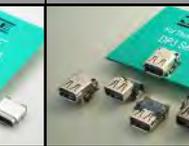
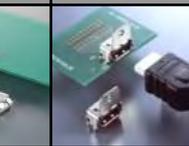
LT: Right angle
 ST: Straight

*Right-angle leave blank

Commercial I/O Connectors



Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	DC2	DC3	DD4	DD1	DD2	DX07	DP3	DX4	DC1
Photo									
Pitch	0.4mm	0.4 mm	0.4mm	0.5mm	0.5mm	0.5mm	0.6mm	0.65mm	1.0mm
I/O	Cable I/O	Cable I/O	Cable I/O R/A Dock Vert Dock	Cable I/O R/A Dock 75° Vert Dock	Cable I/O R/A Dock Vert Dock	Cable I/O	Cable I/O	Cable I/O	Cable I/O
Pin Count	19	19	40	30	40	24	20	5	19
Signal Standard	HDMI	HDMI	USB 3.0 DisplayPort™ SATA	USB 2.0	USB 2.0	USB Type-C™	Thunderbolt™	USB 2.0	HDMI
Current Rating	0.5A	0.3A	Signal: 0.1A Power: 1.1A	Signal: 0.5A Power: 1.0A	Signal: 0.5A Power: 1.0A	5A	Signal: 0.5A	Signal: 0.5A Power: 1.8A	0.5A
Voltage Rating	40VAC	40VAC	30VAC	30VAC	30VAC	20VAC	300VAC	30VAC	40VAC
Durability	5,000 cycles	5,000 cycles	5,000 cycles	10,000 cycles	10,000 cycles	10,000 cycles	10,000 cycles	10,000 cycles	10,000 cycles
Operating Temp	-20 ~ +85 °C	-20 ~ +85 °C	-25 ~ +75 °C	-25 ~ +75 °C	-25 ~ +75 °C	-30 ~ +80 °C	-20 ~ +85 °C	-30 ~ +80 °C	-20 ~ +85 °C
Locking	Friction	Friction	Friction	Latch	Latch	Friction	Friction	Friction	Friction
Features	Mini HDMI Type C compatible. Requires HDMI adopter status.	Micro HDMI Type D compatible. Requires HDMI adopter status.	Space-saving low height, fine pitch docking connector.	Docking connector to combine various high speed signals in a single connector.	Robust and compact design. Compatible with high speed signaling.	Reversible plug for easier insertion. Multiple receptacle mounting options avail.	Thunderbolt™ compatible. Various board mounting options available.	Micro USB 2.0 standard compatible. Various mounting options available.	HDMI Type A compatible. Requires HDMI adopter status.

View all JAE connectors at www.JAE.com

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Receptacle: **DC1RS19JA7**

Cable Harness: **DC1P019ST30200B**

Restricted to HDMI Adapters
Contact JAE for additional options

Receptacle: **DD1R030HA1** Standard mount
DD1R030JA7 Reverse mount

Docking Plug: **DD1B030VA1** Vertical
DD1B030HA1 Right angle

Cable Plug: **DD1P030MA1**

Receptacle: **DP3R020S U32JQ 1 R400**

Board Mount Type
S: Standard
R: Reverse

T/H lead length
Blank: 1.4mm
1: 2.1mm

Height modification code
U32: 3.2mm up
L05: 0.5mm down

Receptacle: **DC2R019JA4**

Hold Down Type
J: T/H, H: SMT

Modification code

Cable Harness: **DC1DC2ST2150B**

Restricted to HDMI Adapters
Contact JAE for additional options

Receptacle: **DD2R040HP2**

Docking Plug: **DD2B040VP4** Vertical
DD2B040HA2 Right angle

Cable Plug: **DD2P040MA1**

Receptacle: **DD4RA040JA1**

Docking Plug: **DD4PA040WA1** Vertical
DD4PA040MA1 Right angle

Cradle: **DD4BA040WA1**
DD4BA040MA1

Receptacle: **DC3RX19JA2**
Top Mount

Modification Code

Hold Down Type
X, J: T/H
0, H: SMT

Receptacle: **DC3R019JA1**
Mid Mount

Modification Code

Restricted to HDMI Adapters
Contact JAE for additional options

Receptacle: **DX07B024JJ1R1500**

Board Mount Type
B: Mid-mount
S: On-board

Reel Amount
1300 (On-board)
1500 (Mid-mount)

Modification Code
1: w/ rear shield
2 (B-type): no rear shield
2 (S-type): w/ rear shield
3: no rear shield

Plug: **DX07P024MJ1R1500**

Receptacle: **DX4R005 J J 2**

Modification Code

Hold Down Type
J: T/H
H: SMT

Modification Code

Industrial I/O Connectors [Rectangular]



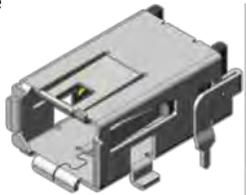
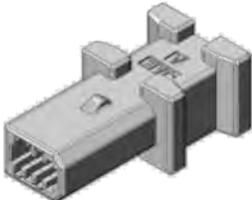
Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	DZ02	DF02
Photo		
Pitch	0.635mm	1.27mm
I/O	Cable I/O	Cable I/O
Pin Count	8	14,20,26,36,50 68 (plug only)
Current Rating	0.5A	0.5A
Voltage Rating	30VAC	250VAC
Durability	1,500 cycles	500 cycles
Operating Temp	-40 ~ +85 °C	-20 ~ +80 °C
Locking	Friction	One-touch/Screw
Features	Vibration-resistant strong lock, ideal for harsh conditions. Compact I/O compatible with IEC/EN 61800-5-2.	Half-pitch (1.27mm) interface compatible. Ni-plated plastic hood for lighter weight with EMI shielding.

JAE's Industrial I/O connectors can be used in various industrial applications, including: Servo amplifiers, motion controllers, PLC (Programmable Logic Controller), factory automation equipment, servo amplifiers, robotic devices, telecommunication equipment and other industrial machinery applications.



DZ02 Series

	No. of Contacts	Part Number
Receptacle 	8	DZ02R008NC1R400
Plug 	8	DZ02B008DC1

DF02 Series

HOODS

STRAIGHT TYPE	No. of Contacts		Part Number	
Short		14	DF02C014A11	
		26	DF02C026A11	
		36	DF02C036A11	
		50	DF02C050A11	
		68	DF02C068A11	
Long		14	DF02D014A11	
		20	DF02D020A11	
		26	DF02D026A11	
		50	DF02D050A11	
Long/Thick (wire compatible)		26	DF02D026A21	
		50	DF02D050A21	
Long w/ Screw Lock		36	DF02D036B11	

ANGLE TYPE	No. of Contacts		Part Number	
Long		36	DF02F036A11	
		36	DF02F036A21	
Long/Thick (wire compatible)		36	DF02F036A21	

PLUG

Solder Type		IDC Connection Type		
No. of Contacts	Part Number	No. of Contacts	Part Number	AWG (IDC Type)
14	DF02P014F22A11	14	DF02P014G28A1	28
20	DF02P020F22A11	20	DF02P020G28A1	
26	DF02P026F22A11	26	DF02P026G28A1	
36	DF02P036F22A11	36	DF02P036G28A1	
50	DF02P050F22A11	50	DF02P050G28A1	
		68	DF02P068G28A1	30
		14	DF02P014G30A1	
		50	DF02P050G30A1	

RECEPTACLE

No. of Contacts	Part Number
14	DF02R014NA3
20	DF02R020NA3
26	DF02R026NA3
36	DF02R036NA3
50	DF02R050NA3

Industrial I/O Connectors [Circular]

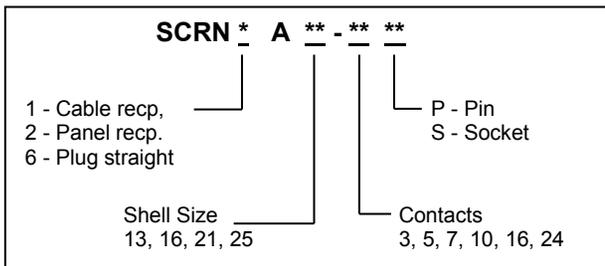
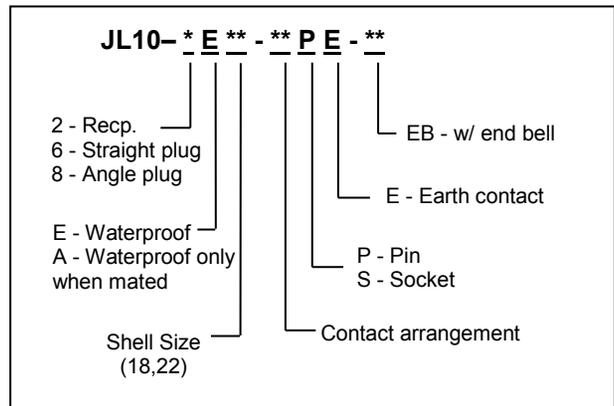
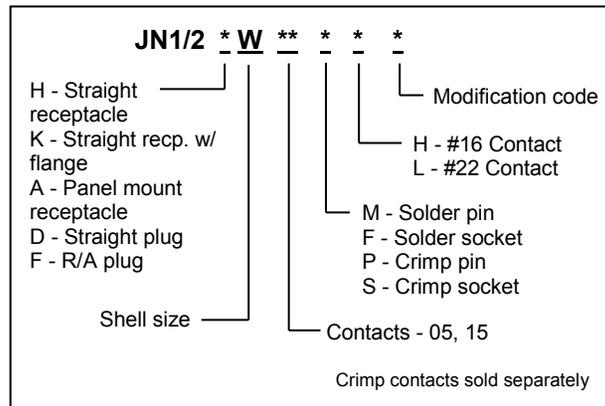
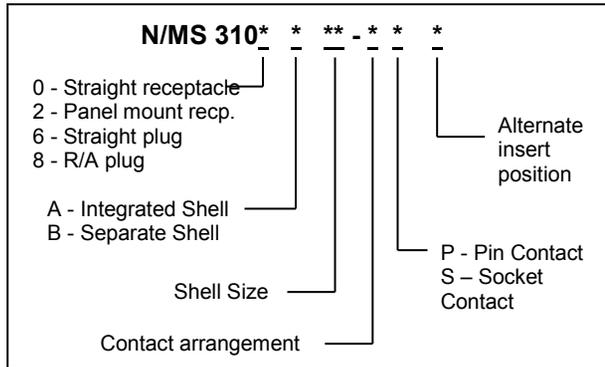
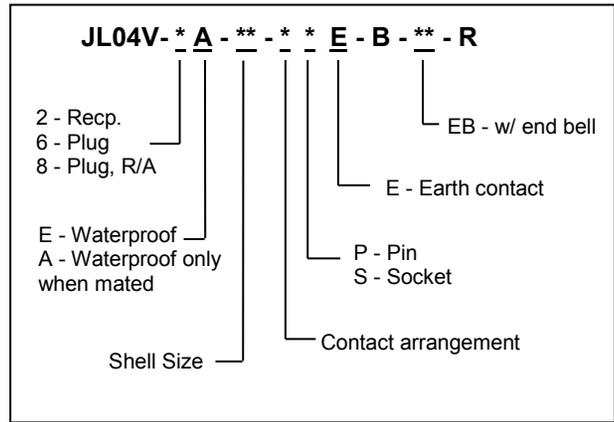
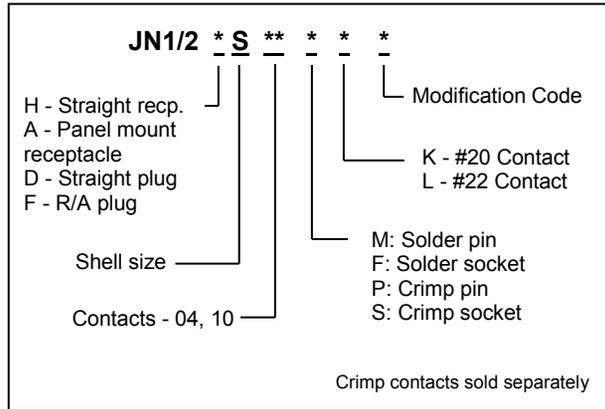
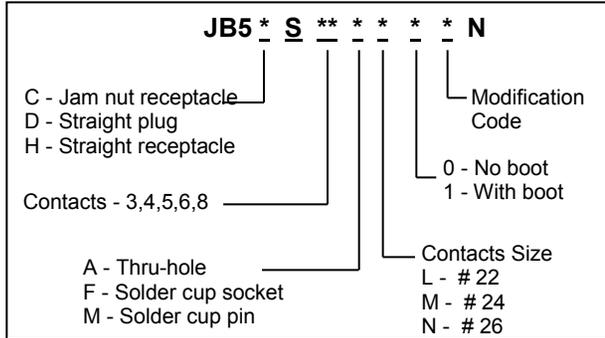
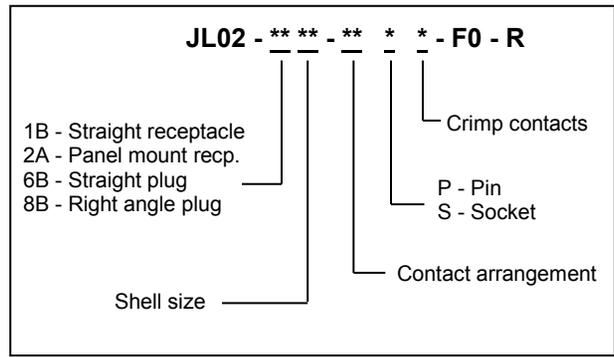
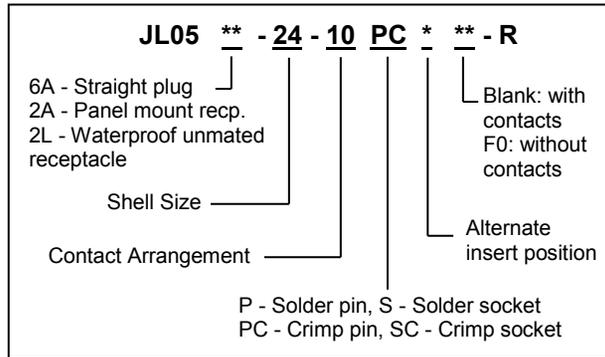
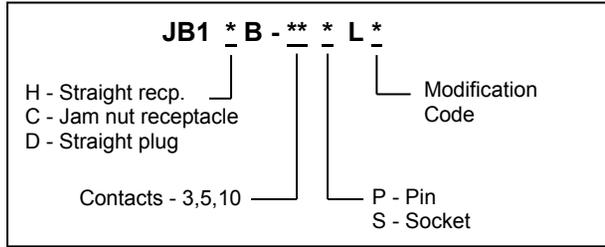


Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	JB5	JB1	JN1 / JN2	JN1W / JN2W	SRCN	JL02	JL04V	JL05	JL10	N/MS
Photo										
Diameter (Max.)	Φ11.0mm	Φ18.0mm	Φ19.0mm	Φ26.2mm	Φ21.2-33.2mm	Φ34.1-62.7mm	Φ22-56.3mm	Φ35.9-51.7mm	Φ35.9-58.6mm	Φ22.2-81.8mm
Pin Count	3, 4, 5, 6, 8	3, 5, 10	4, 10	5, 15	3,5,7,10,16,24	10, 17, 19, 24, 37, 48, 54	3, 4, 6, 7, 8, 9, 18, 22	4,5,7,8,9,10, 17,19,24,30, 36,37,52,73	3,4,9,17,19	1~11,14,16,17, 19,22,24,26,35, 37,48,54,100
Shell Material	Metal	Metal	JN1: Plastic JN2: Metal & Plastic	JN1W: Plastic JN2W: Metal & Plastic	Metal	Metal	Metal	Metal	Metal	Metal
Mated Condition	IP68	IP67	IP67	IP67	N/A	N/A	IP67	IP67	IP67	N/A
Current Rating	2 ~ 3A	3A	3 ~ 5A	3 ~ 13A	5 ~ 10A	1.5 ~ 13A	13 ~ 80A	2 ~ 46A	19 ~ 80A	13 ~ 150A
Voltage Rating	200VAC ~ 320VAC	300VAC	200VAC	200VAC ~ 400VAC	250VAC ~ 350VDC	200VAC ~ 500VAC	100VAC ~ 500VAC	200VAC ~ 900VAC	100VAC ~ 500VAC	200VAC ~ 3,000VAC
Durability	5,000 cycles	500 cycles	500 cycles	500 cycles	500 cycles	500 cycles	500 cycles	500 cycles	500 cycles	500 cycles
Lock	Push-pull	Threaded	Push and twist	Push and twist	Threaded	Threaded	Threaded	Bayonet	Bayonet & Threaded	Threaded
Operating Temp	-55 ~ +85 °C	-30 ~ +85 °C	-20 ~ +125 °C	-20 ~ +125 °C	-25 ~ +85 °C	-55 ~ +85 °C	-55 ~ +125 °C	-55 ~ +125 °C	-55 ~ +125 °C	-55 ~ +125 °C
Wire Size	AWG #22-28	AWG #22-28	AWG #20-28	AWG #14-28	AWG #16-20	AWG #14-28	AWG #4-18	AWG #8-26	AWG #0-22	AWG #0-16
Termination	Solder	Crimp	Crimp / Solder	Crimp / Solder	Solder	Crimp	Solder	Crimp / Solder	Solder	Solder
Features	Small size. Unmated waterproof	Mated Waterproof	One-touch locking mechanism. JN2 shell is 3x stronger.	One-touch locking mechanism	UL approved. 5 insert guide keys	Compatible with MIL-DTL-5015 standard	TUV and UL approved. Compatible w/ MIL-DTL-5015.	JIS B 9960-1 compatible	TUV and UL approved. Compatible w/ MIL-DTL-5015	UL approved. Compatible with MIL-DTL-5015 standard.

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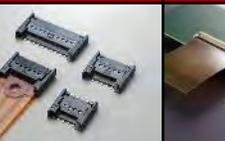
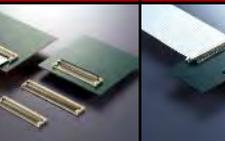
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Board-to-FPC Connectors



Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	FF08	FR02	FB10	FA10	FF03	FA5B	FA5S
Photo							
Pitch	0.2mm	0.2mm	0.3mm	0.5mm	0.5mm	0.5mm	0.5mm
Mounted Height	0.9mm	0.82mm	0.9mm	0.9mm	2mm	1.0mm	1.45mm
FPC/FFC Thickness	0.15±0.03mm	0.2±0.03mm	0.2±0.03mm	0.2±0.03mm	0.3±0.05mm	0.3±0.05mm 0.14±0.03mm	0.3±0.05mm
FPC Contact Orientation	Lower	Upper & Lower	Lower	Upper & Lower	Lower	Lower	Lower
Pin Count	25,29,41,51,71,81	23, 41, 51,61	11,13,15,21,27, 31,33,41,45,51, 61	4,5,6,8*,10*	60,64,68,80,96	6,8,10,16,20, 30,36,40,45,50	6,8,10,15,16, 18,20,22,24, 26,30,36,40, 45,50
Current Rating	0.3A	0.25A	0.35A	0.5A	0.5A	0.8A	0.8A
Voltage Rating	50V	50V	50V	50V	50V	50V	50V
Features	Smallest pitch. Rotating actuator.	Lowest profile in class. Robust rear actuator.	Smallest PCB footprint. Easy actuator operation.	Quick one-step insertion & removal. Requires no actuator operation.	Highest pin count.	Mid mount type for low profile applications.	Easy slider operation.

View all JAE connectors at www.JAE.com

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Loose pcs: **FA5B0##HP1**

Reel: **FA5B0##HP1 R3000**

1: t0.3mm FPC/FFC
 3: t0.14mm FPC/FFC

Reel: **FB10S###JA2R6000**

Loose pcs: **FF03##SA1**

Reel: **FF03##SA1 - R2000**

Loose pcs: **FA5S0##HP1**

Reel: **FA5S0##HP1R3000**

Loose pcs: **FR02C0##JA1**

Reel: **FR02C0##JA1-R5000**

Reel: **FF08##SA1-R3000**

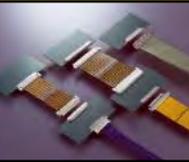
Loose pcs: **FA10##SA1**

Reel: **FA10##SA1-R8000**

Board-to-Cable Connectors



Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

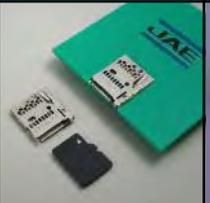
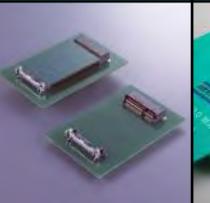
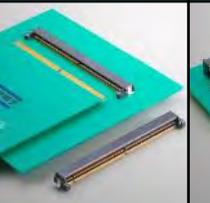
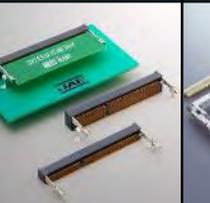
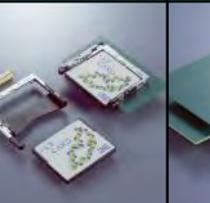
Series	FI-JP	FI-JW	HJ1	HD1/FI-Z	FI-R	FI-X	FI (single row)	FI (dual row)
Photo								
Pitch	0.25mm	0.3mm	0.4mm	0.5mm	0.5mm	1.0mm	1.25mm	1.25mm
Discrete Wire AWG	N/A	N/A	#34,36	#32,34,36	#30,32,36	#30,32,36	#28,30,32	#28,30,32
Coax Wire AWG	#44,46	#42,44	#36,38,40,42,44	#36,38,40,42,44	#40	#32,40	N/A	N/A
FPC/FFC	N/A	N/A	N/A	N/A	FFC (JF08)	0.14±0.03mm	0.14±0.03mm	N/A
Pin Count	40,50	30, 34,40, 50	50	40	21,31,41,51	30	2-6,8,10,15, 20, 25,30	5,7,9,11,13, 15,17,19,21, 31,41
R/A Height	1.08mm	1.65mm	0.9mm	1.0mm	3.8mm	1.0-2.35mm	1.8mm	3.7mm
Locking	Friction	Friction	Friction/ pull bar	Friction/ pull bar	Latches	Latches	Friction	Friction
Durability	20 cycles	30 cycles	30 cycles	30 cycles	50 cycles	50 cycles	50 cycles	50 cycles
Current Rating	0.2A	0.25A	0.1A to 1.0A	0.1A to 1.0A	0.8A	1.0A	1.0A	1.0A
Voltage Rating	50V	50V	100V	100V	200V	200V	200V	200V
Features	Vertical mating. Smallest pitch.	Vertical mating. Small footprint.	Ground reinforced design. Lowest profile.	Compatible with VESA standard for LED backlit panels. <small>LICENSED BY DAHICHI SEIKO CO., LTD. (I-PEX)</small>	VESA standard for LCD interface of HD TV. Vertical mount available.	VESA standard for 1.0mm pitch LVDS interface.	Single row for low profile.	Dual row for smaller footprint.

View all JAE connectors at www.JAE.com

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Card Connectors 1 (microSD, CF, DIMM, PCIe, M.2)

Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	ST1/ST1-G/T	ST10	ST11	MM60	MM70	MM80	JC26/C2	WA6	SM3
Photo									
Card	microSD	microSD	microSD	PCI Express Mini Card	MXM 3.0 Graphics Card	DDR3 SDRAM SODIMM	CompactFlash	MicroDIMM	M.2
Mounted Height	1.9mm/1.4mm	1.25mm	1.25mm	2.125, 4.0, 5.9mm	4.3, 6.7mm	5.2, 9.2mm	5.8, 7.4mm	3.0mm	2.15, 3.1, 4.1mm
Pin Count	8, 8+2	8+2	8+2	52,76	314	204	50	214	67
Dielectric Withstanding Voltage	500V RMS (1 min.)	500V RMS (1 min.)	500V RMS (1 min.)	300V RMS (1 min.)	250V RMS (1 min.)	500V RMS (1 min.)	500V RMS (1 min.)	500V RMS (1 min.)	300V RMS (1 min.)
Current Rating	0.5A	0.5A	0.5A	0.5A	0.5A	0.3A	0.5A	0.3A	0.5A
Durability	10,000 cycles	10,000 cycles	5,000 cycles	50 cycles	30 cycles	25 cycles	10,000 cycles	25 cycles	60 cycles
Style	Hinged	Push-push	Push-push	Card Edge	Card Edge	Card Edge	Ejector	Board to Board	Card Edge
Features	Available with card detection switch. Smallest footprint & lowest height for hinged type.	Lowest height in the market.	Strong mechanical lock to prevent card from popping out from vibration and shock.	Retention latch or screw hold downs available to fix module to connector and main PCB.	MXM3.0 standard compatible. Available in 2 heights.	DDR3 SO-DIMM connector compatible w/ JEDEC standard MO-268C.	Reverse mount available. Retractable ejector available.	DDR2 MicroDIMM connector compatible with JEDEC Standard MO-260B SO-004A.	Multiple key and heights variations available.

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MicroSD: **ST1W008S4 A R1500**
 Hinged type
 Modification code

MicroSD: **ST1W008S4 G R2000**
 Low profile Hinged type
 G: Without detect switch
 T: With detect switch

Orderable in reels

MicroSD: **ST10S008V4BR1800**
 Push-push type

Orderable in reels

MicroSD: **ST11S008V4HR2000**
 Push-push type

Orderable in reels

PCI Express Mini Card

Connector : **MM60 - 52 - B 1 - E 1**
 No. of contacts — 52
 Socket type — B: Top mount, C: Mid mount
 Key type — B 1
 Contact finish — E 1
 Height modification code

Latch : **MM60 - EZ - H059 - B 5**
 Latch type — EZ
 Connector height — H059
 With boss — B 5
 5: Sn plating

Nut : **NT1R3000** 4.0mm height connector
NT4R1600 5.9mm height connector

MXM 3.0 Graphics Card

Connector: **MM70 - 314-310 B 2 - 1**
 Height modification code — 314-310
 Contact finish: (Au plating)
 1: 0.1µm min.
 2: 0.3µm min.

DDR3 SDRAM SO-DIMM

Connector: **MM80 - 204B1 - E1R**
 Height modification code — 204B1
 Blank: 5.2
 E: 9.2
 Blank: Standard
 R: Reverse

CompactFlash

Connector: **JC26A - BB * E**
 Blank: Standard
 16: +1.6mm

Frame: **JC26C2 - D S R _ E**
 D: Push-push ejector
 F: Fixed ejector
 S: Standard
 R: Reversed
 Blank: Standard
 16: +1.6mm
 R: Right, flip
 L: Left, flip
 M: Right, fixed
 H: Left, fixed

DDR2 MicroDIMM

Female side: **WA6F214VA1T**

Male side: **WA6M214VA1T**

M.2 (NGFF)

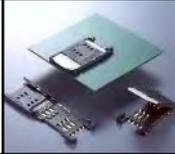
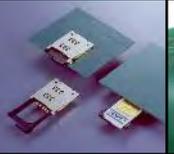
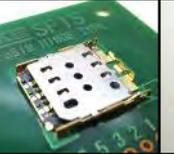
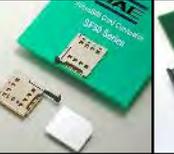
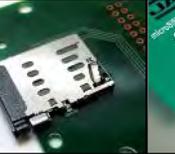
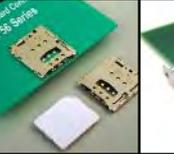
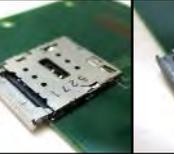
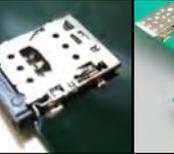
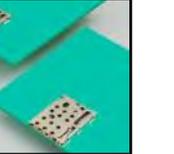
Connector: **SM3 Z S 067 U 310 * ***
 No. of contacts — 067
 Mounting Type: On-board — U
 Height: 215: 2.15mm, 310: 3.10mm, 410: 4.10mm
 Polarizing key: A/B/E/M — * *
 Contact area finish: A: Au 0.13µm min., B: Au 0.25µm min.

Card Connectors 2



(SIM, Micro SIM, Nano SIM)

Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	SF7	SF8	SF9	SF15	SF50	SF51	SF56	SF58	SF70	SF72
Photo										
Card	SIM	SIM	SIM	Micro SIM	Micro SIM	Micro SIM	Micro SIM	Micro SIM	Nano SIM	Nano SIM
Mounted Height	1.9, 2.25, 2.5mm	1.5mm	1.8mm	1.55mm	1.2mm	1.8mm	1.25mm	1.3mm	1.25mm	1.25mm
Pin Count	6, 6+2	6	6	6	6	6+2	6+2	6+2	6+2	6
Dielectric Withstanding Voltage	500V rms (1 min.)	500V rms (1 min.)	500V rms (1 min.)	500V rms (1 min.)	500V rms (1 min.)	500V rms (1 min.)				
Current Rating	10µA to 1A	10µA to 1A	10µA to 1A	0.5A	0.5A	0.5A	0.5A	0.5A	0.5A	0.5A
Durability	5,000 cycles	5,000 cycles	5,000 cycles	1,500 cycles	5,000 cycles	1,000 cycles	5,000 cycles	5,000 cycles	5,000 cycles	5,000 cycles
Style	Hinged	Tray type	Tray type	Hinged	Pull bar	Tray type	Push-Push	Tray type	Tray type	Push-Push
Features	Locking structure. Positioning boss, metal cover, or detection switch available.	Lowest profile for tray type connector. Normal and reverse mount available.	Normal and reverse mount available. 5 hold-downs for EMI and ESD prevention.	Small footprint and height. Clear click feeling to indicate when cover is locked.	Small height and footprint. Pull bar included to assist ejection of card.	Reverse mount w/ detect switch. Unique lock design to increase tray retention strength without increasing eject force.	Smallest in class height. Detect switch included.	Low profile and narrow design. Push-eject tray type with detect switch included.	Compatible with 4FF nano SIM cards for compact portable devices. Includes detect switch.	Low profile; Special contact shape for enhanced reliability. Includes detect switch

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SIM: **SF7W 006 S 1 A**
 Hinge type connector
 006: 6 position
 008: 6 signal + 2 switch

- A: Positioning boss
- B: No boss
- E: Low profile

- 1: Standard
- 4: Low profile

Micro SIM: **SF51S006V4BR1400**
 Tray type

Please contact JAE for recommended dimensions of the tray.

Micro SIM: **SF15W006S4BR2000**
 Hinge type

SIM: **SF8V006S4AR1200**
 Tray type connector

- A: Standard
- B: Reverse

Tray: **SF8-STS1-A** Standard
SF8-STR1-B Reverse

Need both Connector and Tray to use SF8 series

Micro SIM: **SF50S006V4AR1500**
 Pull bar type

- A: Pull bar on left
- C: Pull bar on right

Micro SIM: **SF58S006VBAR2000**
 Tray type

Please contact JAE for recommended dimensions of the tray.

Nano SIM: **SF70S006VBAR2000**
 Tray type

Please contact JAE for recommended dimensions of the tray.

SIM: **SF9W006S4AR1200**
 Tray type connector

- A: Standard
- B: Reverse

Tray: **SF9-STS1-A** Standard
SF9-STR1-B Reverse

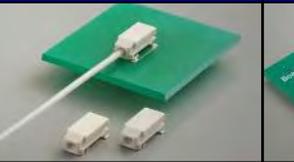
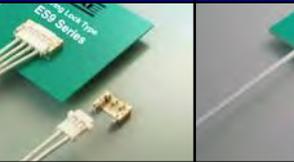
Need both Connector and Tray to use SF9 series

Micro SIM: **SF56S006V4AR2000**
 Push-Push Type

Nano SIM: **SF72S006VBAR2500**
 Push-Push Type

LED Lighting Connectors

Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	ES3	ES3 (WF2)	ES3 (JF3)	ES5	ES9	ES10
Photo						
AWG	N/A	#22,24,26	#24,26 (solid)	#22,24,26	#22,24,26	#24,26
Pin Count	2	2	1	1	2, 4	1
Height	1.6mm	1.65mm	2.9mm	1.6mm	3mm	2.2mm
Locking	Friction	Latch	Friction	Latch	Friction	Friction
Durability	20 cycles	20 cycles	5 cycles	20 cycles	10 cycles	5 cycles
Current Rating	1.0A	2.0A	2.0A	4.0A	3.0, 4.0A	2.0A
Voltage Rating	200V	200V	N/A	N/A	300V	N/A
Operating Temperature	-40 ~ +105 °C	-40 ~ +105 °C	-40 ~ +105 °C	-40 ~ +105 °C	-40 ~ +105 °C	-40 ~ +105 °C
Features	Card edge connector that eliminates the need for wires to connect between boards.	Mechanical lock included for use in applications with vibration and shock.	Tapered insertion for easy mating. No harness assembly required.	Special lock structure that has a clear "click" feeling for secure mating.	Spring lock structure provides high retention strength.	Compact structure with no insulator allows design flexibility; Easy single wire cable insertion.

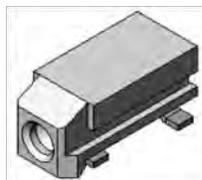
ES3 Series (Card Edge type)

Receptacle: **ES3B002WF1R1000**



ES3-JF3 Series (Cable insertion type)

Receptacle: **ES3S001JF3R3300**

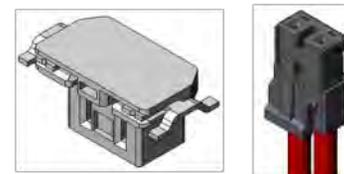


ES3-WF2 Series (Board-to-Wire type)

Receptacle: **ES3B002WF2R1000**

Housing: **ES3S002SZA**

Contact: **IL-Z-C1-A-7000**



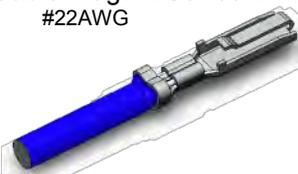
ES5 Series

Receptacle: **ES5S001JFA**



Cable Plug: **ES5P09K5FA**
#24-26AWG

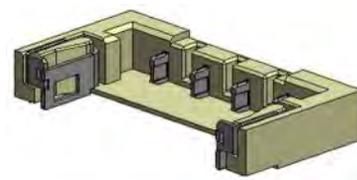
Cable Plug: **ES5P09K4F2**
#22AWG



ES9 Series

Receptacle: **ES9P 00# VF1R1600**

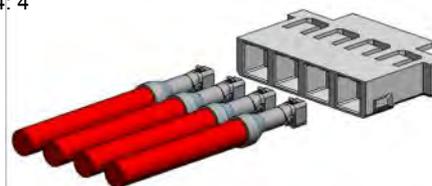
No. of contacts:
002: 2
004: 4



Plug (housing): **ES9S 00# SZA**

No. of contacts:
002: 2
004: 4

Contact: **ES9S06K4FA**



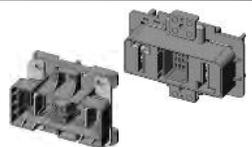
ES10 Series

Receptacle: **ES10S001JF1**



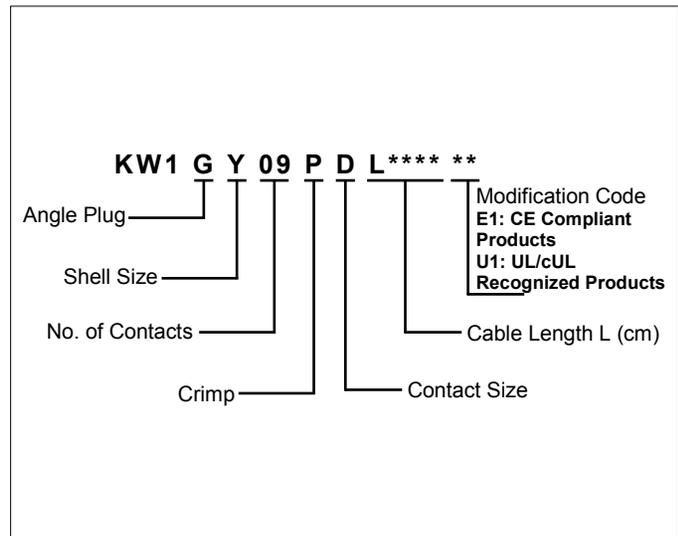
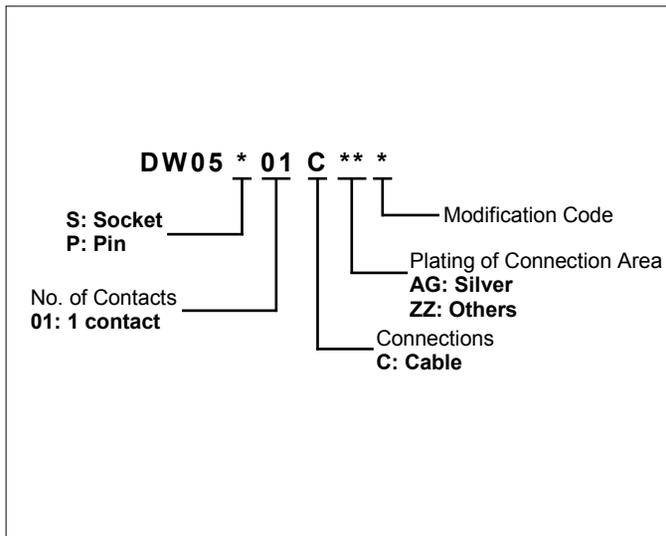
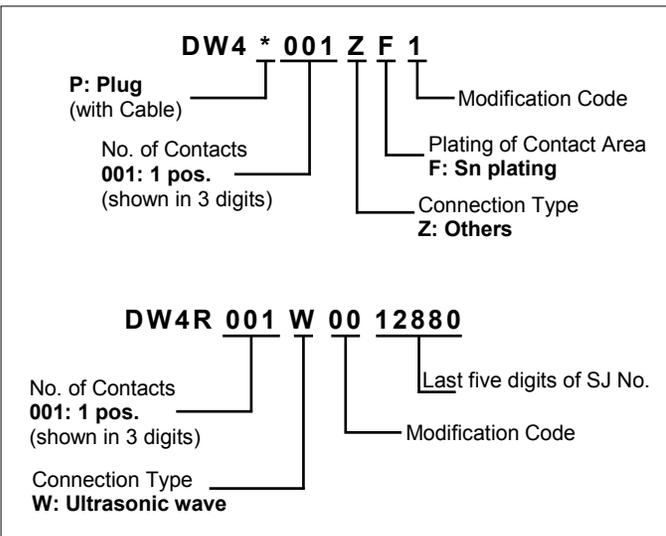
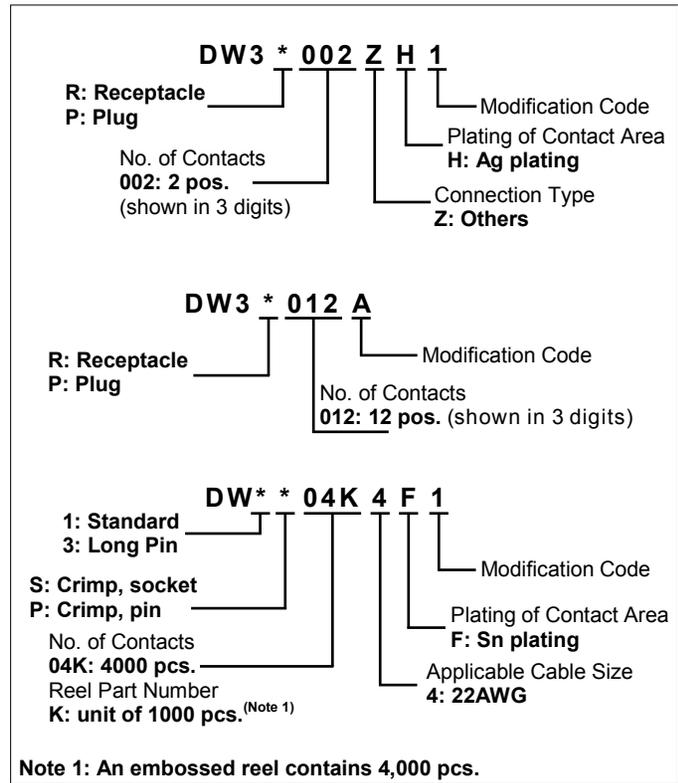
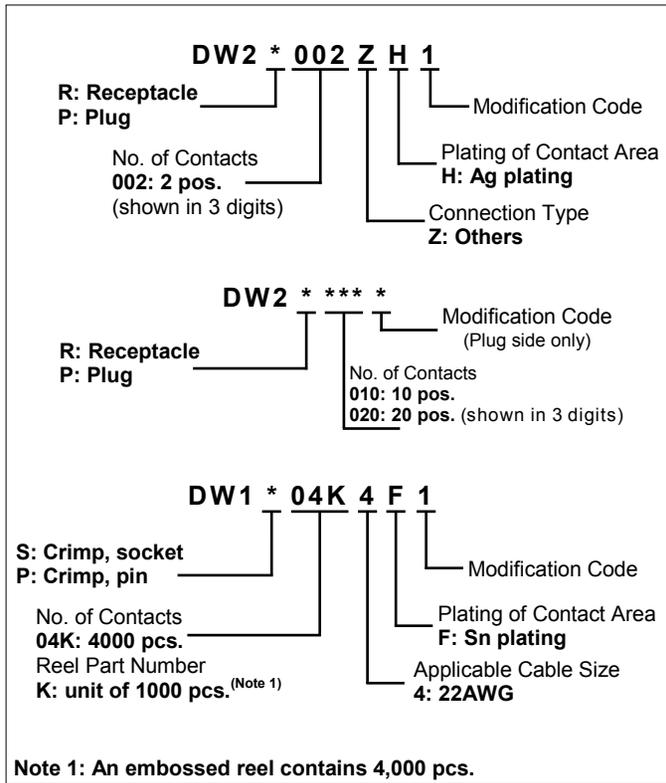
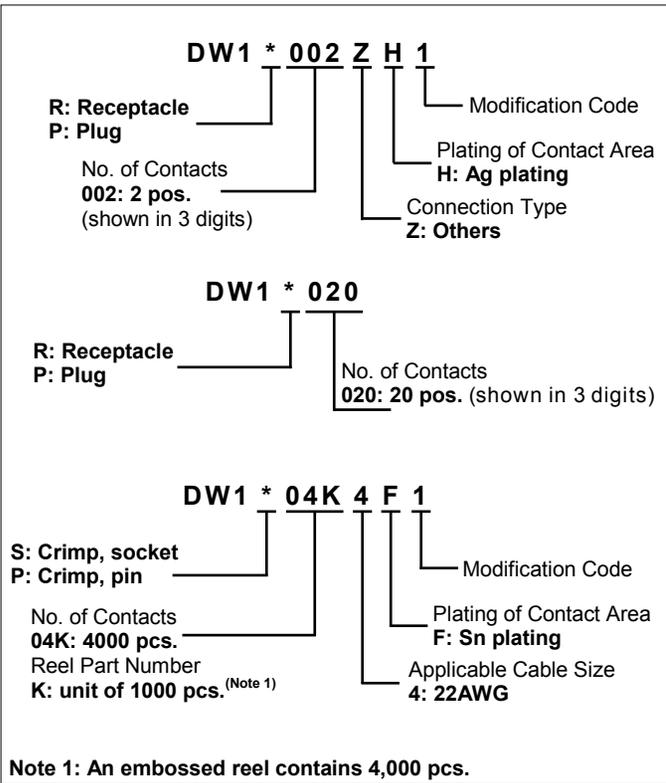
Alternative Energy Connectors

Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	DW1	DW2	DW3	DW4	DW05	KW1
Photo						
Type	Rack-and-Panel	Rack-and-Panel	Rack-and-Panel	Board-to-Cable	Cable-to-Cable	Plug + Cable
Pin Count	Power: 2 Signal: 20	Power: 2 Signal: 20	Power: 2 Signal: 24	1	1	Power: 2 Signal: 7
Current	Power: 500A Signal: 2A	Power: 200A Signal: 2A	Power: 150A Signal: 2A	100A	150A	Power: 125A Signal: 2A
Voltage Rating	Power: 600V Signal: 100V	Power: 600V Signal: 100V	Power: 600V Signal: 100V	600V	600V	DC500V
Durability	20 cycles	100 cycles	100 cycles	50 cycles	100 cycles	10,000 cycles
Floating Range	+/- 2.75mm	+/- 2.75mm	+/- 2.0mm	N/A	N/A	N/A
Operating Temperature	-40 ~ +95 °C	-40 ~ +115 °C	-40 ~ +105 °C	-40 ~ +85 °C	-40 ~ +85 °C	-10 ~ +40 °C
Features	<p>Ideal for large-scale power storage (over 25KWh). Robust combination of high-power and signal contacts for large battery modules.</p>	<p>Ideal for mid-range power storage (25KWh—10KWh). Power bus-bars attach on the battery side of the panel.</p>	<p>Ideal for small-scale power storage (under 10KWh). Low-profile to fit in a 1U standard rack.</p>	<p>Secure cable connector for high-power. Color-coded and keyed to prevent mating errors.</p>	<p>Keyed cable-to-cable connector for safe high-power mating. Screw holes for easy mounting.</p>	<p>One-touch operation and light-weight for easy handling. UL recognized. Weather and impact resistant.</p>

View all JAE connectors at www.JAE.com

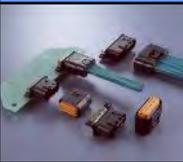
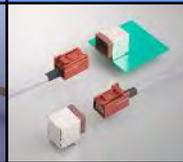
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Transportation 1



Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	IL-AG5	MX19	MX23A	MX31	MX36	MX37	MX39/MX45	MX44
Photo								
Pitch	2.5mm	2.5mm	2.5mm	Signal: 2.2mm Power: 3.2mm	2.5mm	2.2mm	2.2mm	3.5mm
Wire Size	AWG #22-18 AV,AVS,AVSS: 0.3 to 0.5mm ² AVS, AVSS: 0.85mm ²	AWG #22-20 CAVS: 0.3 to 0.5mm ² AVSS: 0.5mm ²	AWG #22-16 AVSS, AVS: 0.5 to 1.25mm ²	Signal: AWG #22-20 Power: AWG #22-16 Signal: AVS, AVSS, AVX 0.3 to 0.5mm ² Power: AVS, AVSS AVX 0.3 to 1.25mm ²	AWG #20 AVSS 0.5, AVSS 0.5F, AVSSX 0.5f, TVSSX 0.5f	AWG #20 AVSS 0.5, AVSS 0.5F, AVSSX 0.5f, TVSSX 0.5f	AWG #28 Twin Ax	AWG #22-20 AVSS 0.3 to 0.5mm ²
Pin Count	1 row: 4,5,6, 7,10 2 rows: 14,16, 18,22,30	2, 4	12, 18, 26, 34, 36,40	Pin: 70,98,104,135 Socket: 31,34,35	2, 4	4	4	2, 4, 6
Current Rating	3A	5A	3A	Signal: 2.2A Power: 5.7A	3A	3A	500mA	3A
Operating Temperature	-40 ~ +85 °C	-40 ~ +85 °C	-40 ~ +125 °C	-40 ~ +85 °C	-40 ~ +105 °C	-40 ~ +105 °C	-40 ~ +85 °C	-40 ~ +125 °C
Application	Cable to Cable/ Board to Cable	Cable to Cable	Board to Cable	Board to Cable	Cable to Cable	Cable to Cable	Cable to Cable/ Board to Cable	Board to Cable
Features	Mechanical lock system enabling complete mating. Secondary lock mechanism to ensure correct terminal retention. Simplified crimp type termination.	Waterproof. Mechanical lock system. Grommet seal. Terminals have low insertion force and stress dispersion. Rear cover protects the grommet from damage.	Waterproof. Low profile. Available in reverse mount type. Retainer detects incomplete insertion of socket contact.	Mechanical lock system with audible click. Socket side contact designed with secondary lock. Simplified crimp type termination.	Waterproof. Spring separates connectors if not correctly mated. Shorting contact eliminates static discharge. Retainer detects incomplete insertion of socket contact.	Mechanical complete mating method. Spring separates connector if not correctly mated. Shorting contact eliminates static discharge. Retainer detects incomplete insertion.	USB 2.0 compatible. Sold as a complete harness with USB standard receptacle.	Single contact waterproof. Compact size. Improved vibration resistance by vibration absorption function of rubber. Secondary lock mechanism.

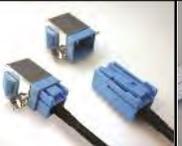
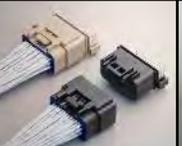
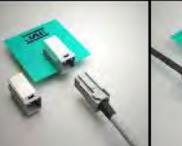
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Transportation 2



Click on the series name or image to jump to its webpage. For series that do NOT have a link, please contact your JAE sales representative for more information.

Series	MX34			MX35	MX38	MX47	MX48	MX49	MX50/53
	Standard T/H	Straight SMT	Right Angle SMT						
Photo									
Pitch	2.2mm	2.2mm	2.2mm	N/A	2.0mm	2.5mm	2.0mm	2.0mm	1.5mm
Wire Size	AWG #22-20 AVSS: 0.3, 0.5mm ² CHFUS: 0.22 to 0.75mm ² , CAN SD: 0.35mm ²	AWG #22-20 AVSS: 0.3, 0.5mm ² CHFUS: 0.22 to 0.75mm ² , CAN SD: 0.35mm ²	AWG #22-20 AVSS: 0.3, 0.5mm ² CHFUS: 0.22 to 0.75mm ² , CAN SD: 0.35mm ²	N/A	AWG #28 (Twin Ax)	AWG #22-16 AVSS 0.3 to 1.25mm ²	AWG #28 (Twin Ax)	Signal: AWG #26 (Twin Ax) Power: AWG #20	AWG #28 (Twin Ax)
Pin Count	3,5,7,8,12,16,2,24,28,32,36,40	12, 20, 32	8, 12, 20	1	2	39	2	4	19
Current Rating	3A	3A	3A	1A	—	3A	—	Signal: 0.5A	0.5A
Operating Temperature	-40 ~ +85 °C	-40 ~ +85 °C	-40 ~ +85 °C	-30 ~ +85 °C	-40 ~ +85 °C	-40 ~ +125 °C	-40 ~ +85 °C	-40 ~ +85 °C	-40 ~ +85 °C
Application	Board-to-Cable	Board-to-Cable	Board-to-Cable	Board-to-Cable	Board-to-Cable	Board-to-Cable	Board-to-Cable	Board-to-Cable	Cable-to-Cable/ Board-to-Cable
Features	Mechanical lock system enabling complete mating. Secondary lock mechanism to ensure correct terminal retention. Simplified crimp type termination. Thru hole terminals.	Vertical mount SMT header. Same features as standard MX34.	Horizontal mount SMT header. Same features as standard MX34.	Conforms to FAKRA standard. Frequency range of DC to 4GHz. Available as straight or right angle. Multiple keying options available.	Excellent in transmission of high-speed signals such as LVDS and GVIF. Different key options available	Waterproof. Different key option available. Retainer detects incomplete insertion of socket contact.	Excellent in transmission of high speed signals such as LVDS and GVIF. Different key options available. Extremely compact design.	Compatible with USB 2.0 signal speeds. Different key options available. Extremely compact design.	HDMI Type E compatible connector and harnesses. Cable mounted receptacle for mating with consumer HDMI cables is available.

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T/H Pin header: **MX340##UF1**
 U: Straight
 N: Angled
 1: 3-24 pos
 2: 28-40 pos

Socket housing: **MX340##SF1**

SMT Pin header: **MX34R##VF1 ***
 V: Straight
 H: Angled
 Blank: tube
 T: tray
 1: Straight
 4: Angled

Contacts	Hand Tool	Semi auto	Automatic
M34S75C4F1	CT150-2-MX34	350-MX34D-2	350-MX34B-3B
M34S75C4F2	CT150-1-MX34	350-MX34D-2	350-MX34B-3B
M34S75C4F3	N/A	350-MX34C-2	350-MX34C-3B
M34S75C4F4	N/A	350-MX34C-2	350-MX34C-3B

Board Mounting Receptacle: **MX38002FQ1**
 Different key code: 1,2,3,4

Pin header: **MX38002NQ1**

JAE will supply the complete mating harness designed to customer specifications.

Socket housing: **MX47037SF1**
 Key code: 1,2

Pin header: **MX47037NF1**

Front cap: **MX47037XF1**

Contacts	Wire size (AWG)	Hand tool	Semi Auto Applicator
M47S65H2FA	#22-20	CT160-3-MX47	3502-MX47-2
M47S65H3FA	#18	CT160-3B-MX47	3502-MX47-2
M47S65H4FA	#16	CT160-3C-MX47	3502-MX47-2

Pin header: **MX35 # 01 N P1**
 N: angle
 T: straight
 Different key code

Key Codes:

<u>Angle type</u>	<u>Straight type</u>
B: white	B: white
C: blue	C: blue
E: green	E: green
F: brown	F: brown
G: blue-gray	F: brown
H: violet	I: beige
K: yellow	

Board Mounting Receptacle: **MX48002NQ1**
 Different key code: 1,2,3,4

JAE will supply the complete mating harness designed to customer specifications.

Board mounting receptacle: **MX49004 # Q 1**
 N: T/H
 H: SMT
 Different key code: 1,2 (T/H)
 1,2,3,4 (SMT)

JAE will supply the complete mating harness designed to customer specifications.

Board mounting receptacle: **MX50019NQ1**

JAE will supply the complete mating harness designed to customer specifications.

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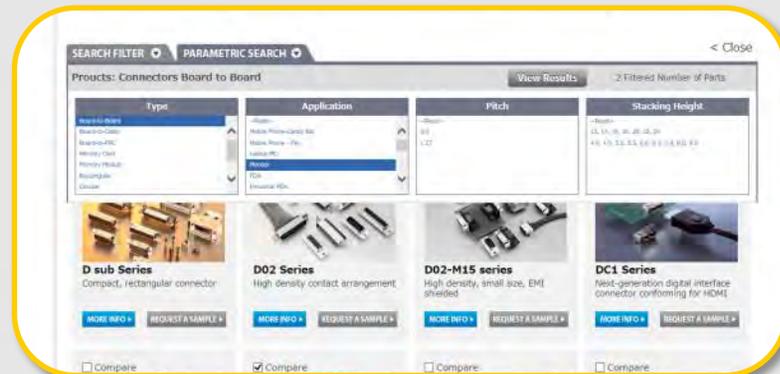
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NO	IAE P/N	QTY	UNIT	INV date	Stock available at	Email	Phone	Fax
1	WPE-P010VA2-R6000	0	PCS	6/26/2015	Winnation Electronics, Inc.		800-325-0534	512-833-8034
2	WPE-P010VA2-R6000	0	EA	6/27/2015	Mouser Electronics, Inc.		800-346-8873	817-804-3899
3	WPE-P012VA2-R6000	0	EA	6/27/2015	Mouser Electronics, Inc.		800-346-8873	817-804-3899
4	WPE-P012VA2-R6000	0	PCS	6/26/2015	Winnation Electronics, Inc.		800-325-0534	512-833-8034
5	WPE-P010VA2-R6000	0	PCS	6/26/2015	Winnation Electronics, Inc.		800-325-0534	512-833-8034
6	WPE-P016VA2-R6000	0	EA	6/27/2015	Mouser Electronics, Inc.		800-346-8873	817-804-3899
7	WPE-P020VA2-R6000	0	PCS	6/26/2015	Winnation Electronics, Inc.		800-325-0534	512-833-8034
8	WPE-P020VA2-R6000	0	EA	6/27/2015	Mouser Electronics, Inc.		800-346-8873	817-804-3899
9	WPE-P024VA2-R6000	0	PCS	6/26/2015	Winnation Electronics, Inc.		800-325-0534	512-833-8034
10	WPE-P024VA2-R6000	0	EA	6/27/2015	Mouser Electronics, Inc.		800-346-8873	817-804-3899
11	WPE-P030VA2-R6000	0	PCS	6/26/2015	Winnation Electronics, Inc.		800-325-0534	512-833-8034
	WPE-P030VA2-R6000	0	EA	6/27/2015	Mouser Electronics, Inc.		800-346-8873	817-804-3899

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Side-by-Side Product Comparisons

Product Comparison for Rectangular

	D002 Series	D01 Series	D01 Series
Contact pitch(mm)		0.4	1.0(mating area)
Number of contacts	24	19	26
Rated current(Amps)	5 A max.	0.5	0.5
Applicable cable			#33 or #30 AWG (1Wire cable)
Termination style (cable side)			Soldering
Standard	USB Type-C	HDMI Type D	DisplayPort (1.1a) Next-Generation High-Speed Differential Transmission
Remarks			

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Technology to Inspire Innovation

