

*Input / Output
Connectors*

Japan Aviation Electronics Industry, Ltd. (JAE) is an international manufacturer and supplier of electronic components and systems. For over four decades, JAE has provided the electronics industry with solutions to complex design requirements.

With worldwide and worldclass manufacturing certified to ISO 9001, JAE has made the commitment to meet the global requirements of our customers. In addition to a network of state of the art manufacturing facilities, JAE has technical service offices located around the world, staffed with experts in connector design and application.

This catalog contains information on JAE's Input/Output products. Products include PCB-to-PCB Connectors; PCB-to-Cable connectors; and Circular Connectors. Additional catalogs are available for JAE's Sockets and Memory Products, Board-to-Board Connector Products, and Automotive Connector Products. In addition, the JAE Short Form Catalog provides an overview of the complete line of JAE connectors.

Innovative design, quality oriented manufacturing, commitment to our customers and sensitivity to the environment assures JAE's leadership position in the 21st century.

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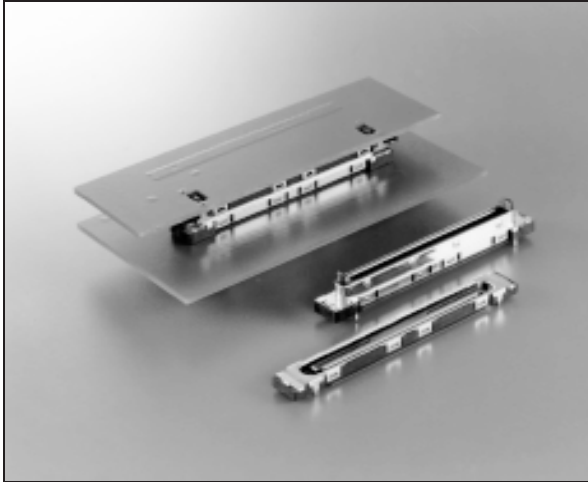
- Please consult JAE for verification of product availability.
- Refer to end of catalog for alphabetical index of products.

NOTE: Products shown in this catalog are made for the applications specified. However, if the above-mentioned products are to be used in aerospace devices, marine cable-connection devices, atomic power control systems, medical equipment for life-support systems, or any other specific application requiring extremely high reliability, please contact JAE for further information.

Recommended Applications: Computers, Office Machines, Measuring Devices, Telecommunications Devices (Terminals, Mobile Devices) AV Devices, Household Applications, FA Devices, etc.

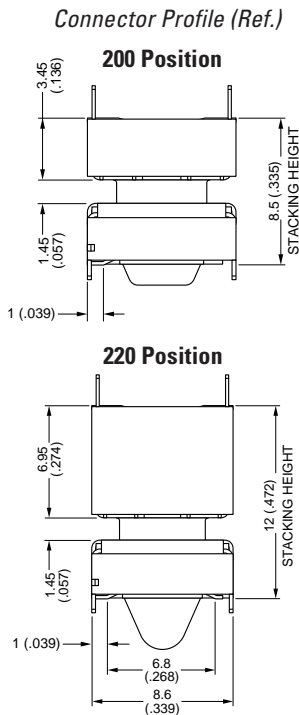
WD SERIES CONNECTORS

0.5mm (.020") Contact Spacing, EMI Shielded, PCB-to-PCB, SMT Connectors



FEATURES

- 3.6mm (.142") receptacle mounting height and compact low profile design is ideal for high-density mounting
- Ribbon type contact (flat contact) withstands twisting
- 2-step live insertion/removal protects device circuits
- Mating guide structure absorbs up to $\pm 1.5\text{mm}$ (.059") dislocation
- Built-in metal shell provides EMI shielding for plug and receptacle



The WD Series connectors are high density connectors for board-to-board applications. This connector enables vertical connection between units. Specific applications can be notebook PCs, PDAs, and port replicators.

GENERAL SPECIFICATIONS

Number of Contacts	200 signal & 2 different contact lengths 220 signal, 4 power & 2 different contacts lengths
Contact Spacing	0.5mm (.020")
Current Rating	0.3 Amps signal, 3 Amps power
Dielectric Withstanding Voltage	500 VAC r.m.s. (for one minute)
Insulation Resistance	100 megohms min.
Contact Resistance	90 milliohms max.
Operating Temperature	-40°C to +85°C

MATERIALS AND FINISHES

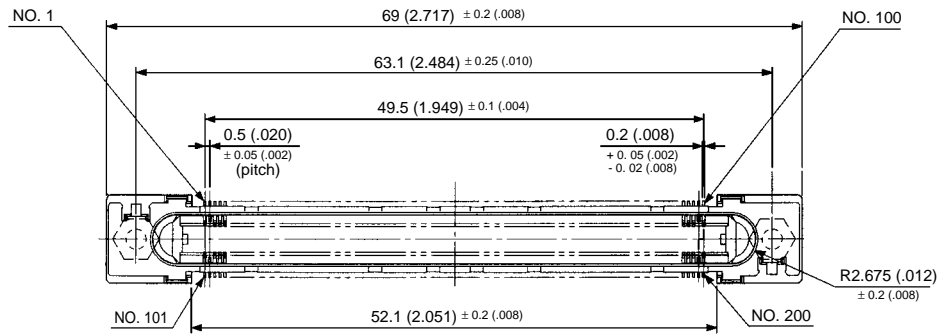
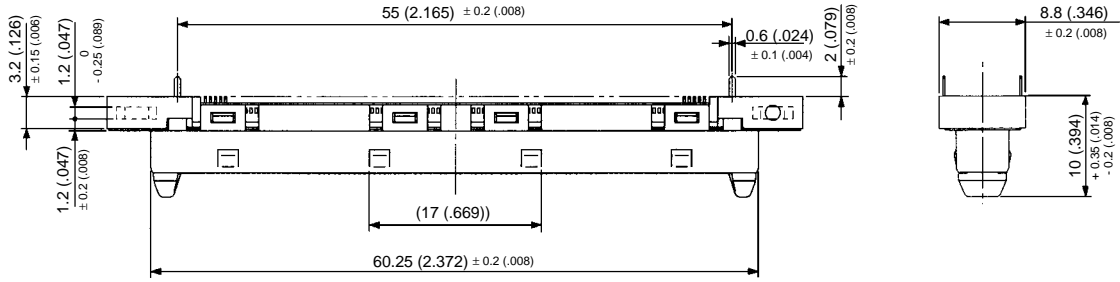
Components	Materials	Finishes
Power Contact	Copper Alloy	Contact: more than $0.1\mu\text{m}$ (.000004") Gold Plating over Nickel Connection: Tin Plating
Single Contact	Phosphor Bronze	Contact: more than $0.1\mu\text{m}$ (.000004") Gold Plating over Nickel Connection: Tin Plating
Nut	Brass	Nickel Plating (pin connectors are not plated)
Shell	Brass	Nickel Plating
Socket Insulator	Glass-filled LCP	None (UL94V-0)

Dimensions and specifications subject to change without notice.

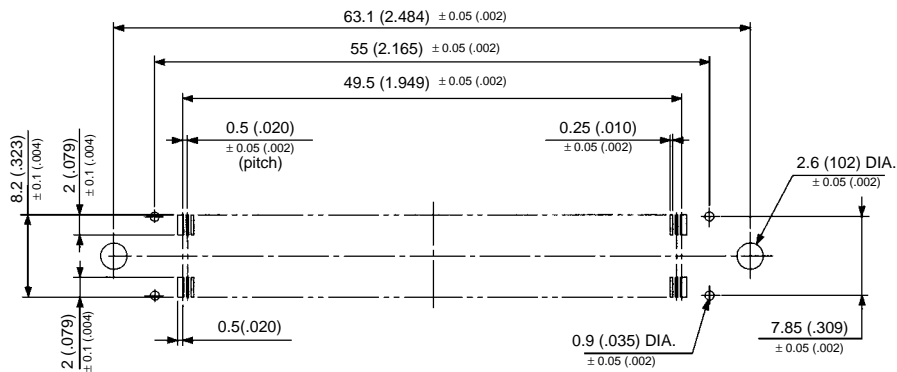
WD SERIES CONNECTORS

0.5mm (.020") Contact Spacing, EMI Shielded, PCB-to-PCB, SMT Connectors

PLUG: WD-200P-VF85-N



Applicable PCB Layout (Ref.)

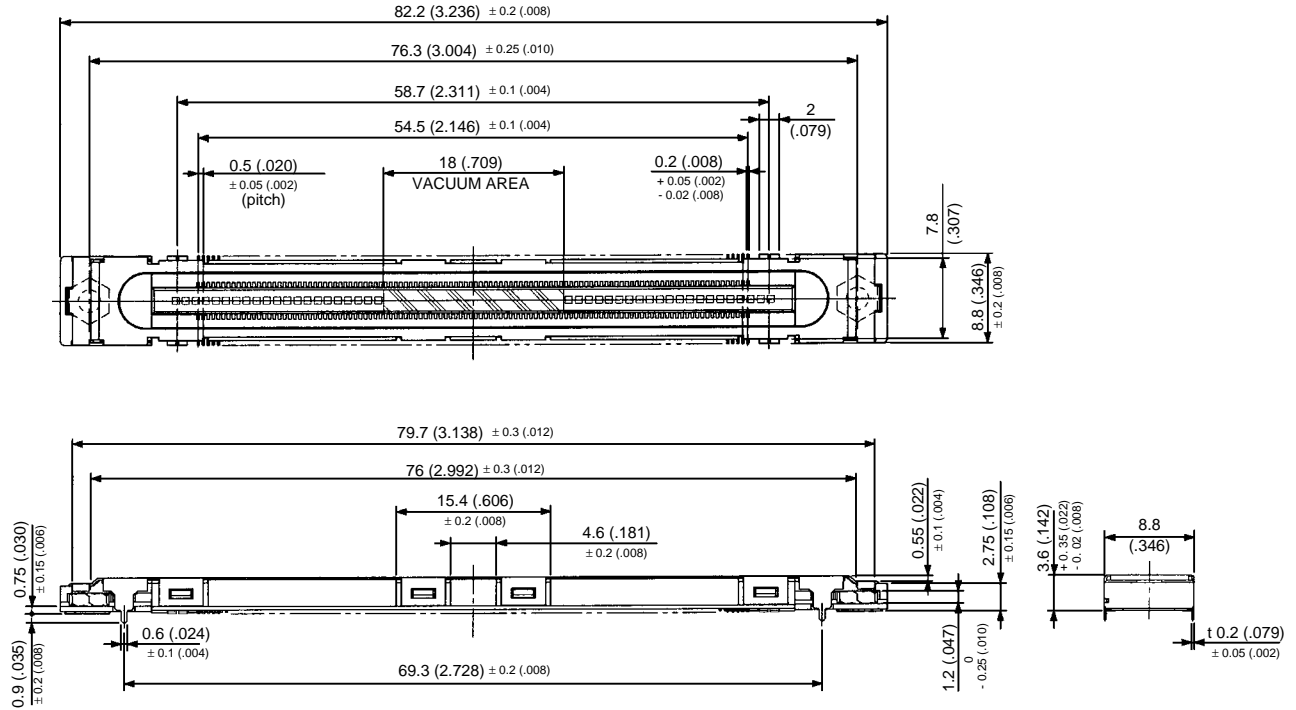


Dimensions in mm (inches).

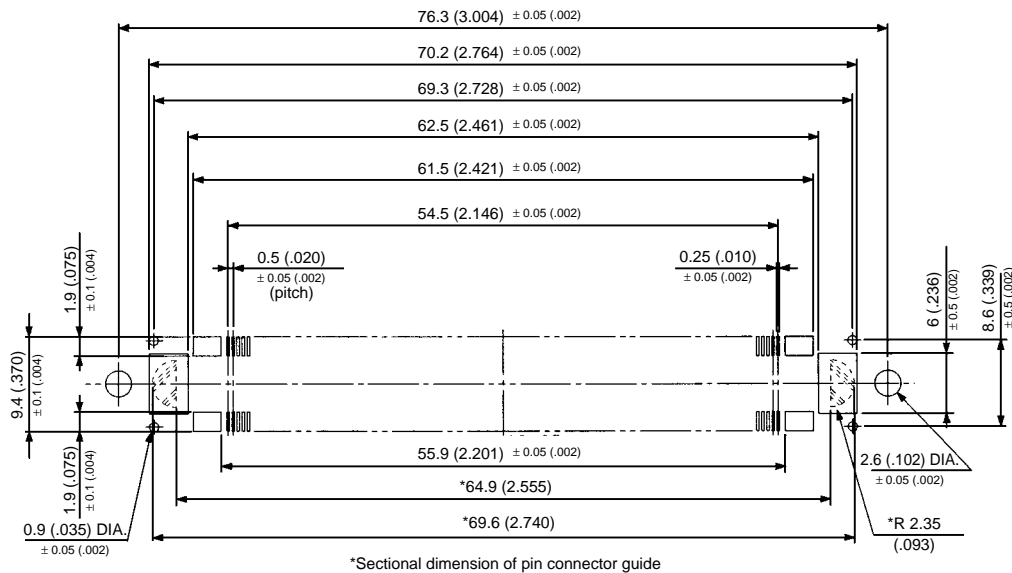
WD SERIES CONNECTORS

0.5mm (.020") Contact Spacing, EMI Shielded, PCB-to-PCB, SMT Connectors

RECEPTACLE: WD-220S4V-VF-N



Applicable PCB Layout (Ref.)



*Sectional dimension of pin connector guide

Dimensions in mm (inches).

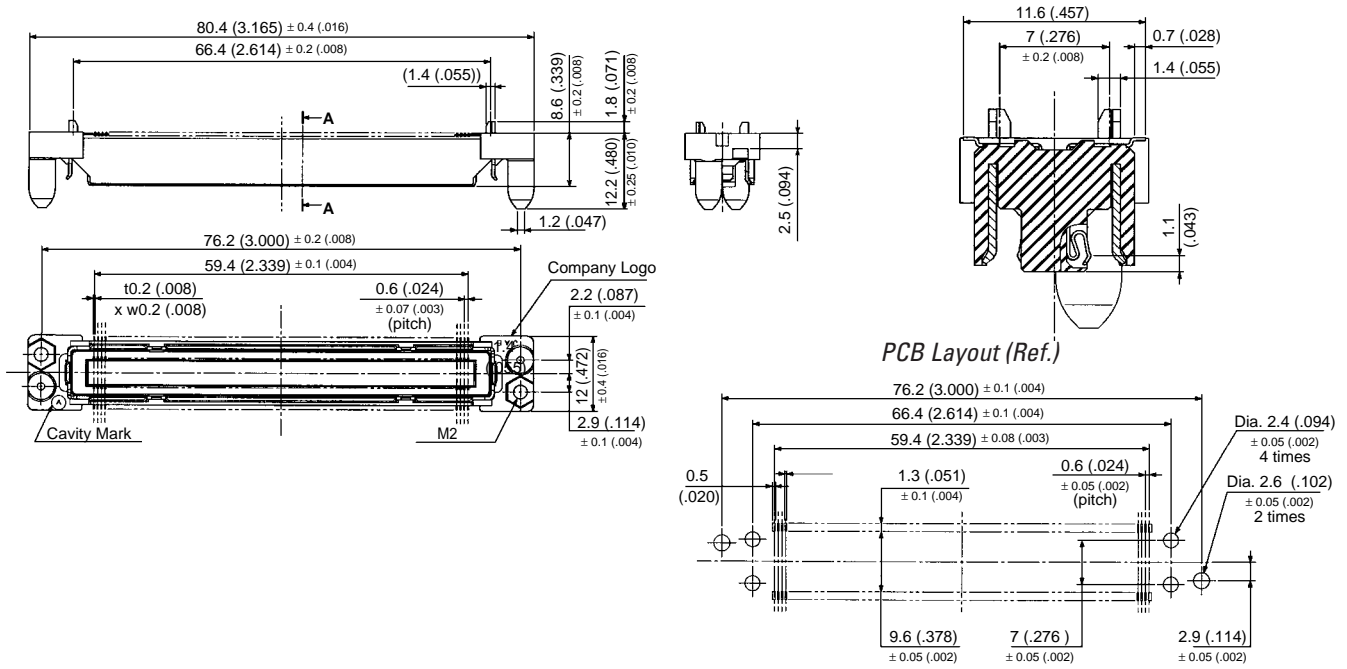


PD1 SERIES CONNECTORS

0.6mm (.024") Contact Spacing, PCB-to-PCB SMT Connectors

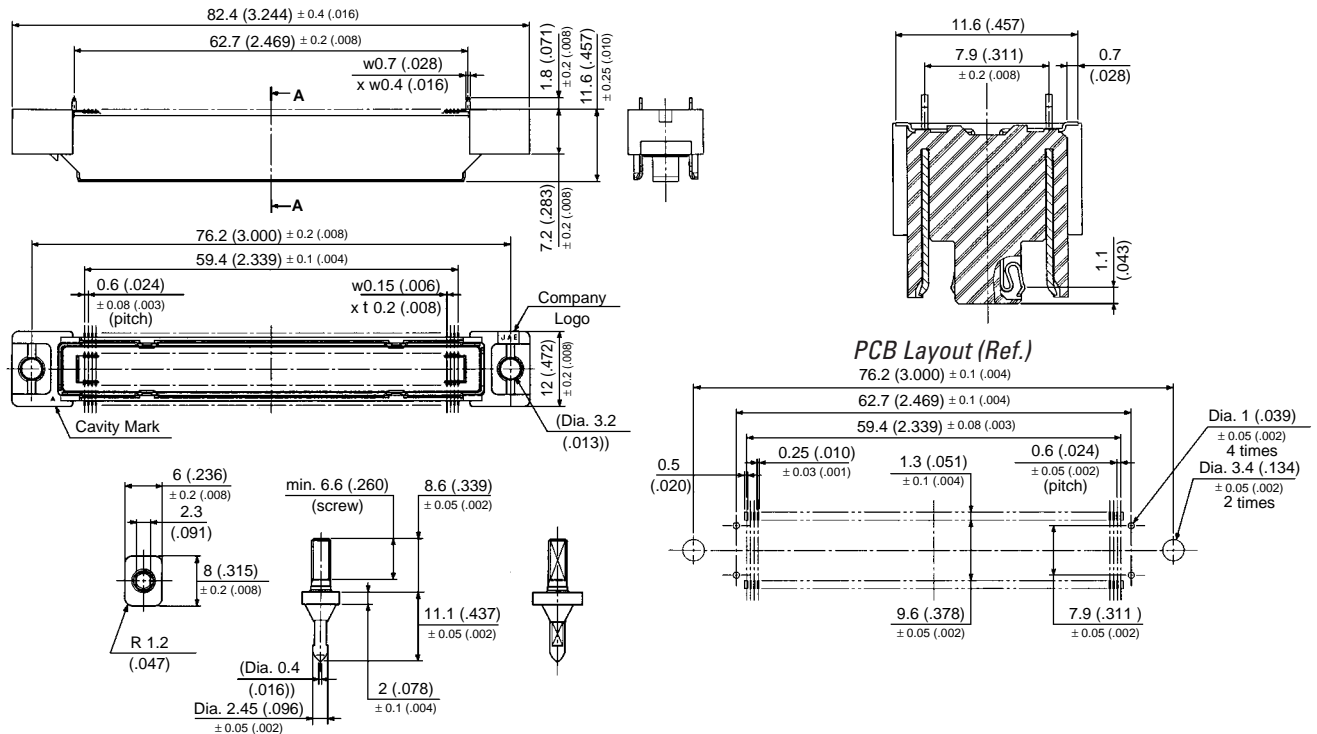
200 POSITION PLUG WITH PLASTIC GUIDE

Part Number: PD1B200V9A



200 POSITION PLUG WITH METAL GUIDE

Part Number: PD1B200V9C



Metal Guide Part Number: PD1-GS4

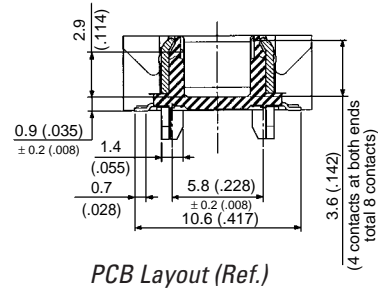
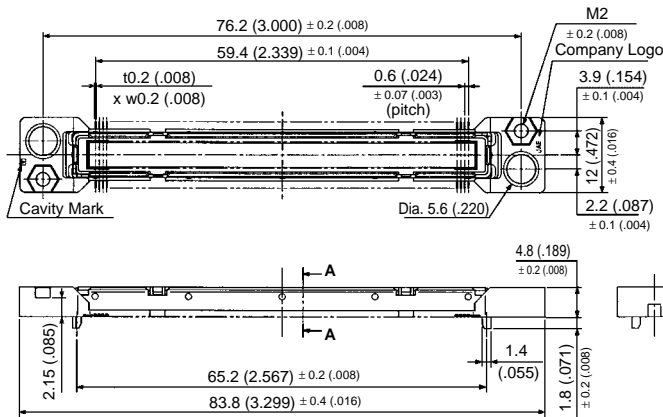
Dimensions in mm (inches).

PD1 SERIES CONNECTORS

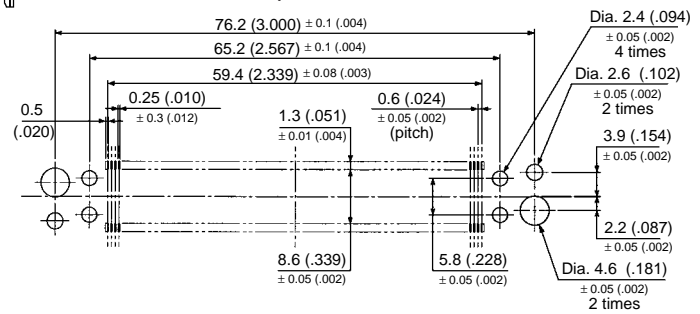
0.6mm (.024") Contact Spacing, PCB-to-PCB SMT Connectors

200 POSITION RECEPTACLE WITH PLASTIC GUIDE

Part Number: PD1R200V9A

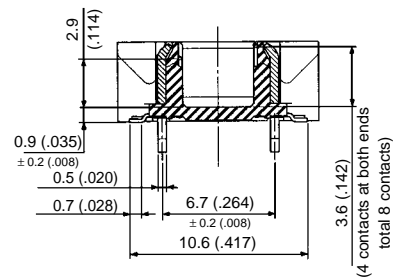
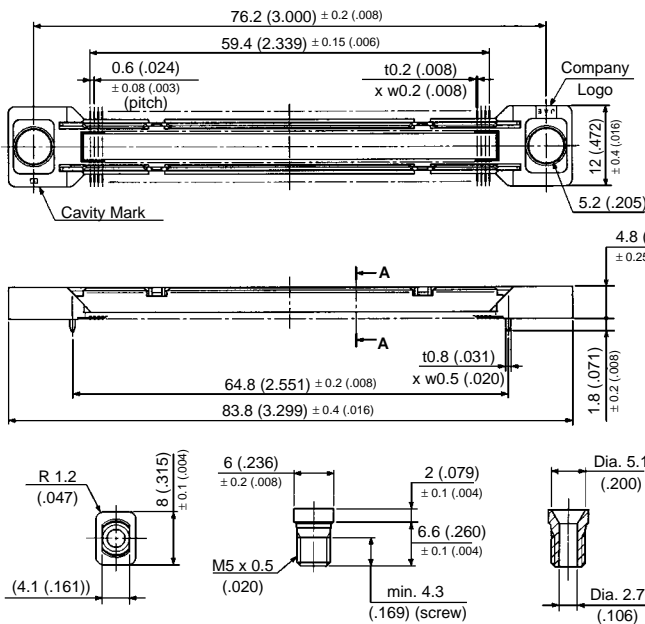


PCB Layout (Ref.)

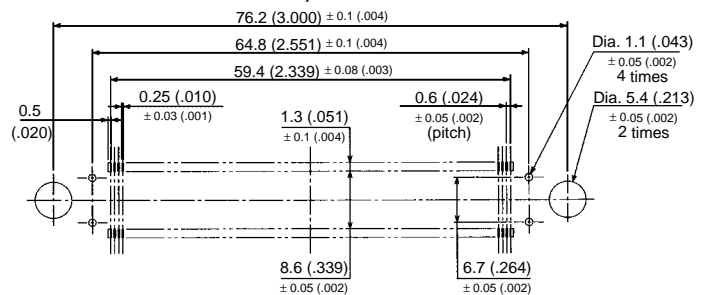


200 POSITION RECEPTACLE WITH METAL GUIDE

Part Number: PD1R200V9C



PCB Layout (Ref.)



Metal Guide Part Number: PD1-GS3

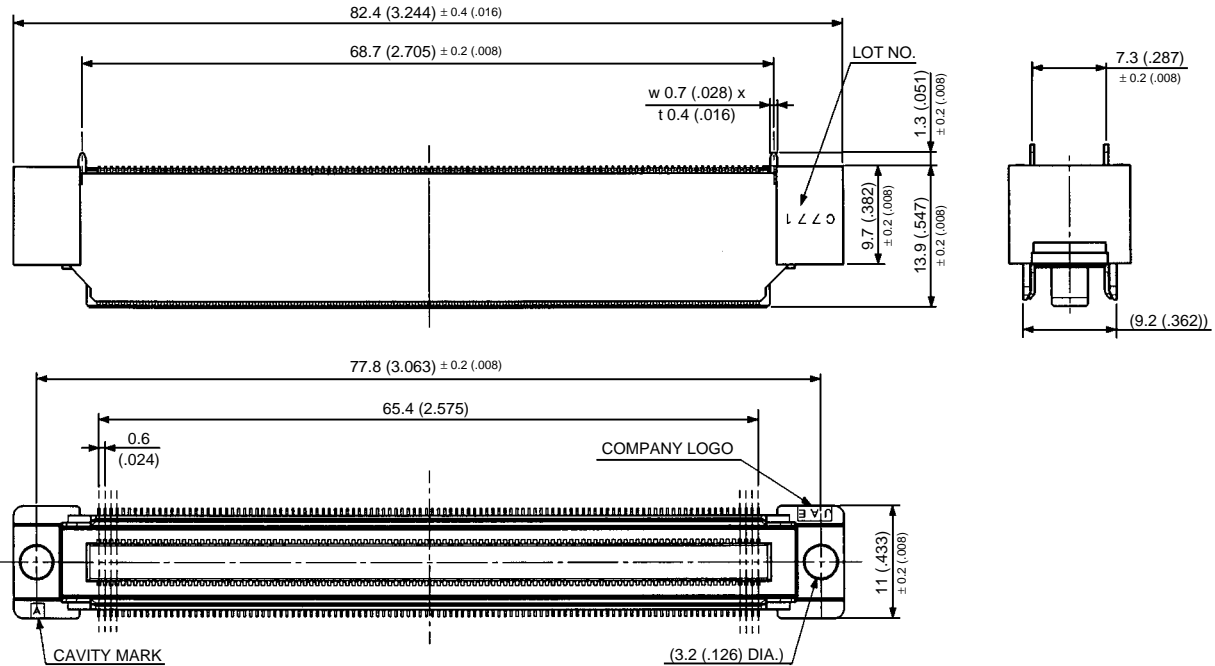
Dimensions in mm (inches).

PD1 SERIES CONNECTORS

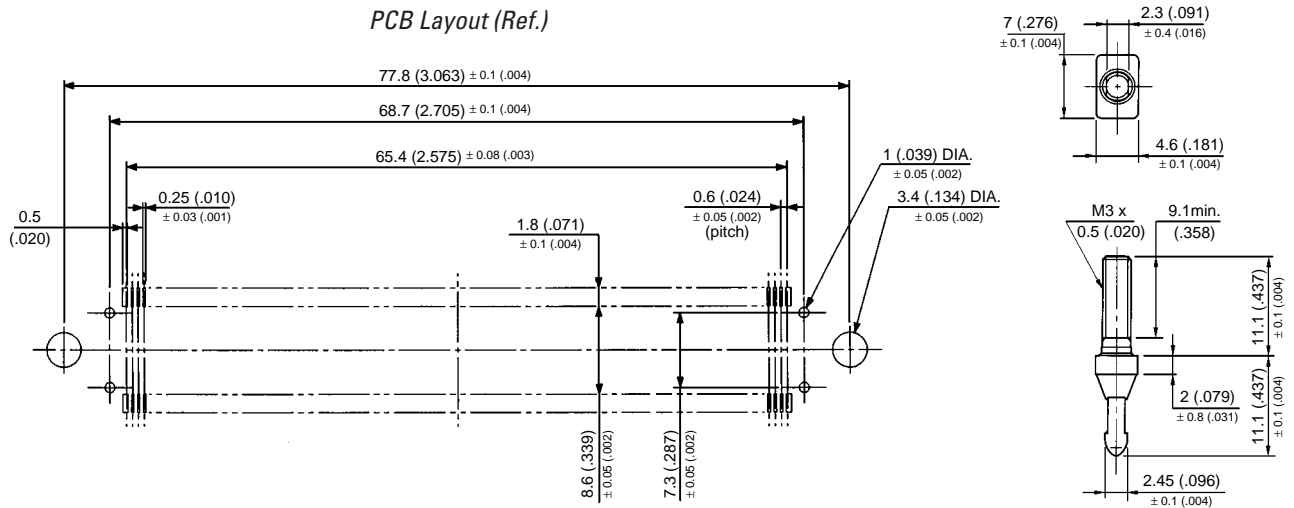
0.6mm (.024") Contact Spacing, PCB-to-PCB SMT Connectors

220 POSITION PLUG WITH METAL GUIDE

Part Number: PD1B220V9E



Metal Guide Part Number: PD1-GS6



Dimensions in mm (inches).

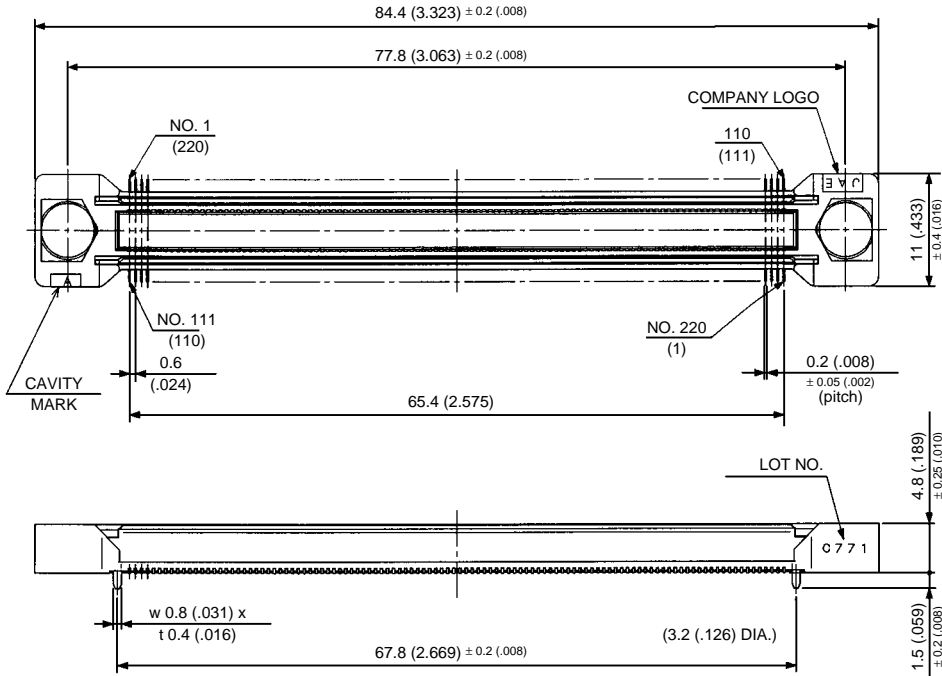


PD1 SERIES CONNECTORS

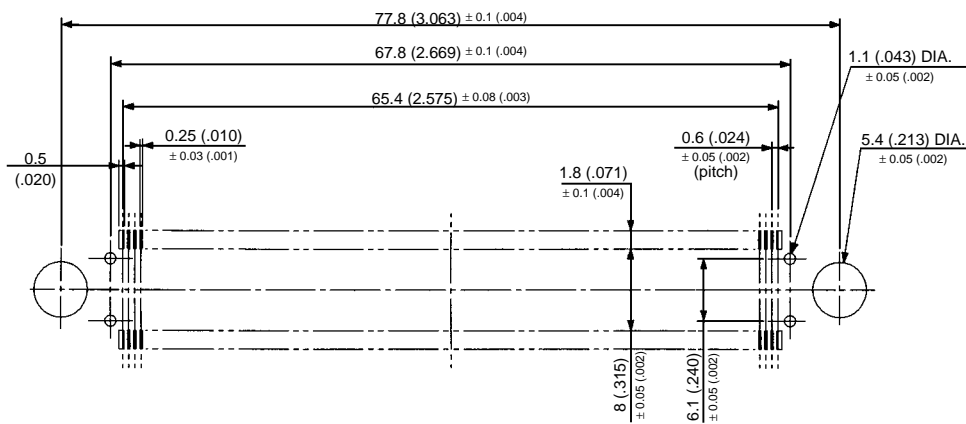
0.6mm (.024") Contact Spacing, PCB-to-PCB SMT Connectors

220 POSITION RECEPTACLE WITH METAL GUIDE

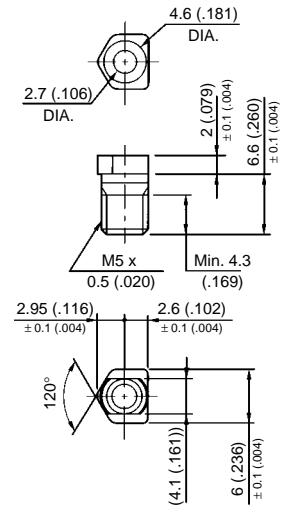
Part Number: PD1R220V9E



PCB Layout (Ref.)



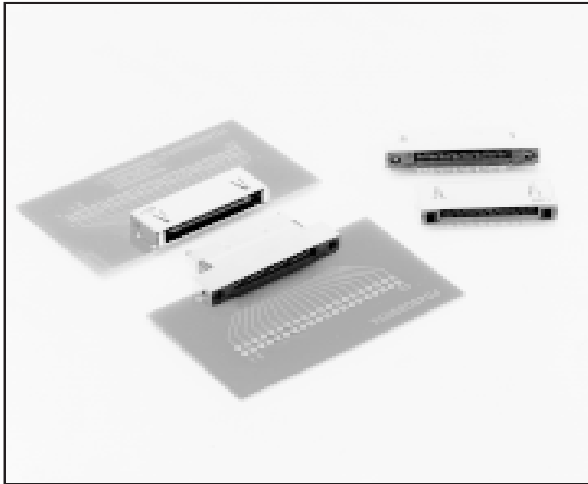
Metal Guide Part Number: PD1-GS5



Dimensions in mm (inches).

PD4 SERIES CONNECTORS

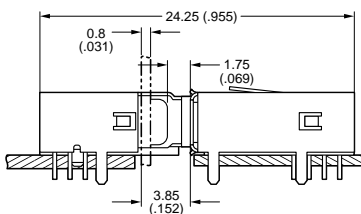
0.6mm (.024") Contact Spacing, PCB-to-PCB Connectors



FEATURES

- 0.6mm (.024") pitch, terminal through-hole type contact
- EMI shielded
Plug supplied with nuts to mount to chassis (2 points) and ground terminal (2)
Receptacle supplied with spring for ground chassis (2 points), and ground terminal (4)
- Compatible with plug & play, 2-step live insertion mechanism [Bump 0.6mm (.024")]
(1) Power supply and 8 pins for ground [contact length 2.4mm (.094")]
(2) 72 pins for signals (contact length 1.8mm (.071"))
- Mating guide length: Width: $\pm 1\text{mm}$ (.039")
Height: $\pm 1\text{mm}$ (.039")
- Connector height: Less than 5mm (.197")—flat surface height
- Weight: Receptacle 3.1g, Plug 4.3g
- Polarity key prevents mis-mating

Connector Profile (Ref.)



The PD4 Series are horizontal board connectors. They are designed for connections to peripherals via I/O adaptors, thereby enhancing the functionality and portability of mobile PCs.

GENERAL SPECIFICATIONS

Number of Contacts	80
Contact Spacing	0.6mm (.024")
Current Rating	0.5 Amps
Dielectric Withstanding Voltage	250 VAC r.m.s. (for one minute)
Insulation Resistance	100 megohms min.
Contact Resistance	100 milliohms max.
Operating Temperature	-40°C to +85°C

MATERIALS AND FINISHES

Description	Materials/Finishes
Housing/Locator	Glass-filled LCP (UL94V-0)
Contact	Copper Alloy Connecting Area: Gold plating over Palladium-Nickel Terminal Area: Tin-Lead plating
Shell	SUS/terminal: Tin-Lead plating
Nut (Plug for panel)	Brass (M2)

ORDERING INFORMATION

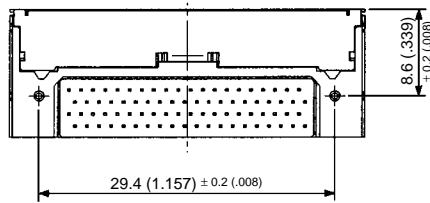
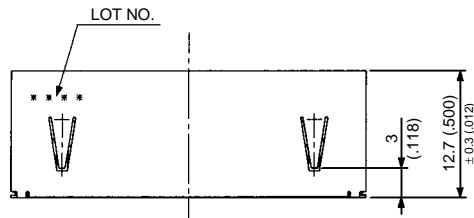
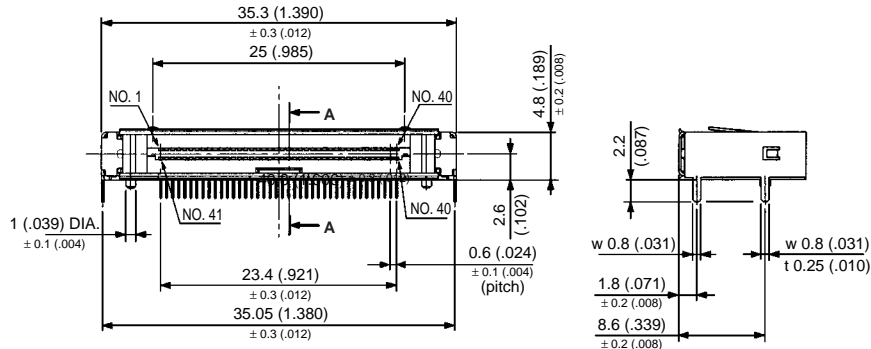
	PD4	*	080	N	9	A
Series	_____					
Contact Type	_____					
	B – Plug R – Receptacle					
No. of Contacts	_____					
	80					
Termination Style	_____					
	N – Right Angle					
Finish Code	_____					
	9 – Gold flash over palladium-nickel					
Modification Code	_____					

Dimensions and specifications subject to change without notice.

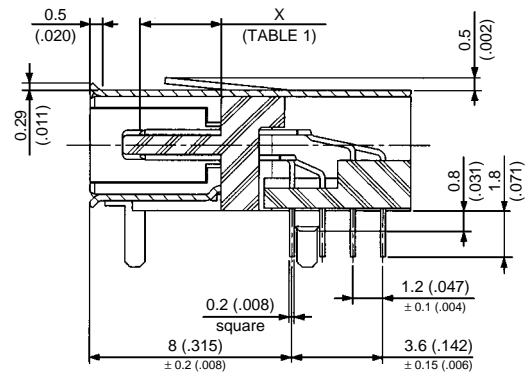
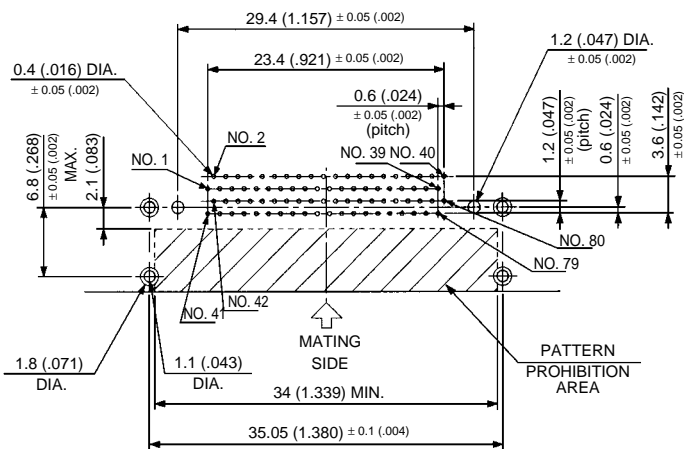
PD4 SERIES CONNECTORS

0.6mm (.024") Contact Spacing, PCB-to-PCB Connectors

RECEPTACLE



Applicable PCB Layout (Ref.)

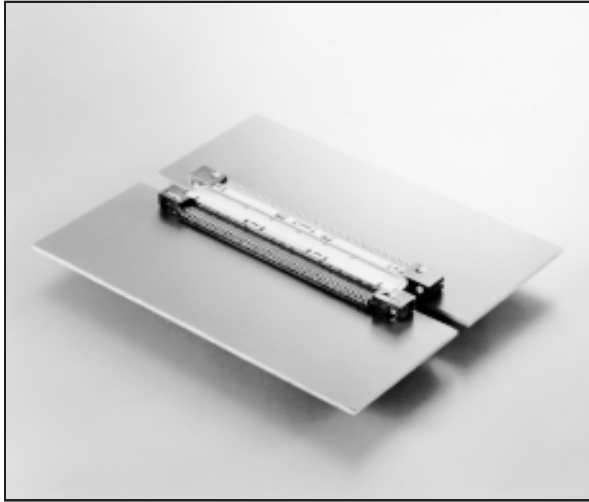


Terminal No.	Dimension x
1, 2, 39, 40, 41, 42, 79, 80	3.8 (.150)
Others	3.2 (.126)

Dimensions in mm (inches).

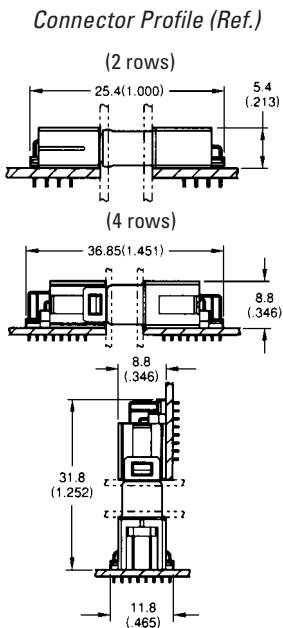
KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors



FEATURES

- EMI shielding
- 0.8mm (.031") contact spacing
- First-to-make-last-to-break contacts for receptacles (4 contacts at each end)
- Mating guide
- Ribbon type contacts to prevent twisting force



The KX20 Series of connectors are designed for high density PCB-to-PCB applications. The connectors enable horizontal and vertical (100 contacts only) connection between units.

The connectors have contact spacing of 0.8mm (.031") and are EMI shielded. They are ideal for interconnecting products such as personal computers and word processors to other units.

GENERAL SPECIFICATIONS

Number of Contacts	2 rows: 50, 80 4 rows: 100, 200, 240
Contact Spacing	0.8mm (.031")
Current Rating	0.5 Amps
Dielectric Withstanding Voltage	250 VAC r.m.s. (for one minute)
Insulation Resistance	100 megohms min.
Contact Resistance	70 milliohms max.
Operating Temperature	-40°C to +80°C

MATERIALS AND FINISHES

Description	Materials/Finishes
Shell	Steel/Nickel plate
Insulator	Glass-Filled PPS/UL94V-0, Black Glass-Filled LCP/UL94V-0, Black Glass-Filled LCP/UL94V-0, Black
Locator	Glass Filled PPS/UL94V-0, Black Glass Filled PBT/UL94V-0, Black Glass Filled LCP/UL94V-0, Black
Contact	Phosphor Bronze Connection Area: Gold plating, 0.1µm (.000004") min. over Palladium Nickel Terminal Area: Tin plating
Grounding Lug (Note 1)	Zinc Alloy/Tin plating
Hook Pin (Note 2)	Phosphor Bronze/Tin plating
Guide Screw	Zinc Alloy/Nickel plating

Note 1: For right angle type except 120 contacts plug.

Note 2: For right angle type.

Dimensions in mm (inches).

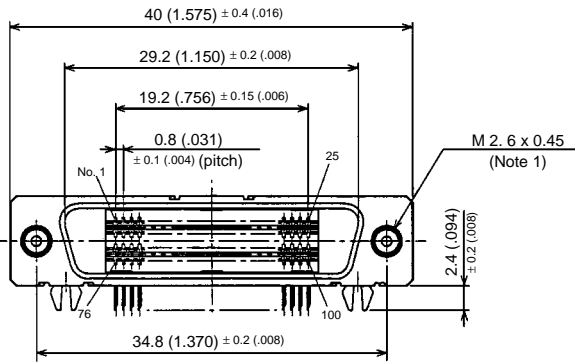
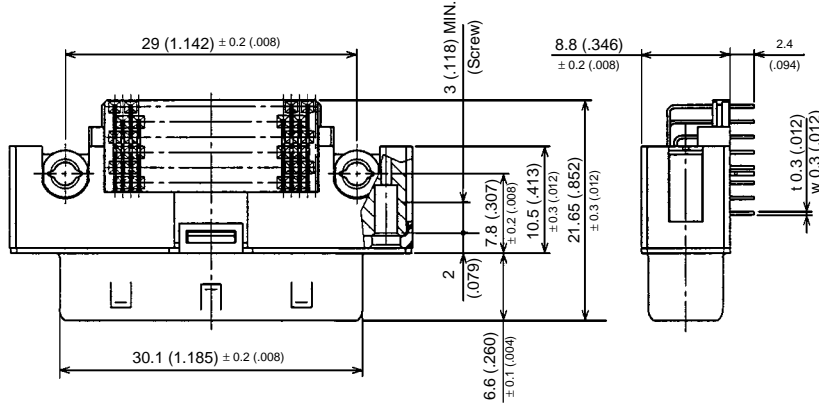
KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

PLUG • RIGHT ANGLE THROUGH HOLE TYPE • 4 ROWS

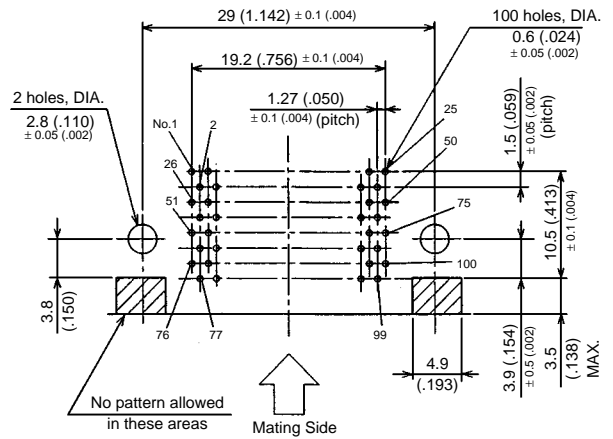
Part Number: KX20-100B-F2LT-A1H

100 CONTACTS

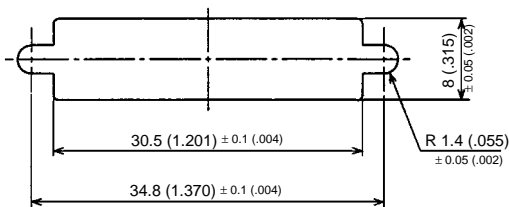


Note 1: Recommended screw length is 5 (.197) for 0.5 (.020) panel thickness.

PCB Hole Pattern (Ref.)



Panel Cut-Out (Ref.)



Dimensions in mm (inches).



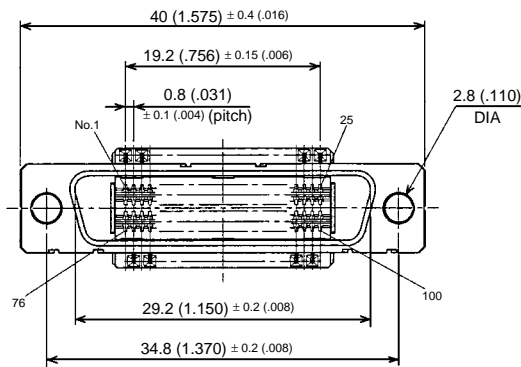
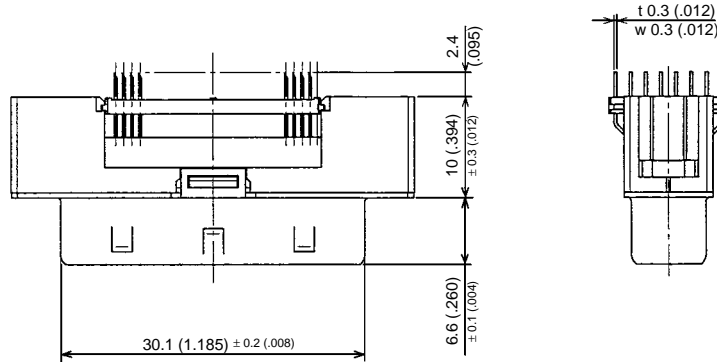
KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

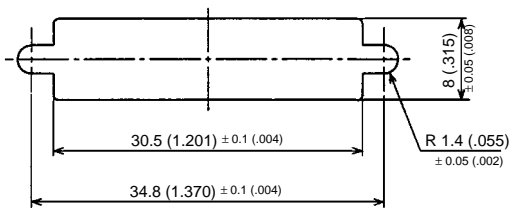
PLUG • STRAIGHT THROUGH HOLE TYPE • 4 ROWS

Part Number: KX20-100B-F2ST-A1

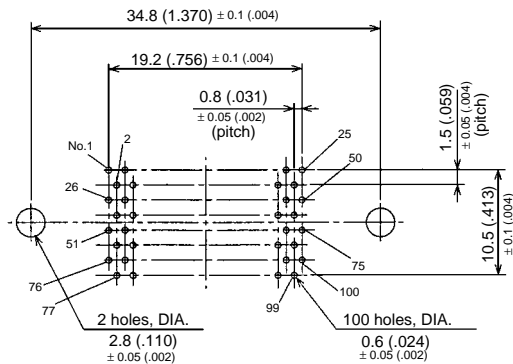
100 CONTACTS



Panel Cut-Out (Ref.)



PCB Hole Pattern (Ref.)



Dimensions in mm (inches).

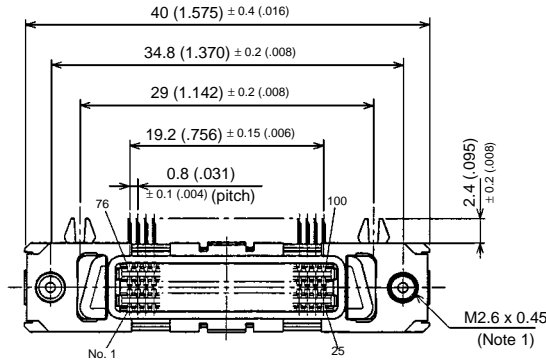
KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

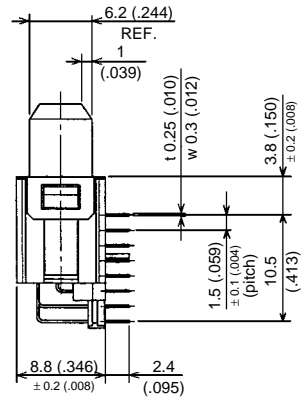
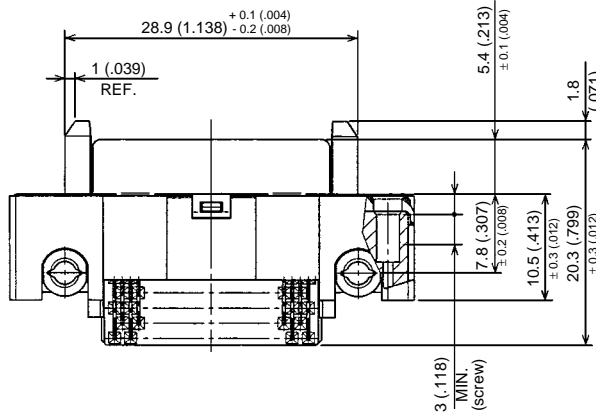
RECEPTACLE • RIGHT ANGLE THROUGH HOLE TYPE • 4 ROWS

Part Number: KX20-100R-F2LT-A1H

100 CONTACTS

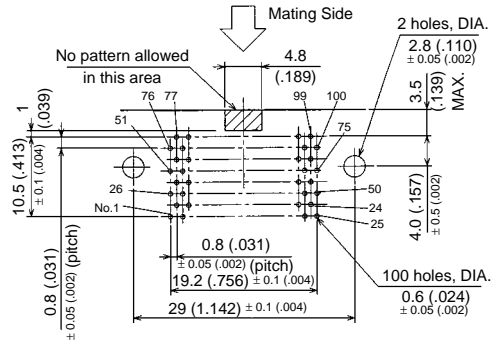
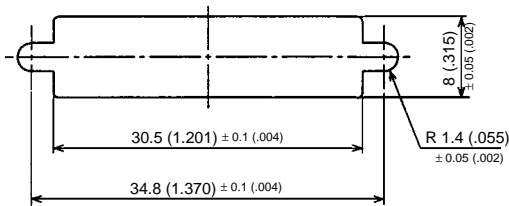


Note 1: Recommended screw length is 5 (.197) for 0.5 (.020) panel thickness.



PCB Hole Pattern (Ref.)

Panel Cut-Out (Ref.)



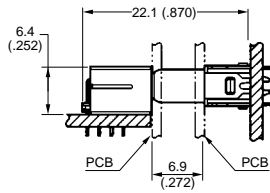
Dimensions in mm (inches).



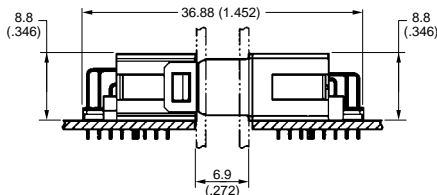
KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

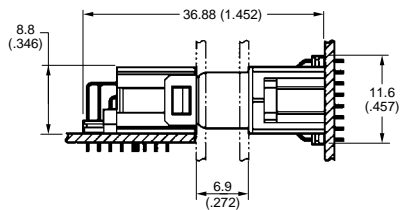
Connector Profile (Ref.)



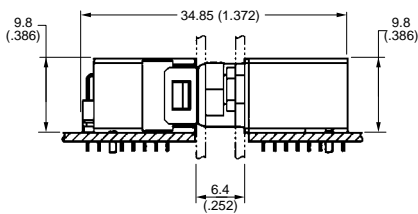
RECEPTACLE (50, 80 Contacts) • KX20**RA-LT-H



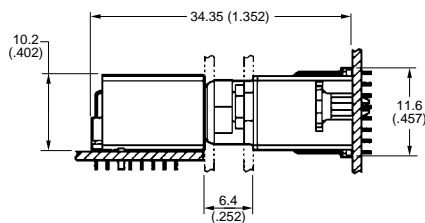
RECEPTACLE (100 Contacts) • KX20-100R-F2LT-A1H



PLUG (100 Contacts) • KX20-100B-F2LT-A1H



PLUG (200 Contacts) • KX20-200BG-F2LT



PLUG (240 Contacts) • KX20-240BG-F2ST
(Guide Screw Sold Separately.)

No. of Contacts		Contact Termination
1 Step	2 Step	
50, 80	100, 240	Vertical
—	100, 240	Horizontal

Contact Insertion Structure

No. of Contacts		Contact No.	Contact Length
1 Step	50	1, 2, 24, 25, 26, 27, 49, 50	2.9mm (.114")
		3 ~ 23, 28 ~ 48	2.1mm (.083")
	80	1, 2, 39, 40, 41, 42, 79, 80	2.9mm (.114")
		3 ~ 38, 43 ~ 78	2.1mm (.083")
2 Step	100	51, 52, 74, 75, 76, 77, 99, 100	2.9mm (.114")
		1 ~ 50, 53 ~ 73, 78 ~ 98	2.1mm (.083")
	200	102, 149, 151, 152, 199, 200	2.9mm (.114")
		1 ~ 100, 103 ~ 148, 153 ~ 198	2.1mm (.083")
		101, 150	1.3mm (.051")
	240	122, 179, 181, 182, 239, 240	2.9mm (.114")
		1 ~ 120, 123 ~ 178, 183 ~ 238	2.1mm (.083")
		121, 180	1.3mm (.051")

No. of Contacts	Tolerance
50, 80, 100	±1mm (.039")
200, 240	±3mm (.118")

Note: By using mating guide, insertion-plate absorbs twisting torque.

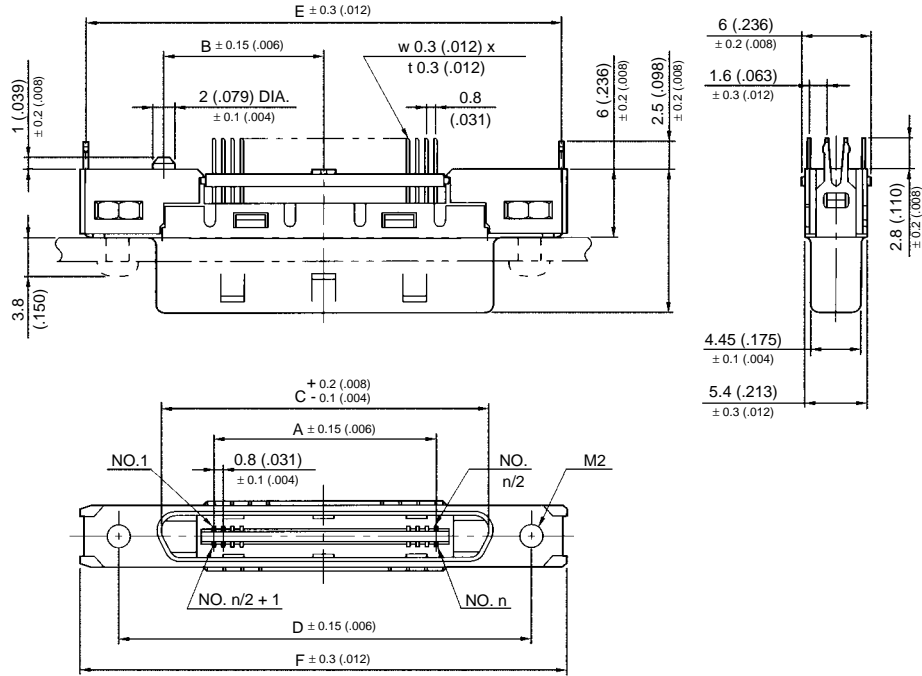
Dimensions in mm (inches).

KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

PLUG • STRAIGHT THROUGH HOLE TYPE • 2 ROWS

Part Number: KX20-**-B-ST1-H

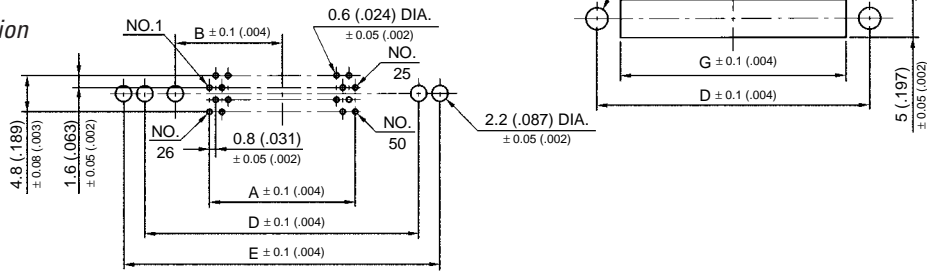


PCB Layout (Ref.)

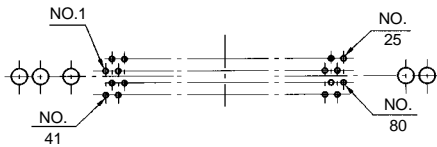
Panel Cut-Out (Ref.)

PCB Thickness: 1.6mm (.063")

50 Position



80 Position



Dimensions in mm (inches).

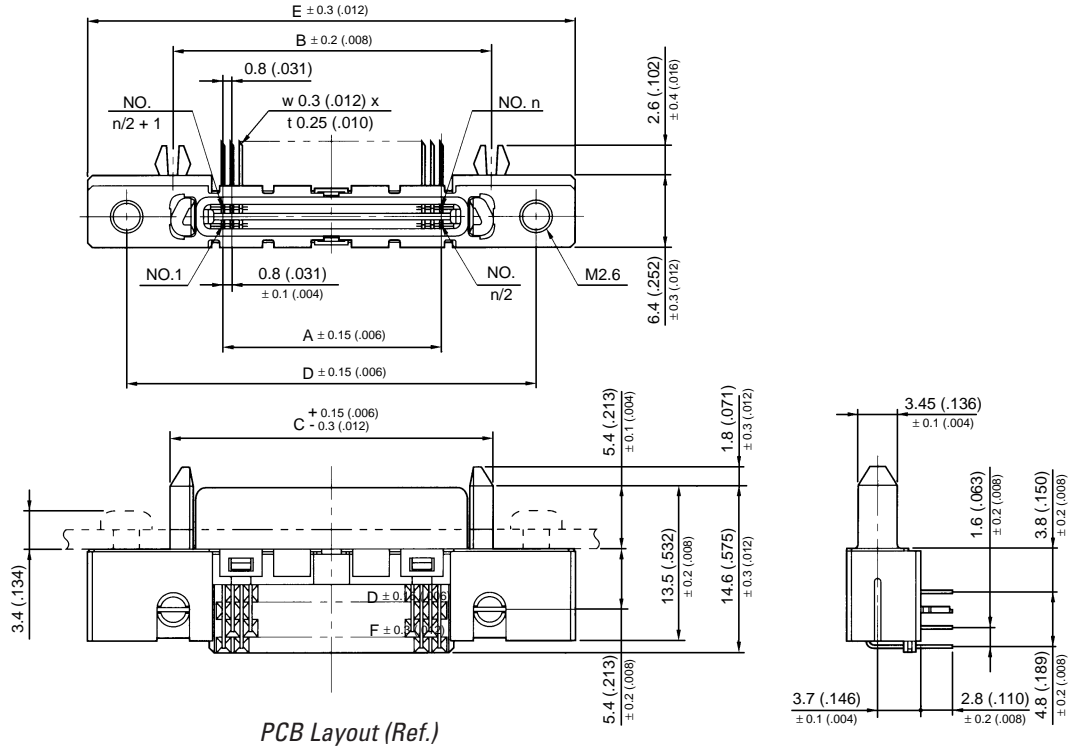


KX20 SERIES CONNECTORS

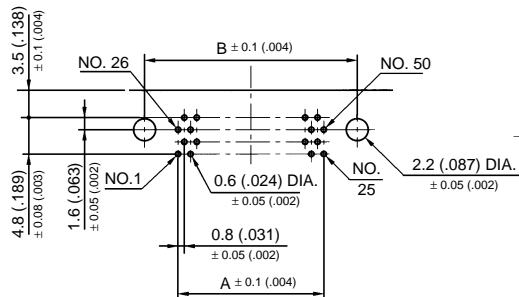
0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

RECEPTACLE • RIGHT ANGLE TYPE • 2 ROWS

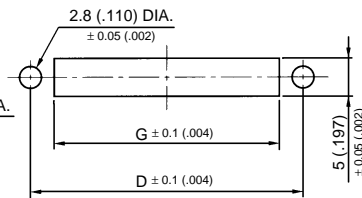
Part Number: KX20-**RA-LT-H



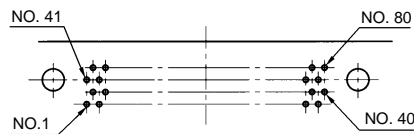
50 Position



Panel Cut-Out (Ref.)



80 Position



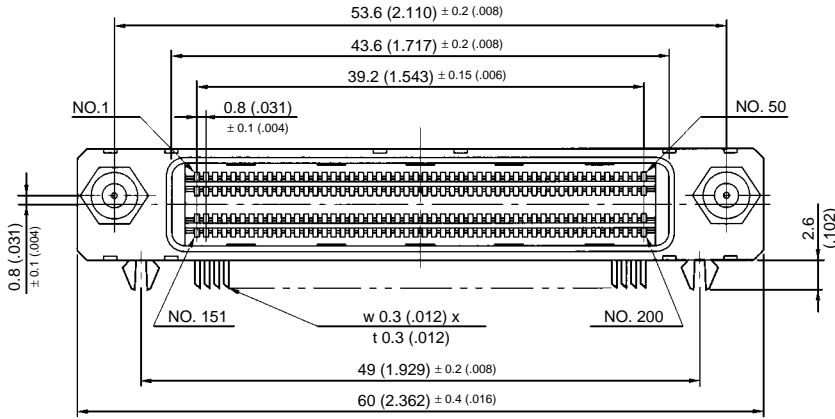
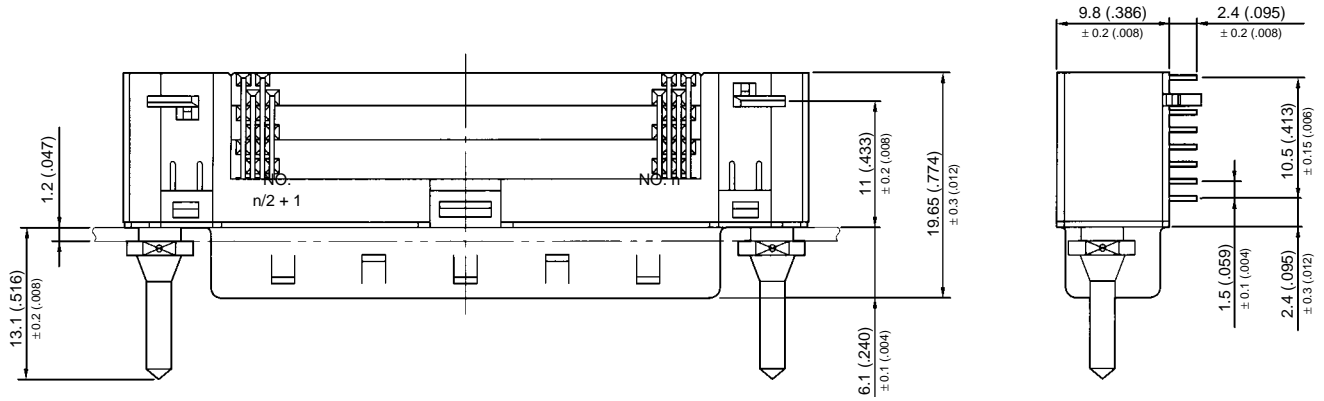
Dimensions in mm (inches).

KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

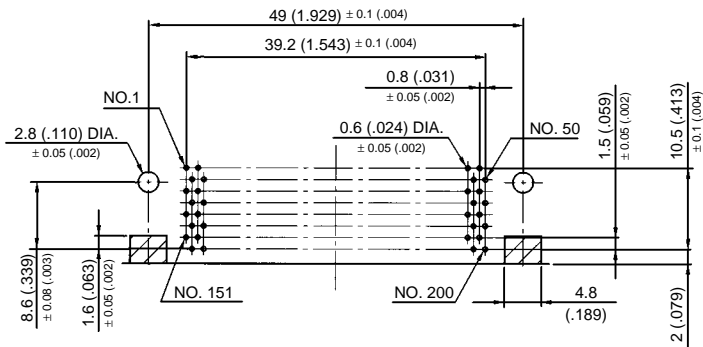
PLUG • RIGHT ANGLE TYPE • 4 ROWS

Part Number: KX20-200BG-F2LT

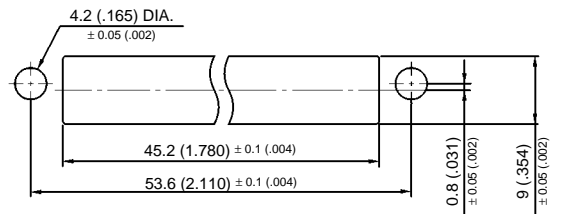


PCB Layout (Ref.)

PCB Thickness: 1.2mm (.047")



Panel Cut-Out (Ref.)



Dimensions in mm (inches).

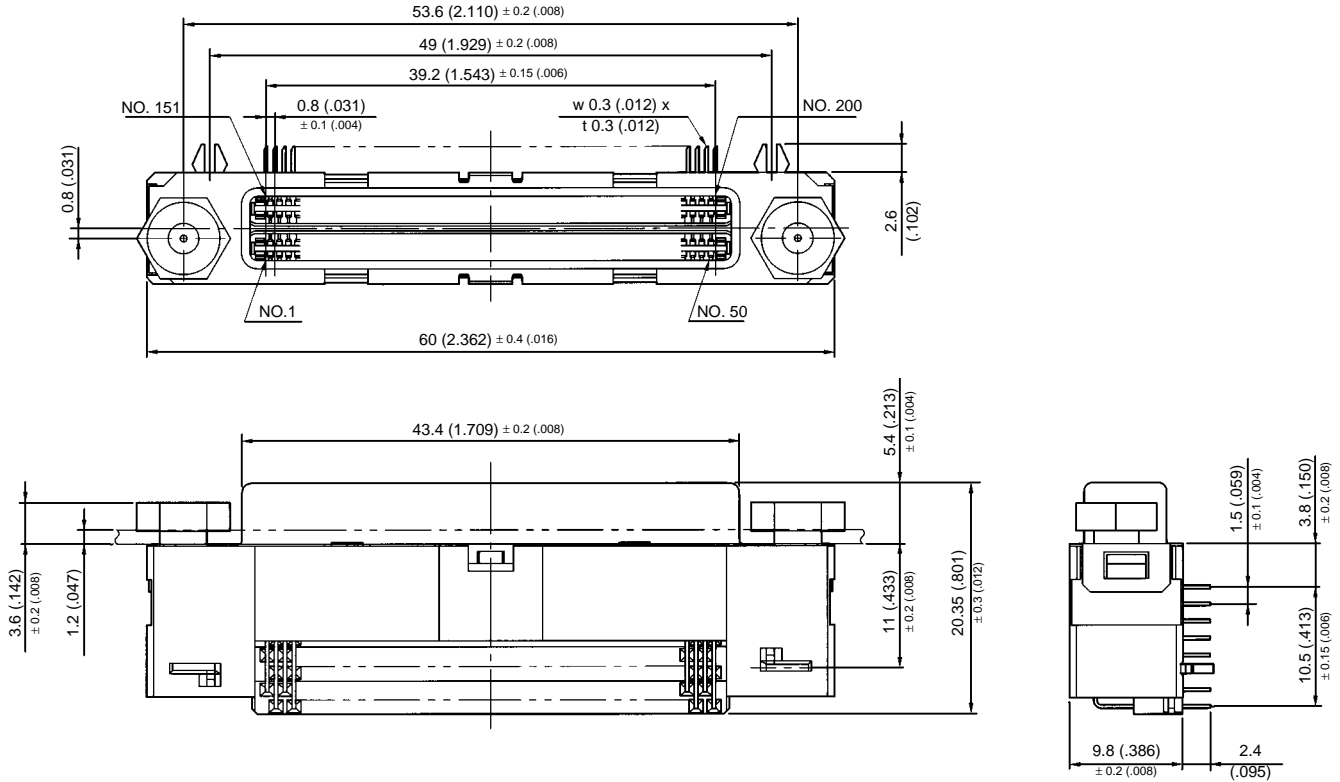


KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

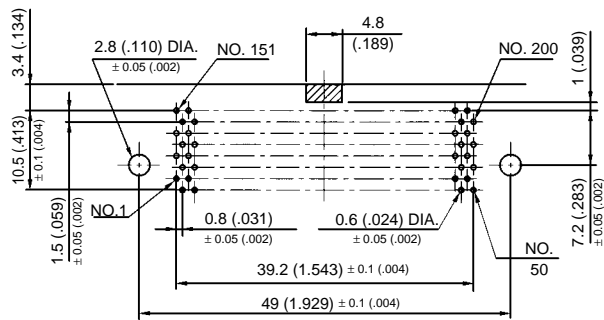
RECEPTACLE • RIGHT ANGLE TYPE • 4 ROWS

Part Number: KX20-200RG-F2LT

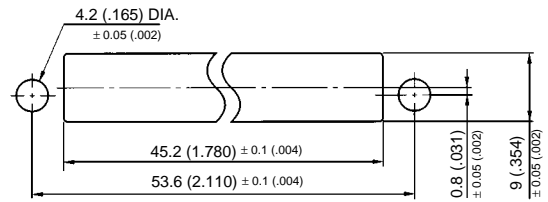


PCB Layout (Ref.)

PCB Thickness: 1.2mm (.047")



Panel Cut-Out (Ref.)



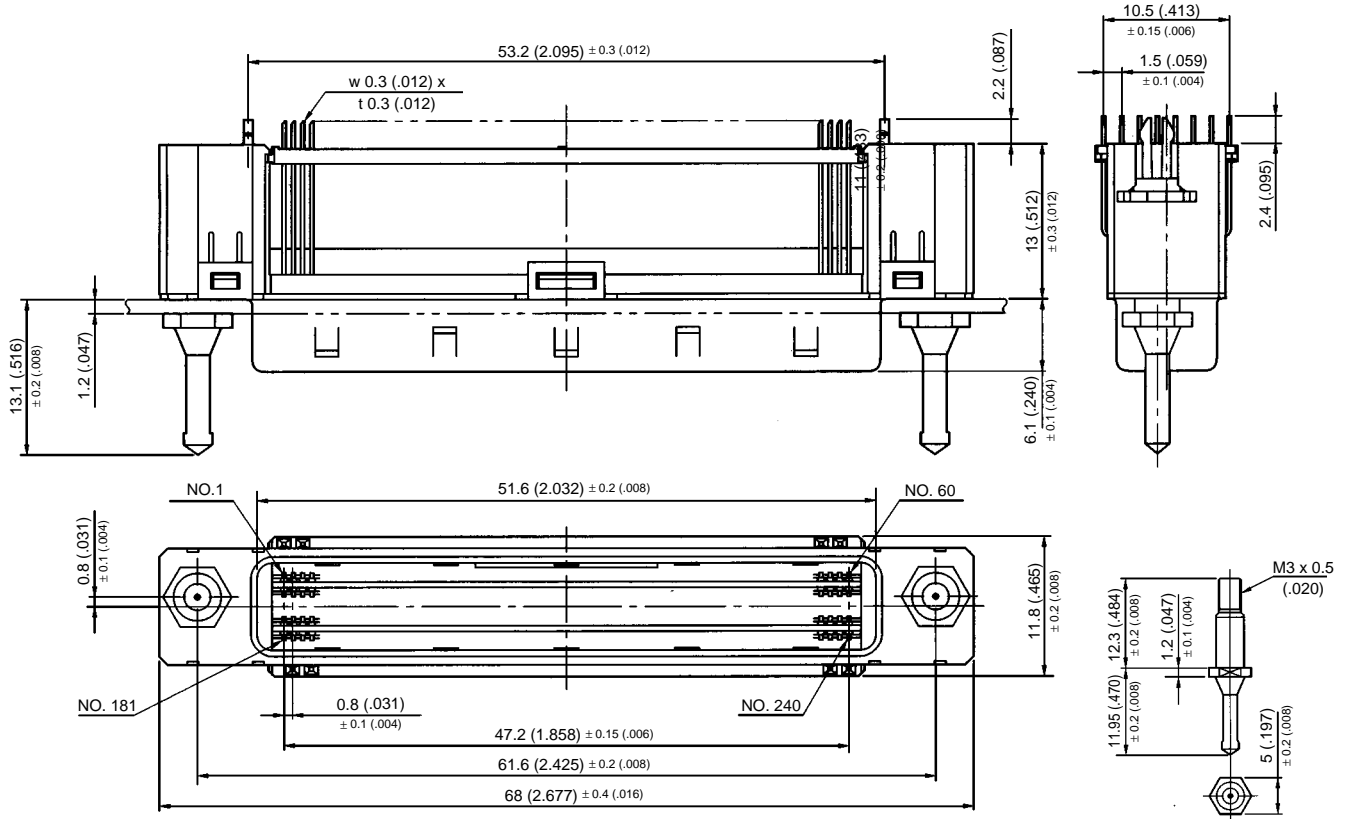
Dimensions in mm (inches).

KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

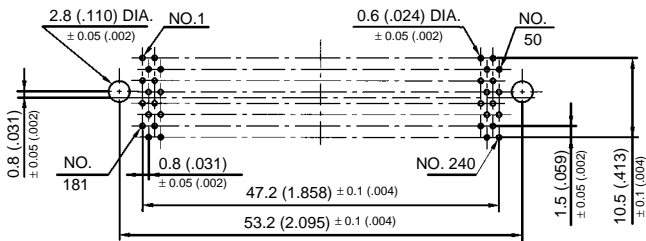
PLUG • STRAIGHT TYPE • 4 ROWS

Part Number: KX20-240BG-F2ST

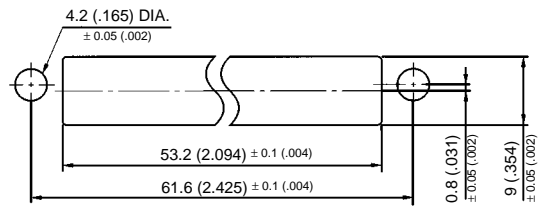


PCB Layout (Ref.)

PCB Thickness: 1.2mm (.047")



Panel Cut-Out (Ref.)



Dimensions in mm (inches).

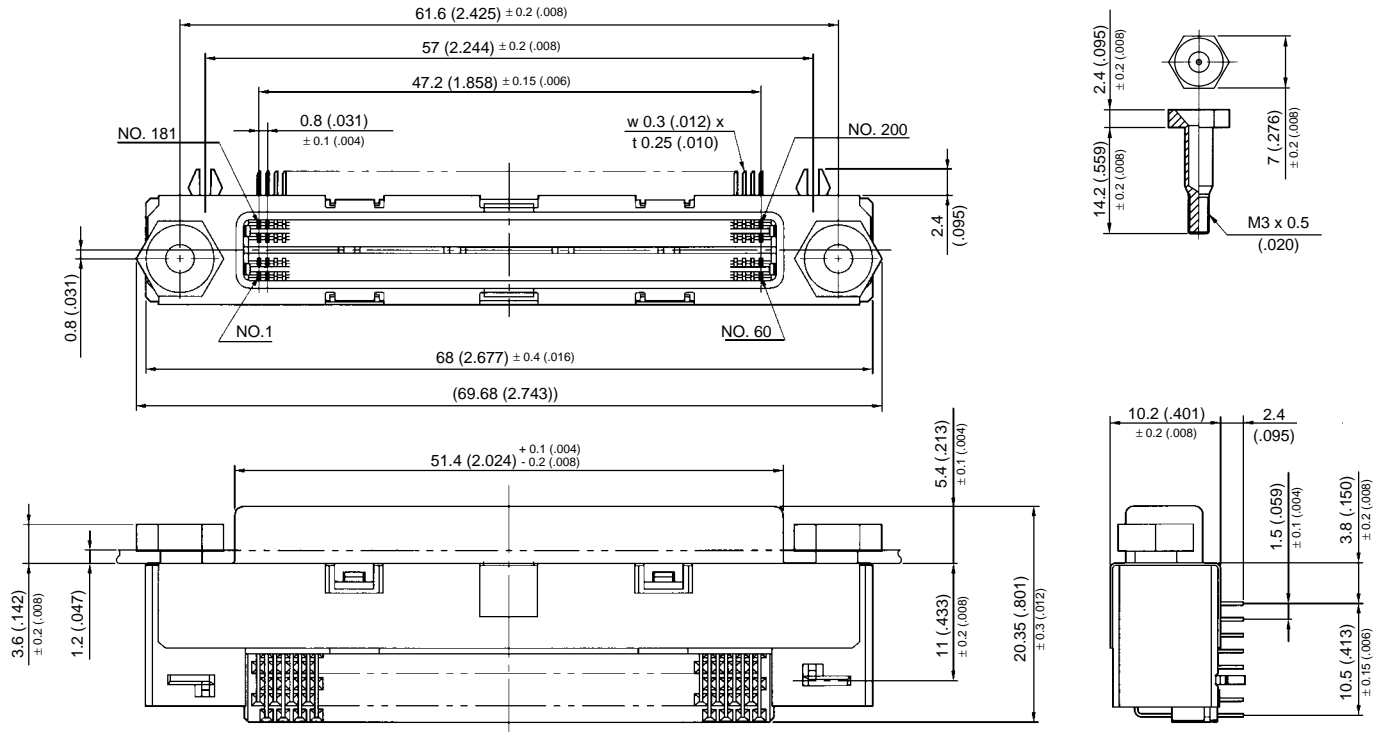


KX20 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

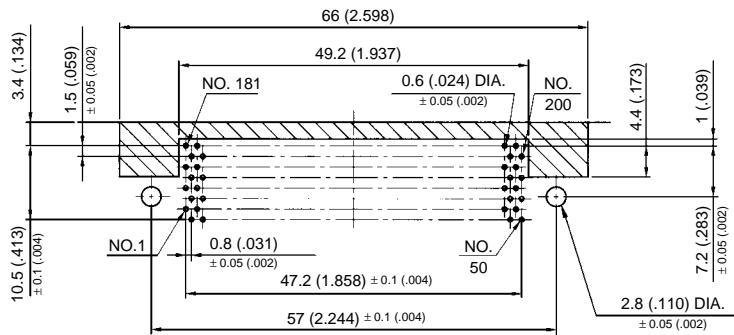
RECEPTACLE • RIGHT ANGLE TYPE • 4 ROWS

Part Number: KX20-240RG-F2LT

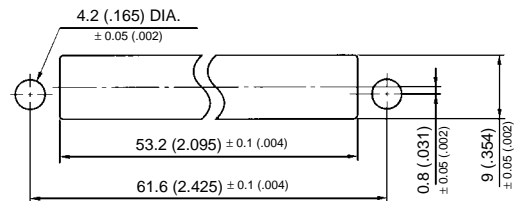


PCB Layout (Ref.)

PCB Thickness: 1.2mm (.047")



Panel Cut-Out (Ref.)



Dimensions in mm (inches).

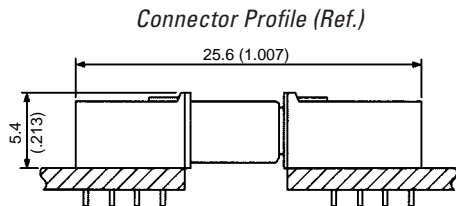
TX20 SERIES CONNECTORS

1.27mm (.050") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors



FEATURES

- Contact spacing on mating side:
1.27mm (.050") double row (10 to 120 contacts)
1.27mm (.050") 4 rows (200 contacts)
- Contact spacing on tail side:
1.27mm (.050") between contacts
1.905mm (.075") between staggered rows
- Horizontal or vertical connection between boards is accomplished by combining right angle receptacles with straight or right angle plugs
- Reliable ribbon style contacts are more durable against twisting during mating or unmating
- Ground lug is provided on tail for grounding to PCB
- Eight longer contacts on the outer ends of the receptacle are extended for first to make, last to break



Example of combined receptacle and plug



The TX20 Series is specifically designed to meet high density board-to-board interconnection requirements.

TX20 Series connectors enable either a horizontal or vertical connection between units without using a cable. This low profile half pitch 1.27mm (.050") connector is designed with an extremely low mounting height of 5.4mm (.212") for 10 to 120 contacts in horizontal connection.

The connector features a rugged metal shell that interfaces with the unit, and the reliable ribbon style contact design protects against twisting. The metal ground lug provides excellent EMI shielding for applications that require EMI protection as well as high density.

The flexibility of this connector makes it an ideal product for notebook computers and other high density applications such as disk drives and memory devices.

GENERAL SPECIFICATIONS

Number of Contacts	10, 26, 40, 120, 200 (Note 1)
Contact Spacing	1.27mm (.050")
Current Rating	0.5 Amps
Dielectric Withstanding Voltage	500 VAC r.m.s. (for one minute)
Insulation Resistance	100 megohms min. (100 VDC)
Contact Resistance	40 milliohms max.
Operating Temperature	-40°C to +80°C

Note 1: Straight plug is available only with 120 contacts.

MATERIALS AND FINISHES

Description	Materials/Finishes
Shell	Steel/Nickel Plating
Insulator	Glass-filled PBT/UL94V-0, Black
Contact	Phosphor Bronze Connection area: 0.1µm (.000004") Gold over Nickel Terminal area: Tin plating
Ground Lug	Phosphor Bronze/Tin Plating (Note 2)
Hex Nut	Brass/Nickel Plating
Hook Pin	Phosphor Bronze/Tin Plating

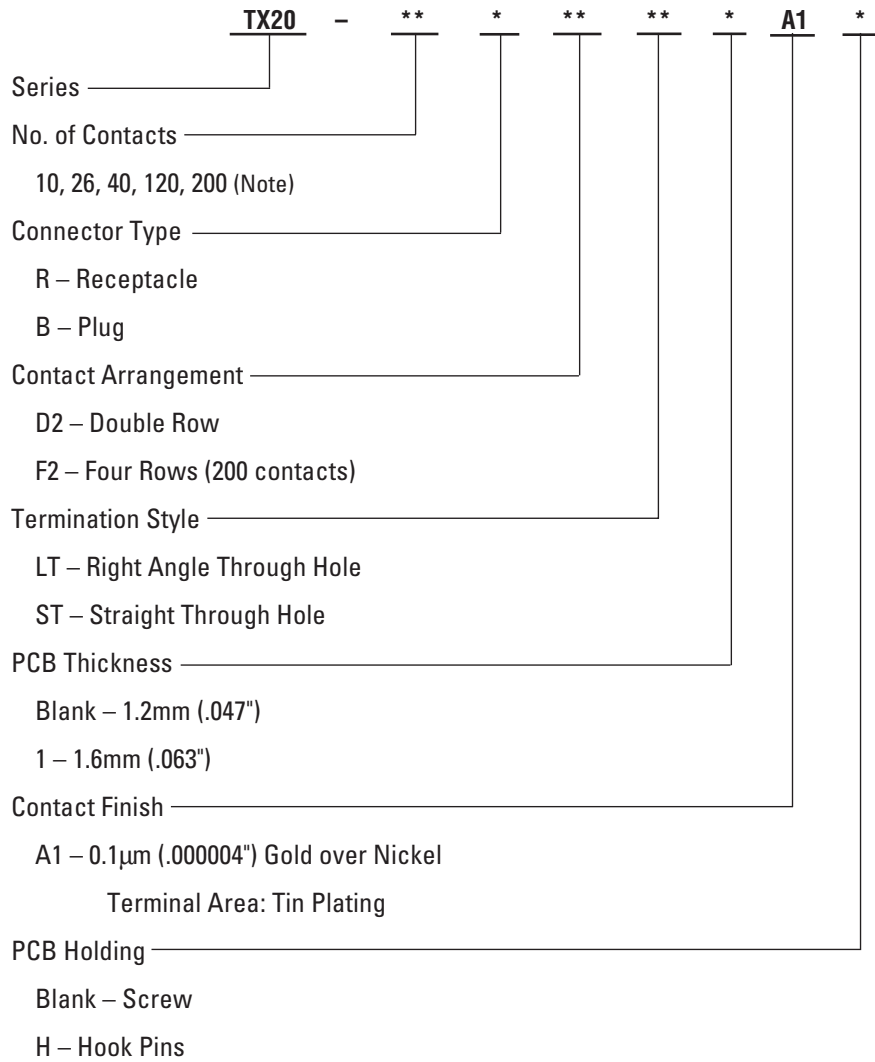
Note 2: Zinc alloy/Nickel Plating for 200 contacts.

Dimensions in mm (inches).

TX20 SERIES CONNECTORS

1.27mm (.050") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

ORDERING INFORMATION



Note: Straight is available only with 120 contacts plug.

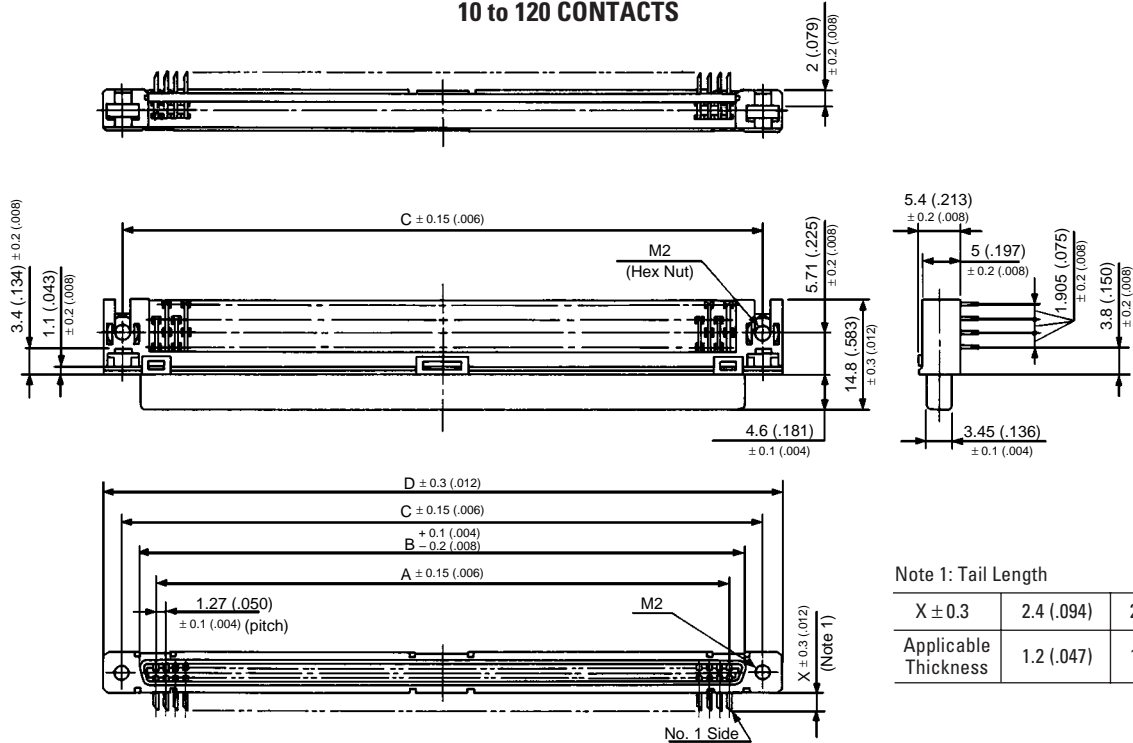
Dimensions and specifications subject to change without notice.

TX20 SERIES CONNECTORS

1.27mm (.050") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

RECEPTACLE • RIGHT ANGLE THROUGH HOLE TYPE

10 to 120 CONTACTS



Note 1: Tail Length

X ± 0.3	2.4 (.094)	2.8 (.110)
Applicable Thickness	1.2 (.047)	1.6 (.063)

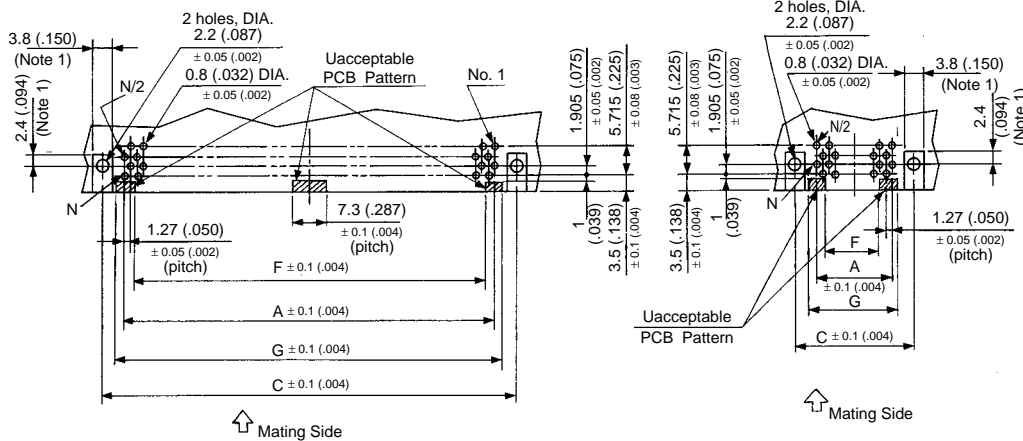
PCB Hole Patterns (Ref.)

Applicable PCB thickness: 1.2mm (.047") & 1.6mm (.063")

40, 120 Contacts

10, 26 Contacts

Panel Cut-Out (Ref.)



Note 2: Ground lug dimensions/2.4mm (.094") & 3.8mm (.150")

No. of Contacts	Part Number		A	B	C	D	E	F	G
	For 1.2mm PCB thickness	For 1.6mm PCB thickness							
10	TX20- 10R-D2LT-A1	TX20- 10R-D2LT1-A1	5.08 (.200)	9.34 (.368)	13.97 (.550)	19.08 (.751)	10.74 (.423)	—	9.38 (.369)
26	TX20- 26R-D2LT-A1	TX20- 26R-D2LT1-A1	15.24 (.600)	19.50 (.768)	24.13 (.950)	29.24 (1.151)	20.90 (.823)	10.94 (.431)	19.54 (.769)
40	TX20- 40R-D2LT-A1	TX20- 40R-D2LT1-A1	24.13 (.950)	28.39 (1.118)	33.02 (1.300)	38.13 (1.501)	29.79 (1.173)	19.83 (.781)	28.43 (1.119)
120	TX20-120R-D2LT-A1	TX20-120R-D2LT1-A1	74.93 (2.950)	79.19 (3.118)	83.82 (3.300)	88.93 (3.501)	80.59 (3.173)	70.63 (2.781)	79.23 (3.119)

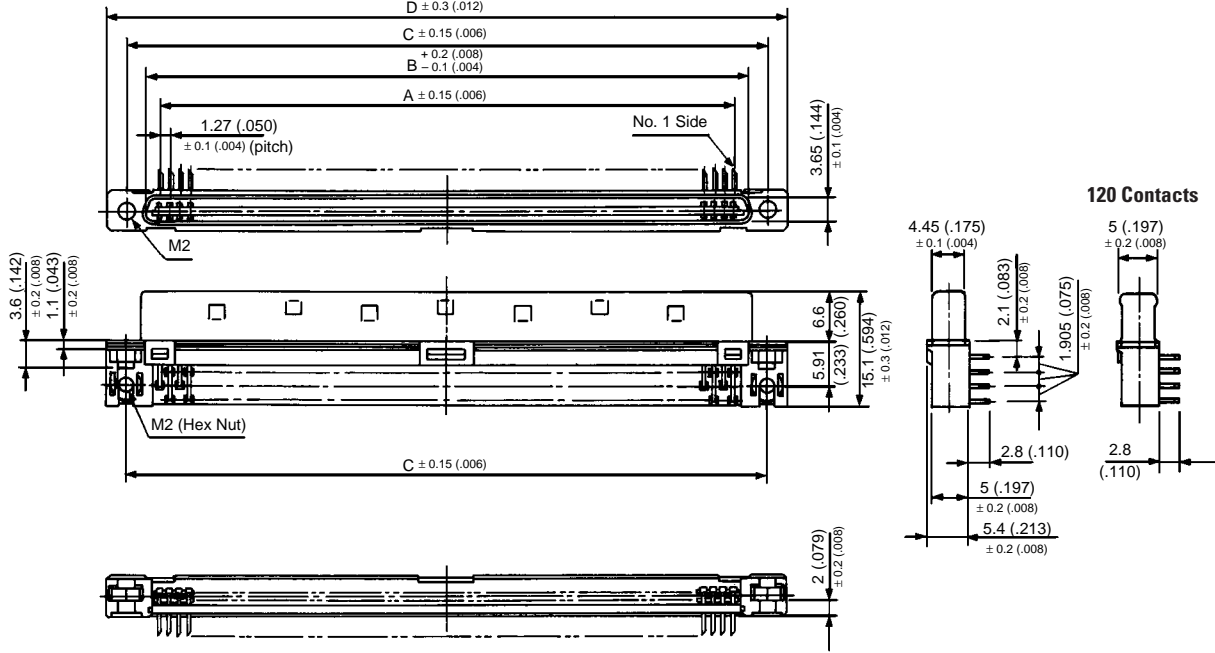
Dimensions in mm (inches).

TX20 SERIES CONNECTORS

1.27mm (.050") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

PLUG • RIGHT ANGLE THROUGH HOLE TYPE

10 to 120 CONTACTS



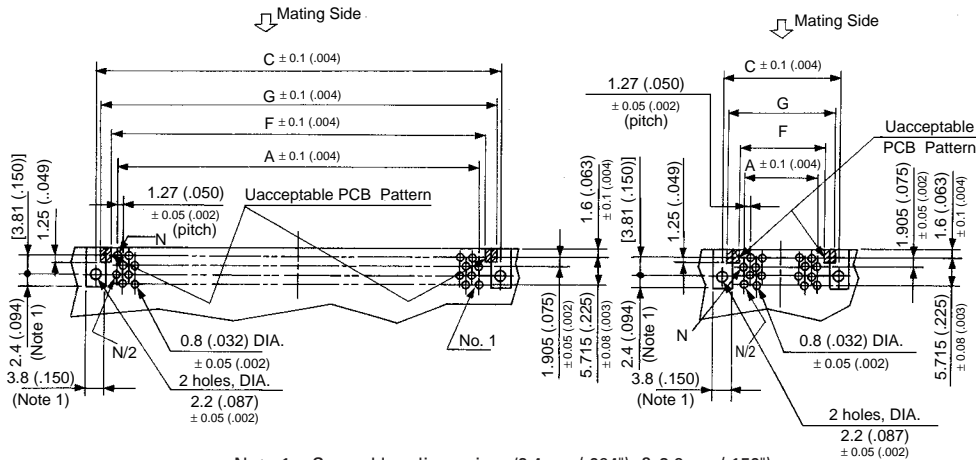
PCB Hole Patterns (Ref.)

Applicable PCB thickness: 1.2mm (.047") & 1.6mm (.063")

40, 120 Contacts

10, 26 Contacts

Panel Cut-Out (Ref.)



Note 1: Ground lug dimensions/2.4mm (.094") & 3.8mm (.150")

No. of Contacts	Part Number	For 1.6mm PCB thickness							
		A	B	C	D	E	F	G	
10	TX20- 10B-D2LT1-A1	5.08 (.200)	9.54 (.376)	13.97 (.550)	19.08 (.751)	10.74 (.423)	6.58 (.259)	12.78 (.503)	
26	TX20- 26B-D2LT1-A1	15.24 (.600)	19.70 (.776)	24.13 (.950)	29.24 (1.151)	20.90 (.823)	16.74 (.659)	22.94 (.903)	
40	TX20- 40B-D2LT1-A1	24.13 (.950)	28.59 (1.126)	33.02 (1.300)	38.13 (1.501)	29.79 (1.173)	25.63 (1.009)	31.83 (1.253)	
120	TX20-120B-D2LT1-A1	74.93 (2.950)	79.39 (3.126)	83.82 (3.300)	88.93 (3.501)	80.59 (3.173)	76.93 (3.029)	82.63 (3.253)	

Dimensions in mm (inches).

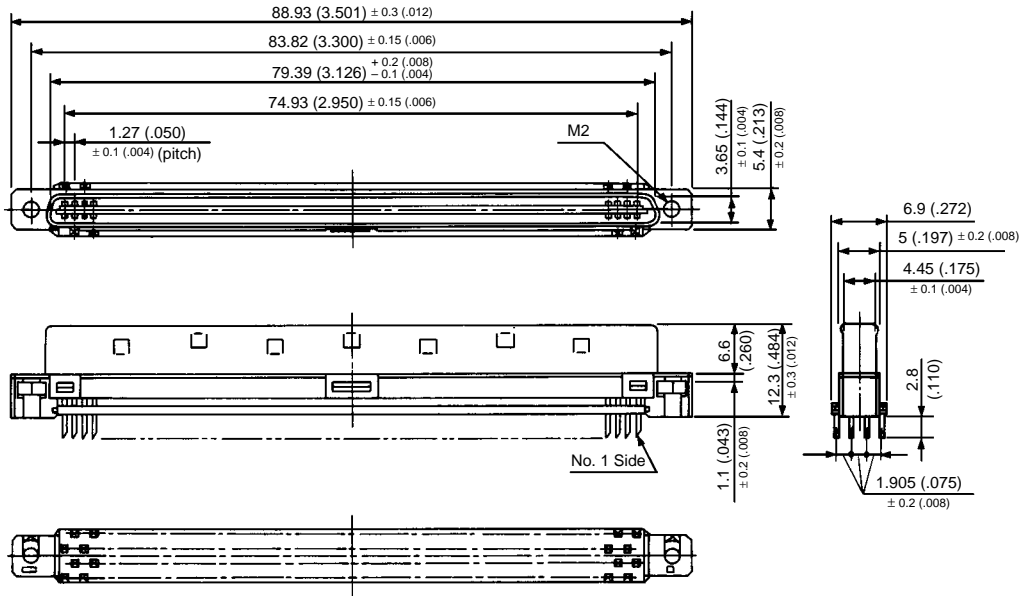
TX20 SERIES CONNECTORS

1.27mm (.050") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

PLUG • STRAIGHT THROUGH HOLE TYPE

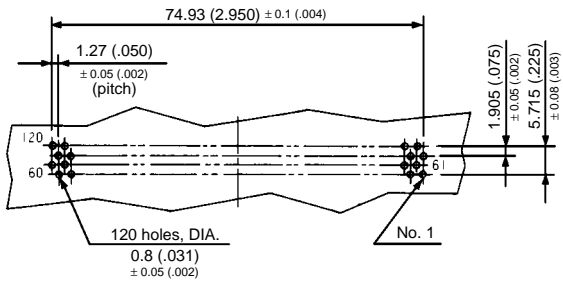
120 CONTACTS

Part Number: TX20-120B-D2ST1-A1

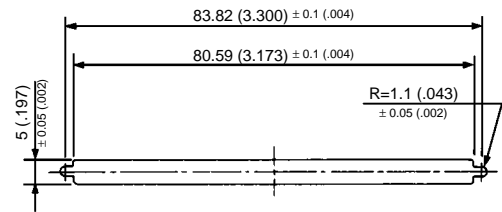


PCB Hole Patterns (Ref.)

Applicable PCB thickness: 1.6mm (.063")



Panel Cut-Out (Ref.)



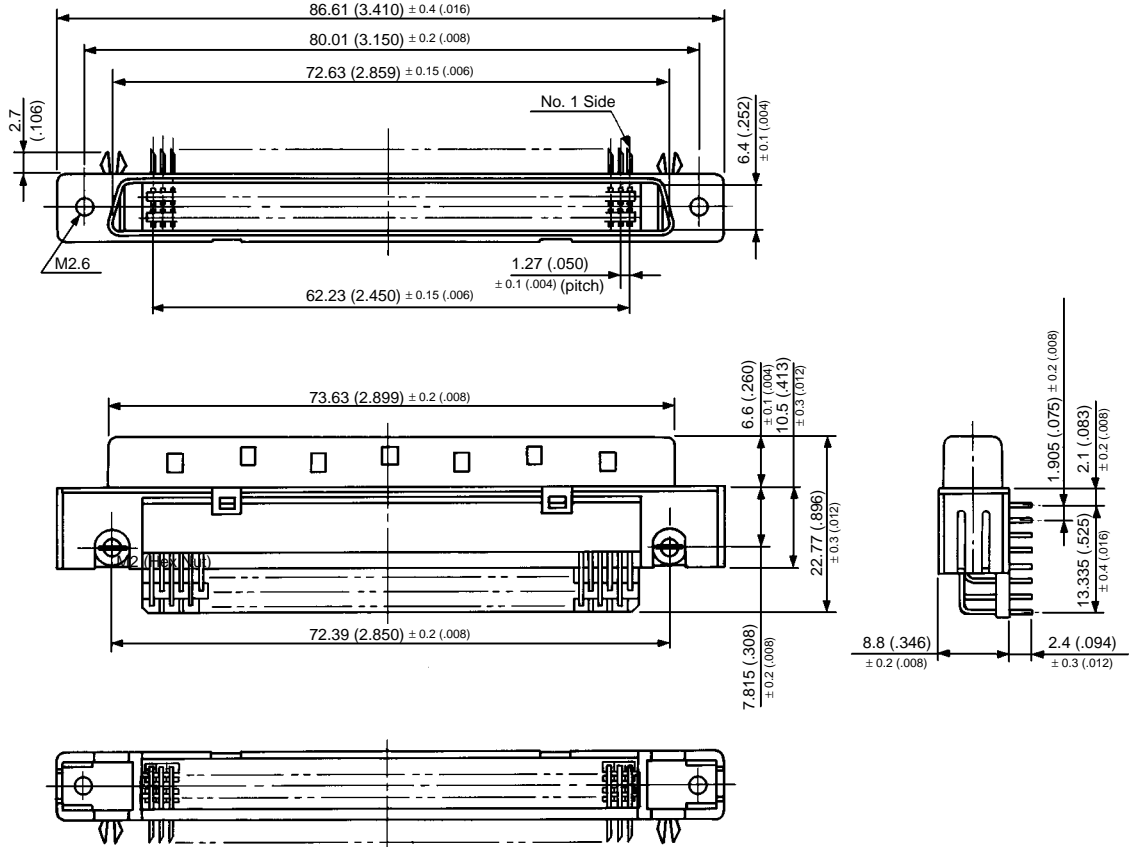
Dimensions in mm (inches).

TX20 SERIES CONNECTORS

1.27mm (.050") Contact Spacing, EMI Shielded, PCB-to-PCB Connectors

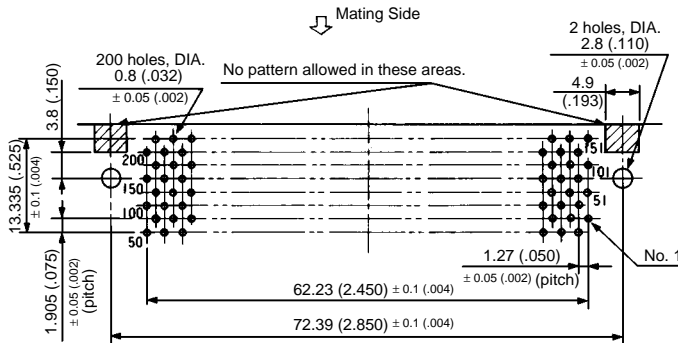
PLUG • RIGHT ANGLE THROUGH HOLE TYPE

200 CONTACTS

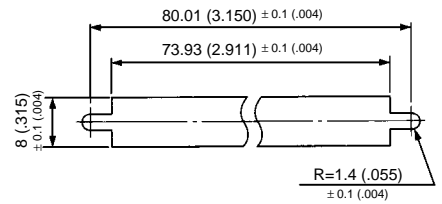


PCB Hole Patterns (Ref.)

Applicable PCB thickness: 1.2mm (.047")



Panel Cut-Out (Ref.)

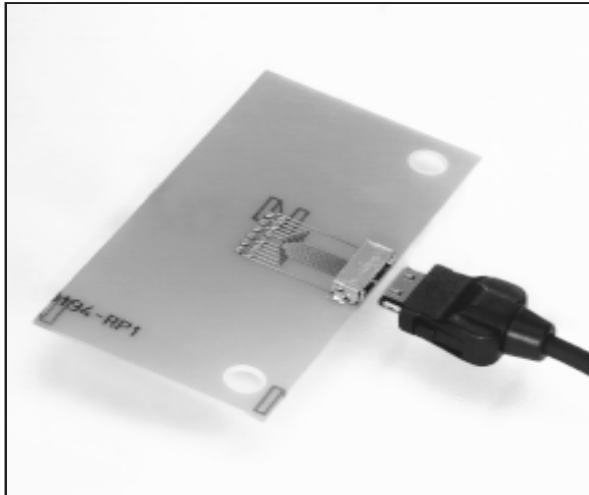


No. of Contacts	Part Number	
	Without hook pin	With hook pin
200	TX20-200B-F2LT-A1	TX20-200B-F2LT-A1H

Dimensions in mm (inches).

DA1 SERIES CONNECTORS

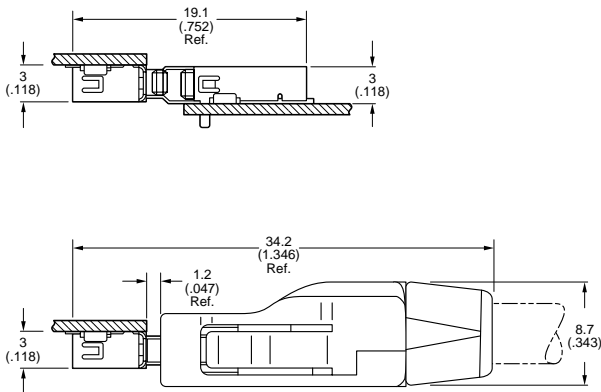
0.6mm (.024") Contact Spacing, PCB-to-Cable Connectors



FEATURES

- Mating height 3mm (.01"), mounting space reduced, 0.6mm (.024") pitch single line SMT interface connector
- Metal shell provides shielding against EMI and static electricity
- Side locking system
- Board mounting plug for cradle (catcher) available for 18 contact version
- Receptacles and cradles available in embossed tape for automatic SMT mounting

Connector Profile (Ref.)



DA1 Series connectors are low profile SMT compact interface connectors for use in compact and slim mobile information terminal devices such as PDAs, HPCs, and notebook PCs.

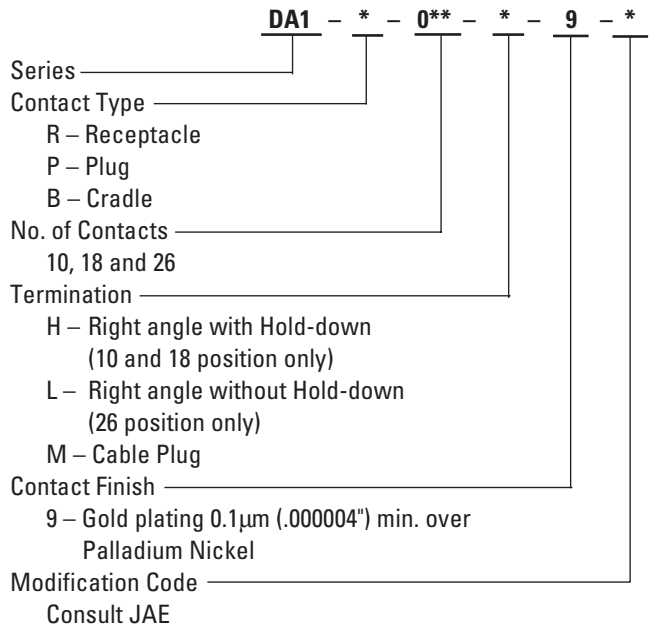
GENERAL SPECIFICATIONS

Number of Contacts	10, 18, and 26
Contact Spacing	0.6mm (.024")
Current Rating	0.5 Amps
Dielectric Withstanding Voltage	250 VAC r.m.s. (one minute)
Insulation Resistance	100 megohms min.
Contact Resistance	50 milliohms max.
Operating Temperature	-25°C +75°C
Applicable Wire Sizes	AWG #28 max.

MATERIALS AND FINISHES

Description	Materials/Finishes
Insulator	Nylon (UL94V-0, Black)
Pin Contact	Copper Alloy, Gold plating over lead-nickel
Lead Contact	Tin-lead plating
Shell	Steel, Nickel plating

ORDERING INFORMATION



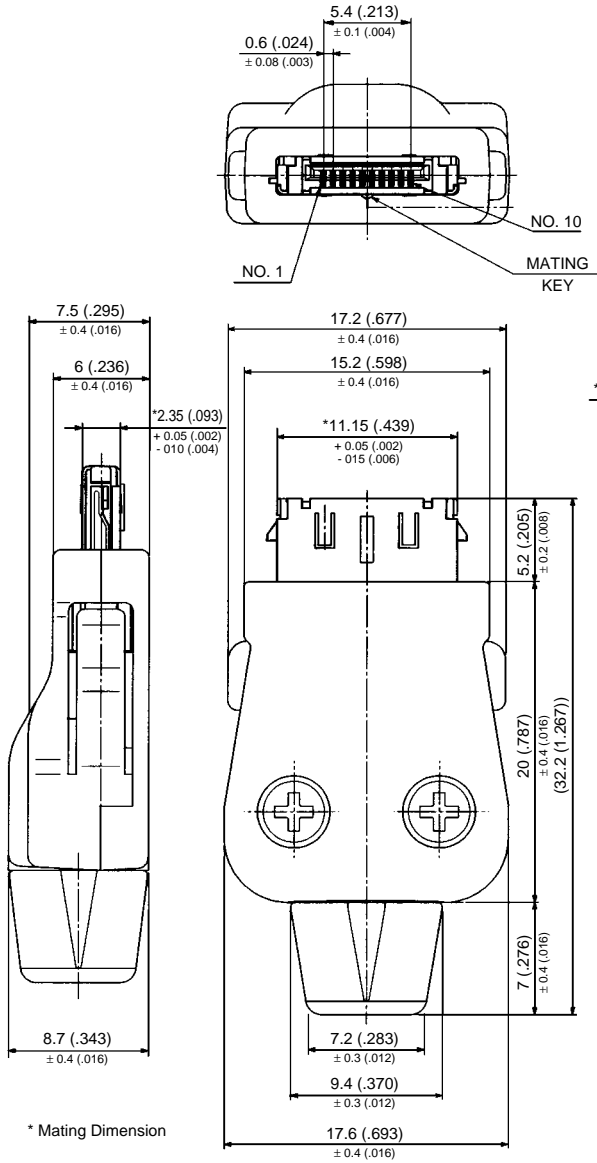
Dimensions and specifications subject to change without notice.

DA1 SERIES CONNECTORS

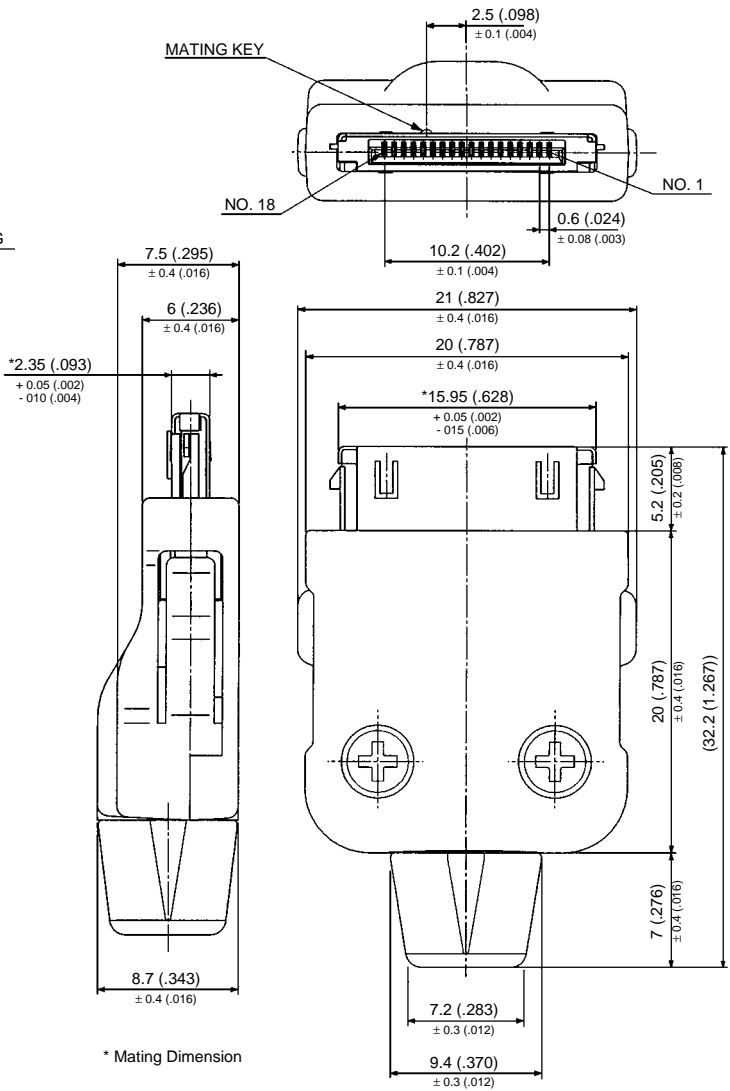
0.6mm (.024") Contact Spacing, PCB-to-Cable Connectors

PLUG CONNECTORS

Part Number: DA1P010M94



Part Number: DA1P018M91



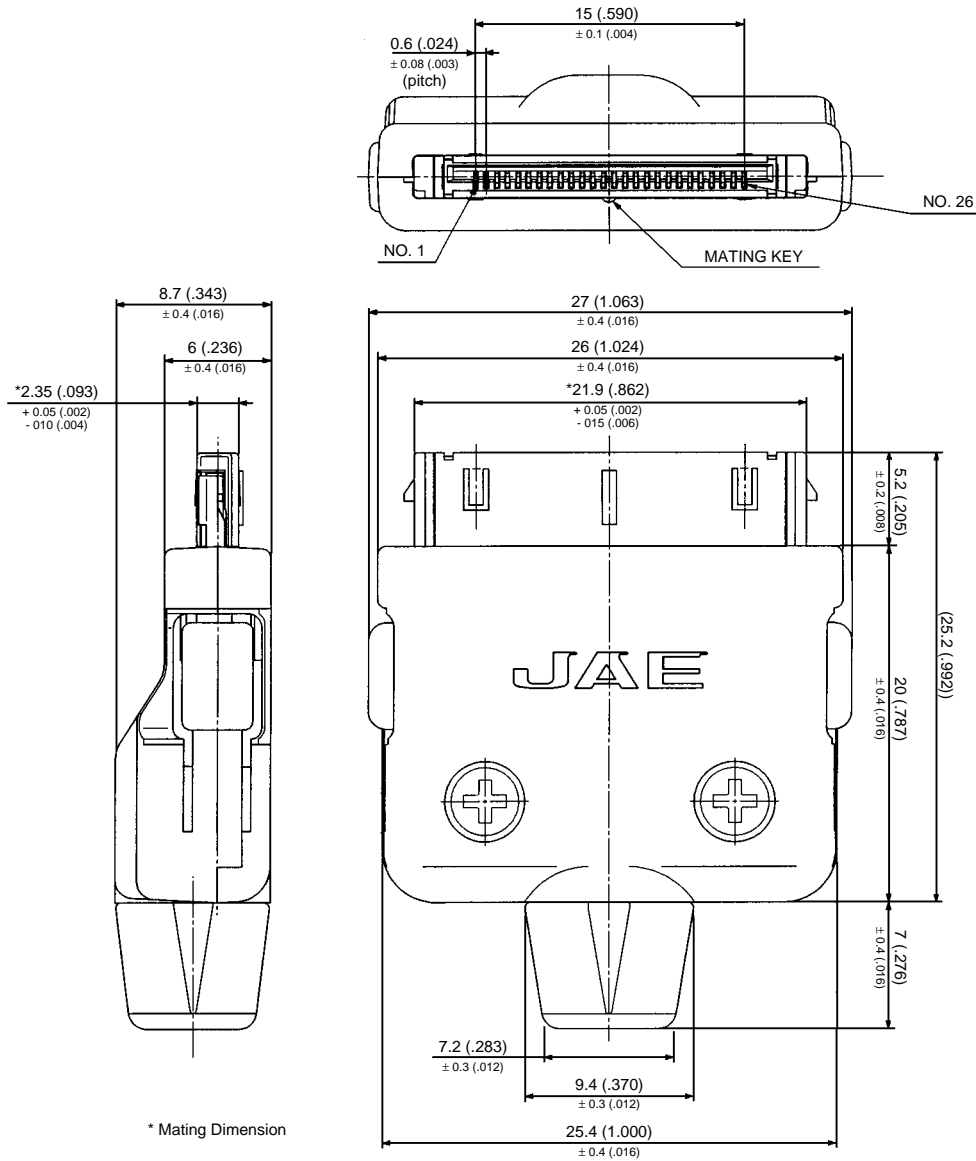
Dimensions in mm (inches).

DA1 SERIES CONNECTORS

0.6mm (.024") Contact Spacing, PCB-to-Cable Connectors

PLUG CONNECTORS

Part Number: DA1P026M92

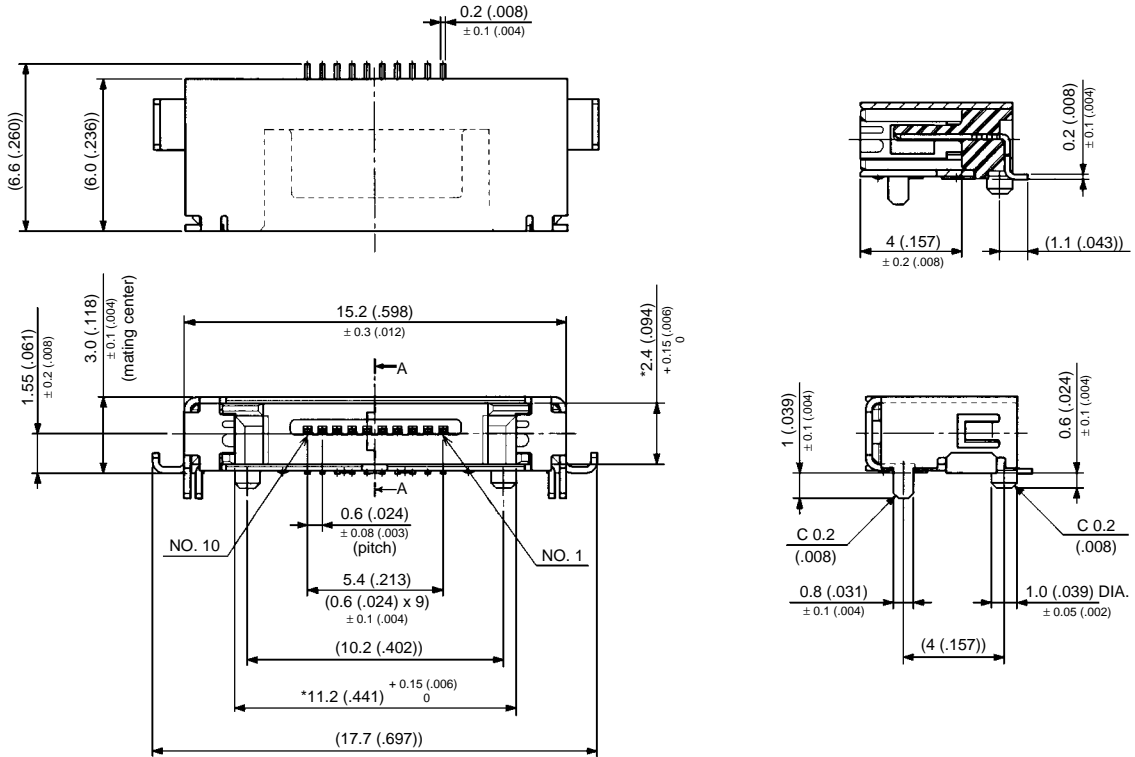


Dimensions in mm (inches).

DA1 SERIES CONNECTORS

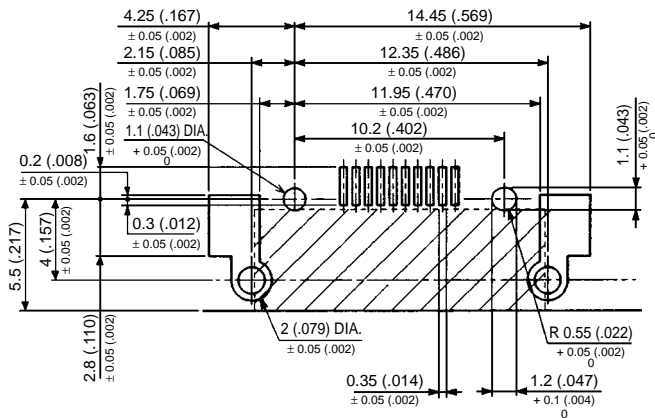
0.6mm (.024") Contact Spacing, PCB-to-Cable Connectors

RECEPTACLE Part Number: DA1R010H91



* Mating Dimension

Applicable PCB Layout (Ref.)

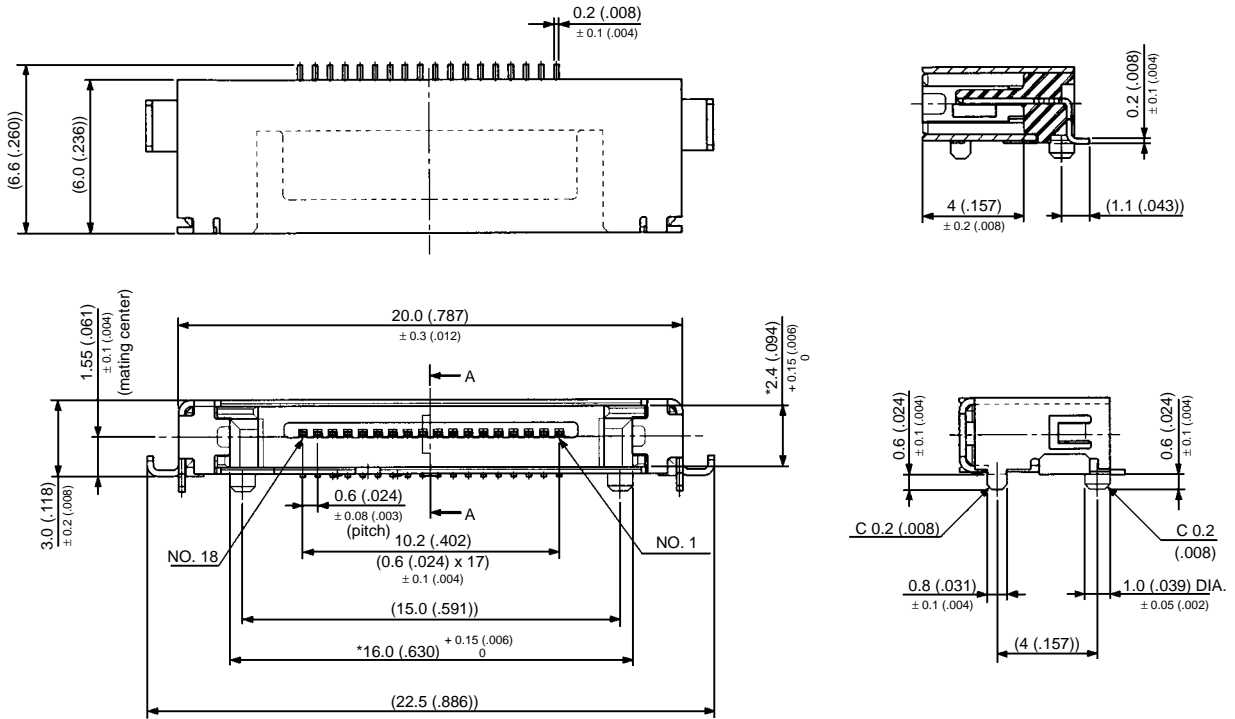


Dimensions in mm (inches).

DA1 SERIES CONNECTORS

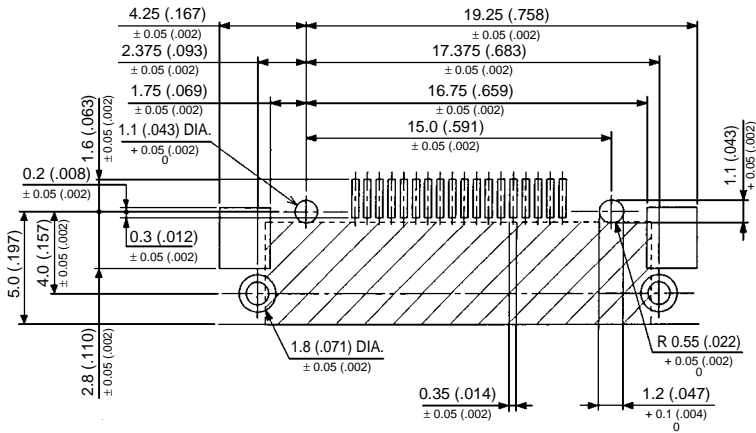
0.6mm (.024") Contact Spacing, PCB-to-Cable Connectors

RECEPTACLE Part Number: DA1R018H91



* Mating Dimension

Applicable PCB Layout (Ref.)

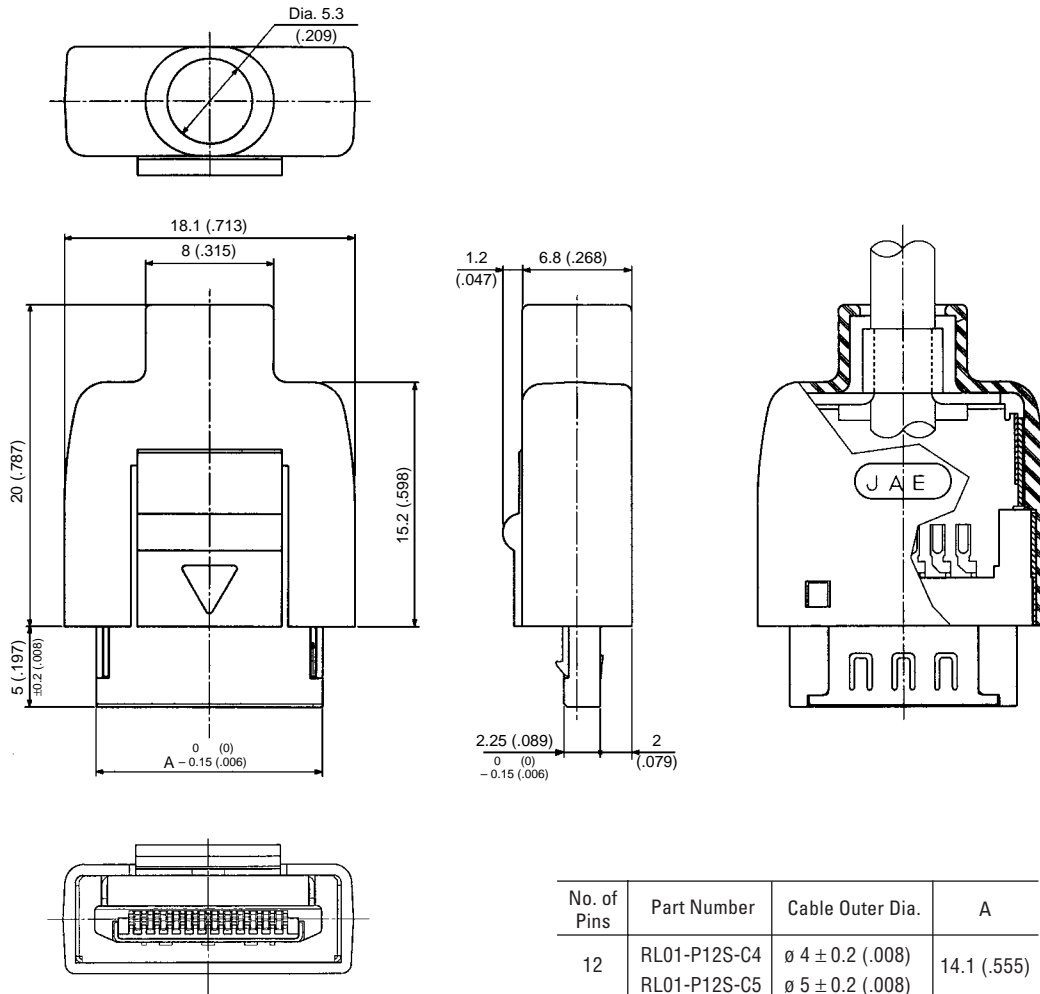


Dimensions in mm (inches).

RL01 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, PCB-to-Cable (Discrete Wire) Connectors

PLUG



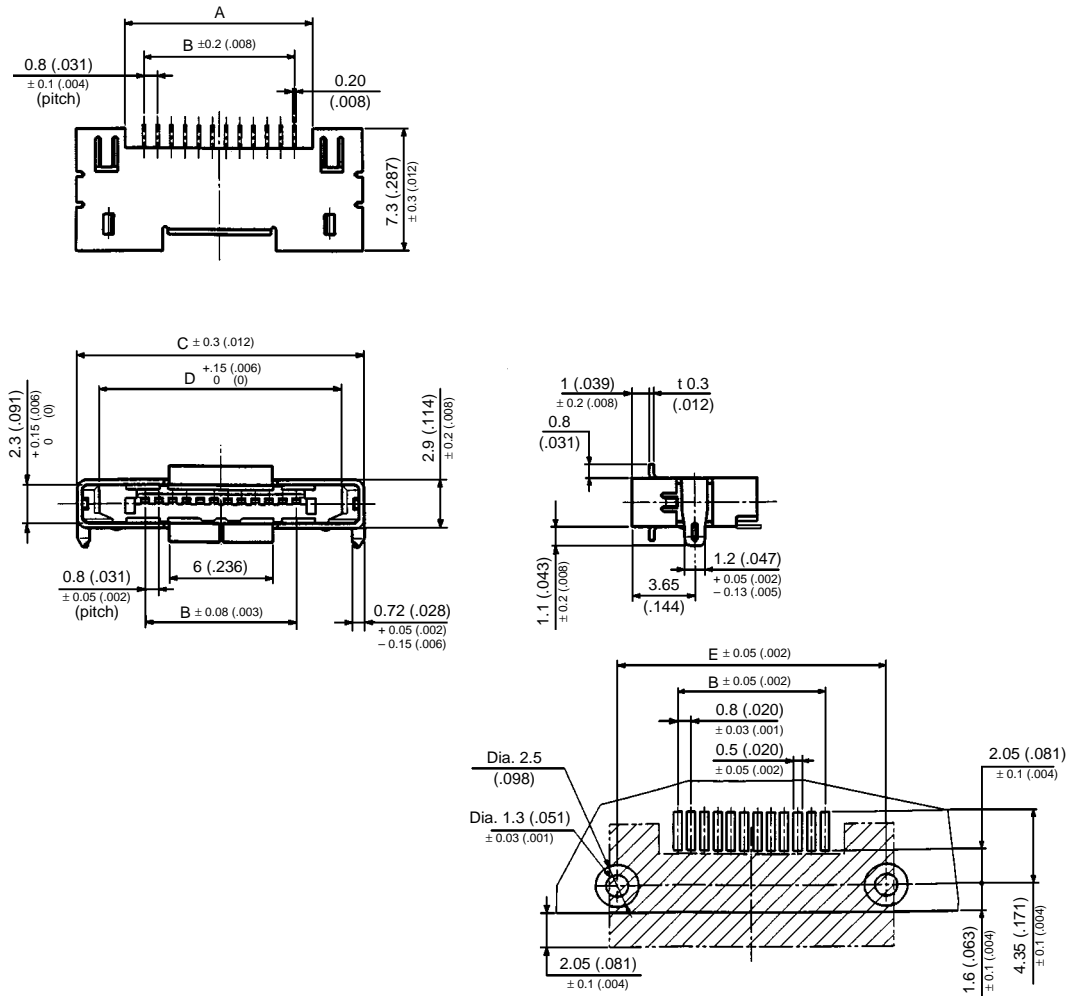
No. of Pins	Part Number	Cable Outer Dia.	A
12	RL01-P12S-C4	$\varnothing 4 \pm 0.2 (.008)$	14.1 (.555)
	RL01-P12S-C5	$\varnothing 5 \pm 0.2 (.008)$	
14	RL01-P14S-C4	$\varnothing 4 \pm 0.2 (.008)$	15.7 (.168)
	RL01-P14S-C5	$\varnothing 5 \pm 0.2 (.008)$	

Dimensions in mm (inches).

RL01 SERIES CONNECTORS

0.8mm (.031") Contact Spacing, PCB-to-Cable (Discrete Wire) Connectors

RECEPTACLE • RIGHT ANGLE



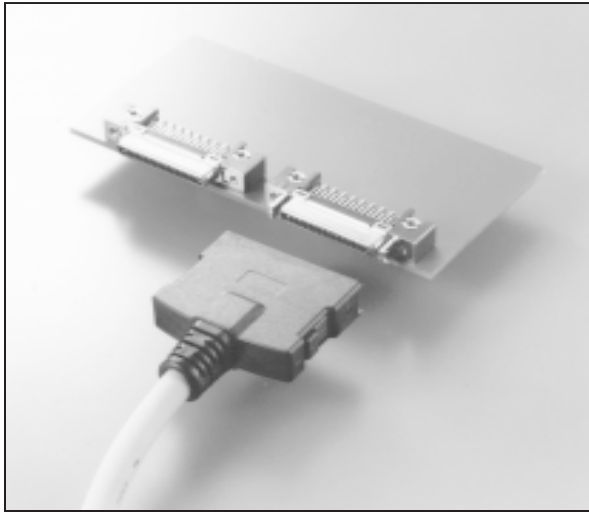
No. of Pins	Part Number	A	B	C	D	E
12	RL01-R12P	11.0 (.433)	8.8 (.346)	16.75 (.659)	14.15 (.557)	15.85 (.624)
14	RL01-R14P	12.6 (.496)	10.4 (.409)	18.35 (.722)	15.75 (.620)	17.45 (.687)

Note : Available on embossed tape for automatic mounting to PCB

Dimensions in mm (inches).

TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors



FEATURES

- Mating side contacts are arranged on 1.27mm (.050") centers, double row
- Extremely low profile
- Right-angle through hole and SMT (right-angle and straddle) receptacle versions available
- Standard PCB front and reverse right-angle SMT versions available
- Reliable ribbon type contacts withstand twisting force of mating and unmating
- Rapid, sure-locking mechanism
- IDC termination for plugs

GENERAL SPECIFICATIONS

Number of Contacts	10, 14, 26, 36, 50, 68
Contact Spacing	1.27mm (.050"), Double row
Current Rating	0.5 Amps
Dielectric Withstanding Voltage	500 VAC r.m.s. (for one minute)
Insulation Resistance	100 megohms min.
Contact Resistance	40 milliohms max.
Operating Temperature	-40°C to +80°C
Applicable Wire	#28 AWG, discrete wires
Applicable PCB Thickness:	
Through Hole Type	1.2mm or 1.6mm (.047" or .063")
SMT Type	0.7mm (.028") min. 1.0mm, 1.2mm, 1.6mm (.039", .047", .063") for straddle
Applicable Panel Thickness	1.2mm (.047") max.



TX20A Series connectors are extremely low profile, high density connectors with contact spacing on 1.27mm (.050") centers. This series includes receptacles (board side), plugs (IDC termination) and hoods with a locking mechanism. This product is ideal for interface between electronic units. The ribbon type contact configuration will not fail under a twisting force during mating and unmating. The rapid locking system provides a positive "click" feel when locked. The TX20A Series is highly reliable and has excellent EMI shielding. The connectors provide flexibility in connecting between units of state-of-the-art electronic devices, such as laptop and pocket-type miniature computers.

MATERIALS AND FINISHES

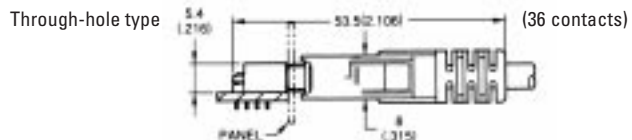
• Receptacle

Description	Materials/Finishes
Shell	Steel/Nickel Plating
Contact	Phosphor Bronze Connecting area: Gold plated over Nickel [Gold 0.1 μm (.000004") min.] Terminal area: Tin Plating
Insulator	Glass-filled PBT (UL94V-0, Black) for through hole Glass-filled PPS (UL94V-0, Black) for SMT
Locator	Glass-filled PBT (UL94V-0, Black) (Through hole)
Hook Lug	Zinc Alloy/Nickel Plating
Ground Lug	Zinc Alloy/Nickel Plating (Through hole)
Hook Pin	Phosphor Bronze/Tin Plating (With-hook-pin type)
Spring Pin	Stainless (Straddle SMT)
Hold-Down	Phosphor Bronze/Tin Plating (Option for right angle SMT)

• Plug

Shell	Steel/Nickel Plating
Contact	Copper Alloy Connecting area: Gold plated over Nickel [Gold 0.1 μm (.000004") min.] Terminal area: Tin Plating
Base Insulator	Glass-filled Nylon (UL94V-0, Black)
Cover Insulator	Glass-filled PBT (UL94V-0, Black)
Backshell	Stainless Steel
Hood	Glass-filled PC (UL94V-0, Black)
Bushing	PVC/UL94V-0, Black
Lock Spring	Stainless Steel

Connector Profile (Ref.)



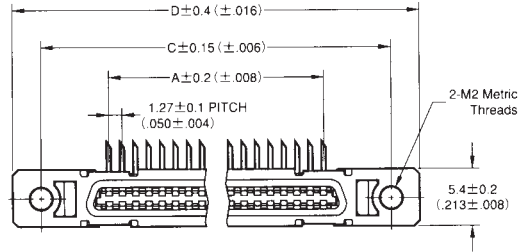
Dimensions and specifications subject to change without notice.

TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

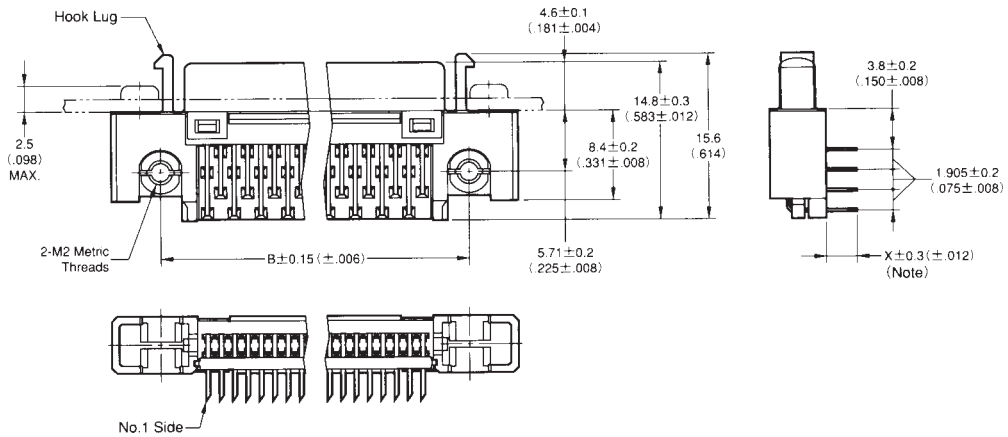
RECEPTACLE • RIGHT ANGLE THROUGH HOLE WITH SCREWS

Note : Shown with hook lug for locking mechanism. No hook lugs without locking mechanism.



Note: Terminal Length

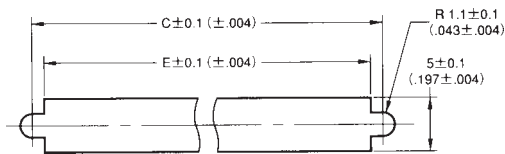
Code*	Dimension X
None	2.4 (.094)
1	2.8 (.110)



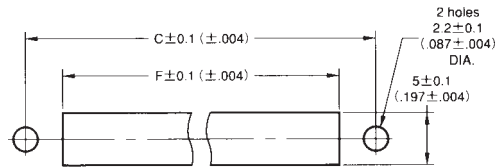
Panel Cut-Out (Ref.)

Panel thickness 1.2mm (.047") max.

WITH HOOK LUG



WITHOUT HOOK LUG



Refer to PCB Mounting Dimension Page.

No. of Contacts	Part Number (Note 1)		A ± 0.2 (± .008)	B ± 0.15 (± .006)	C	D ± 0.4 (± .016)	E ± 0.1 (± .004)	F ± 0.1 (± .004)
	With Hook Lug	Without Hook Lug						
10	TX20A-10R-D2LT*-A1L	TX20A-10R-D2LT*-A1	5.08 (.200)	13.97 (.550)	17.78 (.700)	23.08 (.909)	15.48 (.609)	10.74 (.423)
14	TX20A-14R-D2LT*-A1L	TX20A-14R-D2LT*-A1	7.62 (.300)	16.51 (.650)	20.32 (.800)	25.62 (1.009)	18.02 (.709)	13.28 (.523)
26	TX20A-26R-D2LT*-A1L	TX20A-26R-D2LT*-A1	15.24 (.600)	24.13 (.950)	27.94 (1.100)	33.24 (1.309)	25.64 (1.009)	20.90 (.823)
36	TX20A-36R-D2LT*-A1L	TX20A-36R-D2LT*-A1	21.59 (.850)	30.48 (1.200)	34.29 (1.350)	39.59 (1.559)	31.99 (1.259)	27.25 (1.073)
50	TX20A-50R-D2LT*-A1L	TX20A-50R-D2LT*-A1	30.48 (1.200)	39.37 (1.550)	43.18 (1.700)	48.48 (1.909)	40.88 (1.609)	36.14 (1.423)
68	TX20A-68R-D2LT*-A1L	TX20A-68R-D2LT*-A1	41.91 (1.650)	50.80 (2.000)	54.61 (2.150)	59.91 (2.359)	52.31 (2.059)	47.57 (1.873)

Note 1: * Add PCB thickness code.
No letter: 1.2mm (.047"), 1: 1.6mm (.063")

Dimensions in mm (inches).

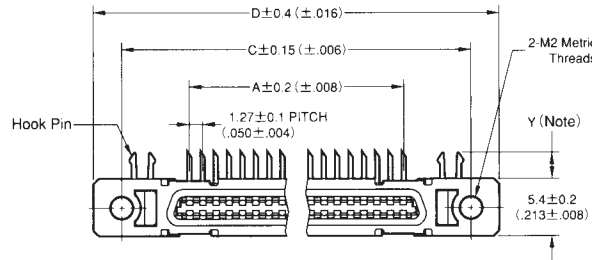


TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

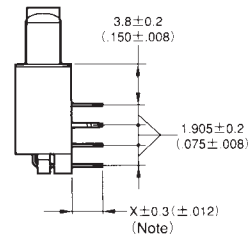
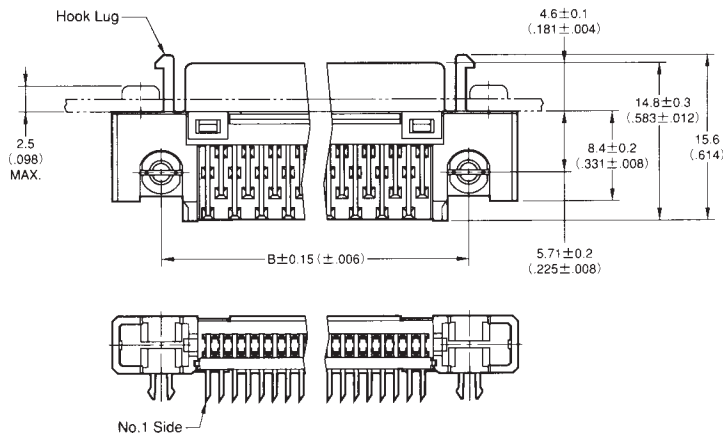
RECEPTACLE • RIGHT ANGLE THROUGH HOLE WITH HOOK-PINS

Note : Shown with hook lug for locking mechanism. No hook lugs without locking mechanism.



Note: Terminal Length (X)/Hook-Pin Length (Y)

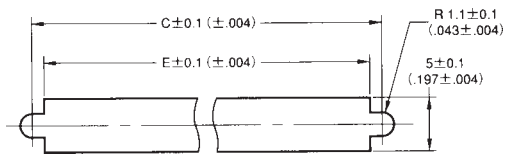
Code*	Dimension X	Dimension Y
None	2.4 (.094)	1.3 (.051)
1	2.8 (.110)	2.5 (.098)



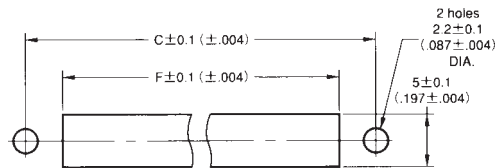
Panel Cut-Out (Ref.)

Panel thickness 1.2mm (.047") max.

WITH HOOK LUG



WITHOUT HOOK LUG



Refer to PCB Mounting Dimension Page.

No. of Contacts	Part Number (Note 1)		A ± 0.2 (± .008)	B ± 0.15 (± .006)	C	D ± 0.4 (± .016)	E ± 0.1 (± .004)	F ± 0.1 (± .004)
	With Hook Lug	Without Hook Lug						
10	TX20A-10R-D2LT*-A1LH	TX20A-10R-D2LT*-A1H	5.08 (.200)	13.97 (.550)	17.78 (.700)	23.08 (.909)	15.48 (.609)	10.74 (.423)
14	TX20A-14R-D2LT*-A1LH	TX20A-14R-D2LT*-A1H	7.62 (.300)	16.51 (.650)	20.32 (.800)	25.62 (1.009)	18.02 (.709)	13.28 (.523)
26	TX20A-26R-D2LT*-A1LH	TX20A-26R-D2LT*-A1H	15.24 (.600)	24.13 (.950)	27.94 (1.100)	33.24 (1.309)	25.64 (1.009)	20.90 (.823)
36	TX20A-36R-D2LT*-A1LH	TX20A-36R-D2LT*-A1H	21.59 (.850)	30.48 (1.200)	34.29 (1.350)	39.59 (1.559)	31.99 (1.259)	27.25 (1.073)
50	TX20A-50R-D2LT*-A1LH	TX20A-50R-D2LT*-A1H	30.48 (1.200)	39.37 (1.550)	43.18 (1.700)	48.48 (1.909)	40.88 (1.609)	36.14 (1.423)
68	TX20A-68R-D2LT*-A1LH	TX20A-68R-D2LT*-A1H	41.91 (1.650)	50.80 (2.000)	54.61 (2.150)	59.91 (2.359)	52.31 (2.059)	47.57 (1.873)

Note 1: * Add PCB thickness code.

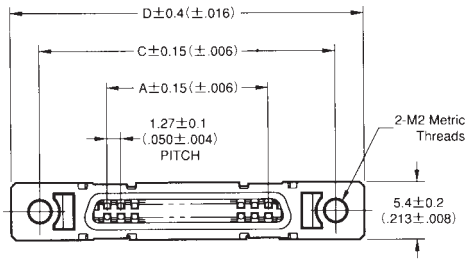
No letter: 1.2mm (.047"), 1: 1.6mm (.063")

Dimensions in mm (inches).

TX20A SERIES CONNECTORS

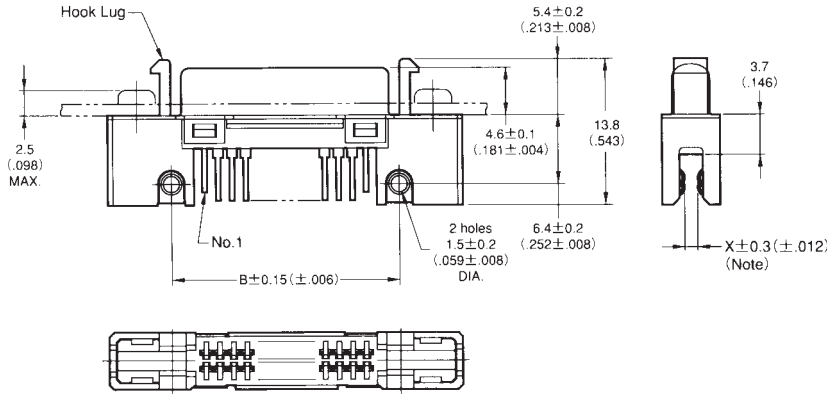
1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

RECEPTACLE • STRADDLE SURFACE MOUNT TECHNOLOGY

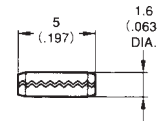


Note: Terminal Row-to-Row Distance

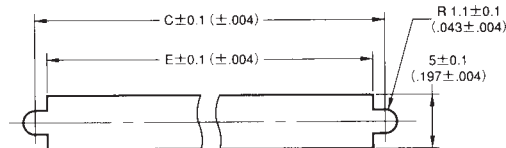
Code*	Dimension X
None	0.8 (.031)
1	1.2 (.047)



Spring Pin (Attachment)



Panel Cut-Out (Ref.)
Panel thickness 1.2mm (.047") max.



Refer to PCB Mounting Dimension Page.

No. of Contacts	Part Number (Note 1)		A ± 0.15 (± .006)	B ± 0.15 (± .006)	C	D ± 0.4 (± .016)	E ± 0.1 (± .004)
	With Spring Pin	Without Spring Pin					
10	TX20A-10R-D2SF*-A1LP	TX20A-10R-D2SF*-A1L	5.08 (.200)	11.43 (.450)	17.78 (.700)	23.08 (.909)	15.48 (.609)
14	TX20A-14R-D2SF*-A1LP	TX20A-14R-D2SF*-A1L	7.62 (.300)	13.97 (.550)	20.32 (.800)	25.62 (1.009)	18.02 (.709)
26	TX20A-26R-D2SF*-A1LP	TX20A-26R-D2SF*-A1L	15.24 (.600)	21.59 (.850)	27.94 (1.100)	33.24 (1.309)	25.64 (1.009)
36	TX20A-36R-D2SF*-A1LP	TX20A-36R-D2SF*-A1L	21.59 (.850)	27.94 (1.100)	34.29 (1.350)	39.59 (1.559)	31.99 (1.259)

Note 1: * Add PCB thickness code.

No letter: 1.0mm (.039") or 1.2mm (.047"), 1: 1.6mm (.063")

Dimensions in mm (inches).

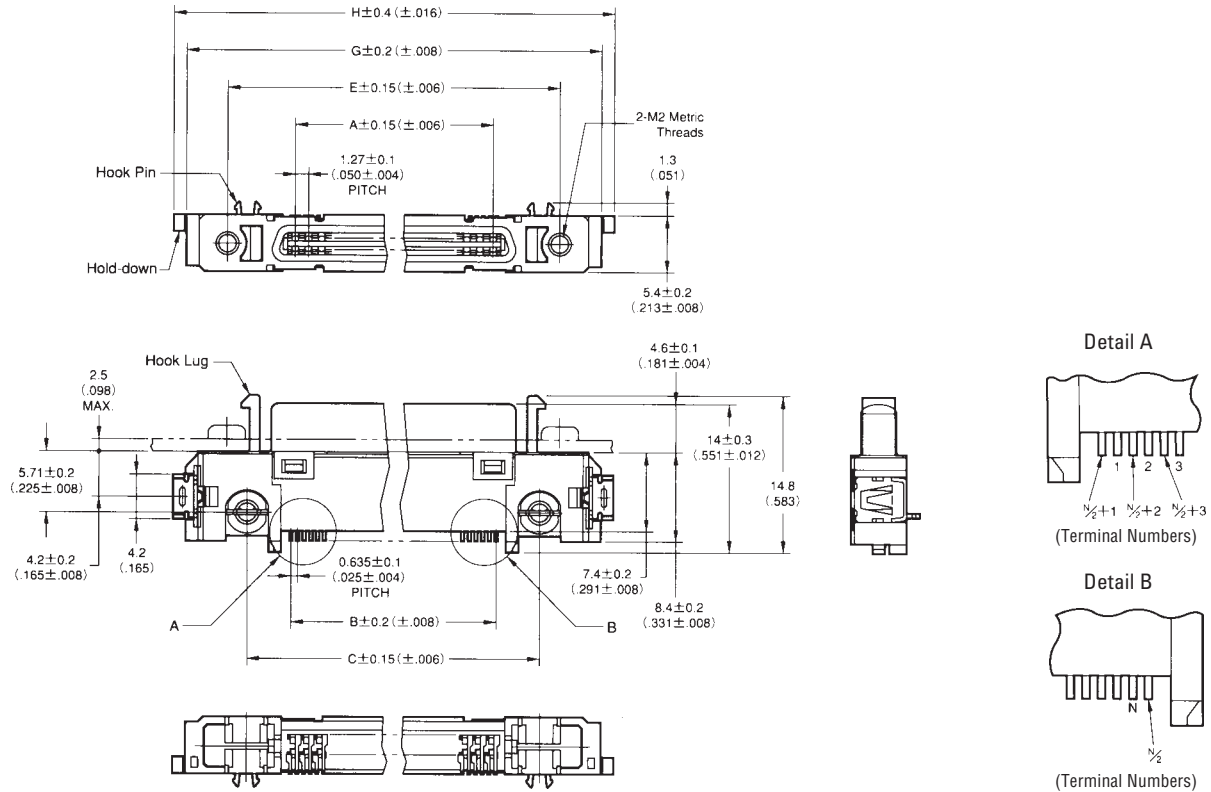


TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

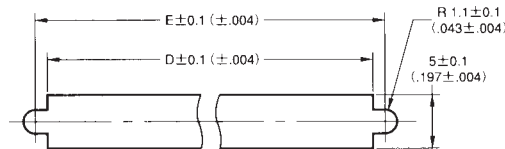
RECEPTACLE • RIGHT ANGLE SURFACE MOUNT TECHNOLOGY • STANDARD (SCREW/HOOK PIN/HOLD-DOWN/HOOK PIN AND HOLD-DOWN OPTIONS)

Note : Shown with hook pins and a hold-down mechanism.



Panel Cut-Out (Ref.)

Panel thickness 1.2mm (.047") max.



Refer to PCB Mounting Dimension Page.

No. of Contacts	Part Number (Note 1)	A ± 0.15 (±.006)	B ± 0.2 (±.008)	C ± 0.15 (±.006)	D ± 0.1 (±.004)	E	G ± 0.2 (±.008)	H ± 0.4 (±.016)
10	TX20A-10R-D2GF1-A1L*	5.08 (.200)	5.715 (.225)	13.97 (.550)	15.48 (.609)	17.78 (.700)	25.48 (1.003)	27.88 (1.098)
14	TX20A-14R-D2GF1-A1L*	7.62 (.300)	8.255 (.325)	16.51 (.650)	18.02 (.709)	20.32 (.800)	28.02 (1.103)	30.32 (1.194)
26	TX20A-26R-D2GF1-A1L*	15.24 (.600)	15.875 (.625)	24.13 (.950)	25.64 (1.009)	27.94 (1.100)	35.64 (1.403)	37.94 (1.494)
36	TX20A-36R-D2GF1-A1L*	21.59 (.875)	22.225 (.875)	30.48 (1.200)	31.99 (1.259)	34.29 (1.350)	41.99 (1.653)	44.29 (1.744)
50	TX20A-50R-D2GF1-A1L*	30.48 (1.200)	31.115 (1.225)	39.37 (1.550)	40.88 (1.609)	43.18 (1.700)	50.88 (2.003)	53.18 (2.094)
68	TX20A-68R-D2GF1-A1L*	41.91 (1.650)	42.545 (1.675)	50.80 (2.000)	52.31 (2.059)	54.61 (2.150)	62.31 (2.453)	64.61 (2.544)

Note 1: * Optional PCB mounting:

No letter: Screws, H: Hook pins, D: Hold-down mechanism, M: Hook pins and hold-down mechanism

Note 2: For hold-down mechanism version, screws are recommended to attach the connector on the board securely.

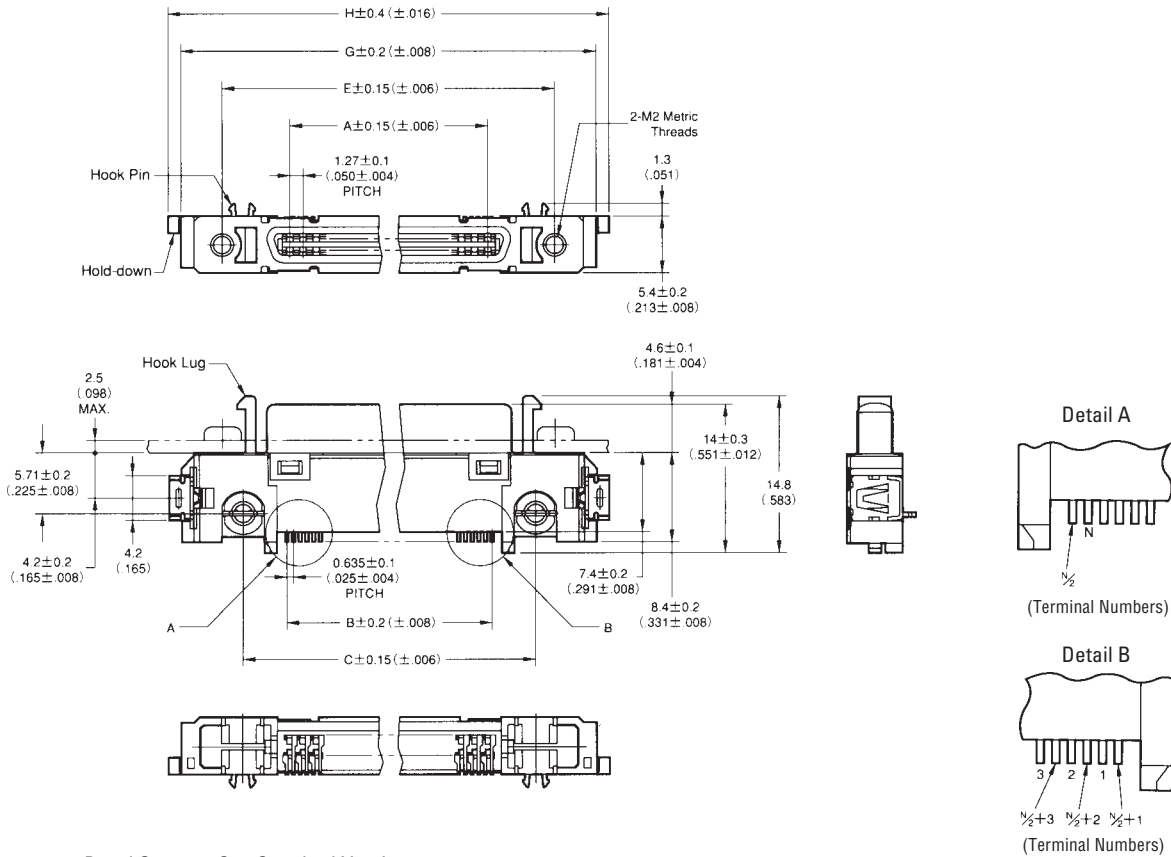
Dimensions in mm (inches).

TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

RECEPTACLE • RIGHT ANGLE SURFACE MOUNT TECHNOLOGY • REVERSE (SCREW/HOOK PIN/HOLD-DOWN/HOOK PIN AND HOLD-DOWN OPTIONS)

Note : Shown with hook pins and a hold-down mechanism.



- Panel Cut-out: See Standard Version.
- Refer to PCB Mounting Dimension Page.

No. of Contacts	Part Number (Note 1)	A ±0.15 (±.006)	B ±0.2 (±.008)	C ±0.15 (±.006)	D ±0.1 (±.004)	E	G ±0.2 (±.008)	H ±0.4 (±.016)
10	TX20A-10RV-D2GF1-A1L*	5.08 (.200)	5.715 (.225)	13.97 (.550)	15.48 (.609)	17.78 (.700)	25.48 (1.003)	27.88 (1.098)
14	TX20A-14RV-D2GF1-A1L*	7.62 (.300)	8.255 (.325)	16.51 (.650)	18.02 (.709)	20.32 (.800)	28.02 (1.103)	30.32 (1.194)
26	TX20A-26RV-D2GF1-A1L*	15.24 (.600)	15.875 (.625)	24.13 (.950)	25.64 (1.009)	27.94 (1.100)	35.64 (1.403)	37.94 (1.494)
36	TX20A-36RV-D2GF1-A1L*	21.59 (.875)	22.225 (.875)	30.48 (1.200)	31.99 (1.259)	34.29 (1.350)	41.99 (1.653)	44.29 (1.744)
50	TX20A-50RV-D2GF1-A1L*	30.48 (1.200)	31.115 (1.225)	39.37 (1.550)	40.88 (1.609)	43.18 (1.700)	50.88 (2.003)	53.18 (2.094)
68	TX20A-68RV-D2GF1-A1L*	41.91 (1.650)	42.545 (1.675)	50.80 (2.000)	52.31 (2.059)	54.61 (2.150)	62.31 (2.453)	64.61 (2.544)

Note 1: * Optional PCB mounting:

No letter: Screws, H: Hook pins, D: Hold-down mechanism, M: Hook pins and hold-down mechanism

Note 2: For hold-down mechanism version, screws are recommended to attach the connector on the board securely.

Dimensions in mm (inches).

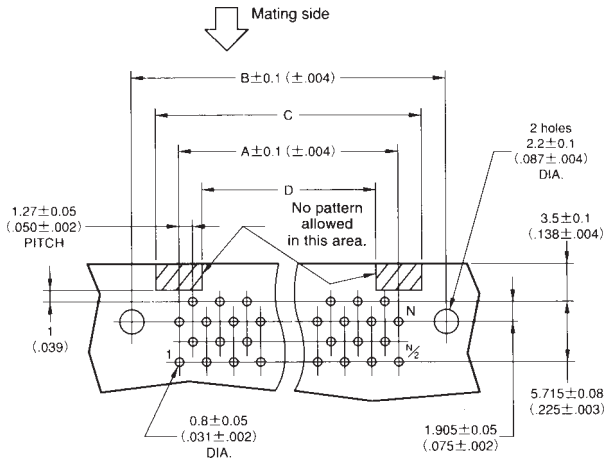
TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

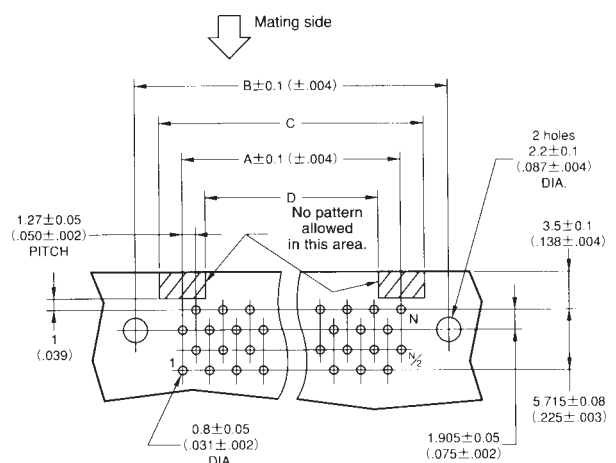
PCB MOUNTING DIMENSIONS (REF.)

THROUGH HOLE TYPE/PCB thickness 1.2mm (.047") or 1.6mm (.063")

10, 14, 26, 50 Contacts

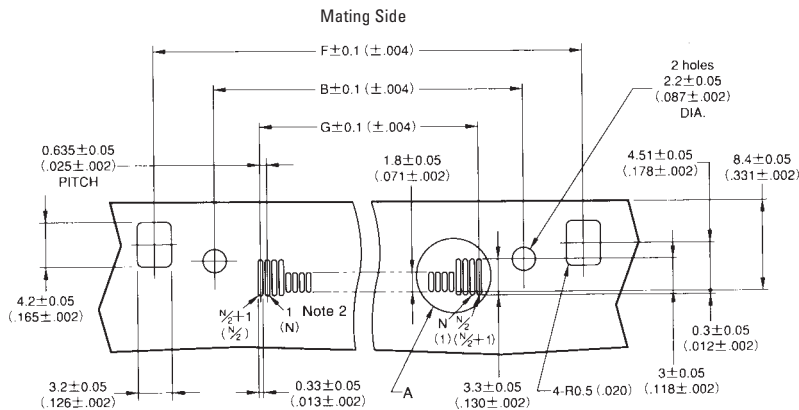


36, 68 Contacts



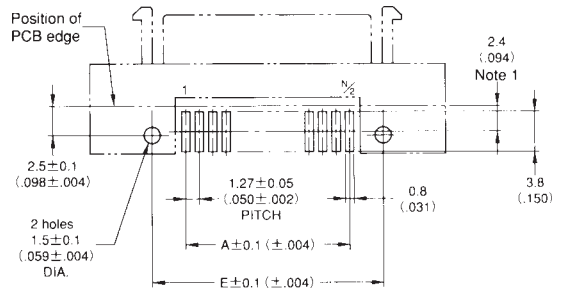
SURFACE MOUNT TECHNOLOGY TYPE

Right-Angle SMT/PCB thickness 0.7mm (.028") min.



Straddle SMT

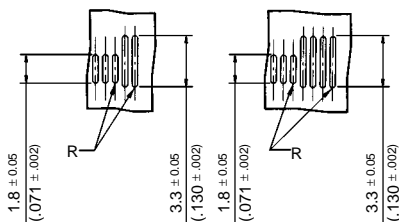
PCB thickness 1.0mm (.039")/1.2mm (.047")/1.6mm (.063")



Note 1: Dimension from the edge of PCB to the center of PCB pattern 3.8mm (.150")

Note 1: Shown with hook pins and a hold-down mechanism.
Note 2: Terminal numbers for a reverse type are given in parentheses.

Detail A 10, 14, 26, 36 Contacts 50, 68 Contacts



No. of Contacts	A ± 0.1 (± .004)	B ± 0.1 (± .004)	C	D	E ± 0.1 (± .004)	F ± 0.1 (± .004)	G ± 0.1 (± .004)
10	5.08 (.200)	13.97 (.550)	9.38 (.369)	—	11.43 (.450)	25.28 (.995)	5.715 (.225)
14	7.62 (.300)	16.51 (.650)	11.92 (.469)	3.32 (.131)	13.97 (.550)	27.82 (1.095)	8.255 (.325)
26	15.24 (.600)	24.13 (.950)	19.54 (.769)	10.94 (.431)	21.59 (.850)	35.44 (1.395)	15.875 (.625)
36	21.59 (.875)	30.48 (1.200)	25.89 (1.019)	17.29 (.681)	27.94 (1.100)	41.79 (1.645)	22.225 (.875)
50	30.48 (1.200)	39.37 (1.550)	34.78 (1.369)	26.18 (1.031)	—	50.68 (1.995)	31.115 (1.225)
68	41.91 (1.650)	50.80 (2.000)	46.21 (1.819)	37.61 (1.481)	—	62.11 (2.445)	42.545 (1.675)

Dimensions in mm (inches).

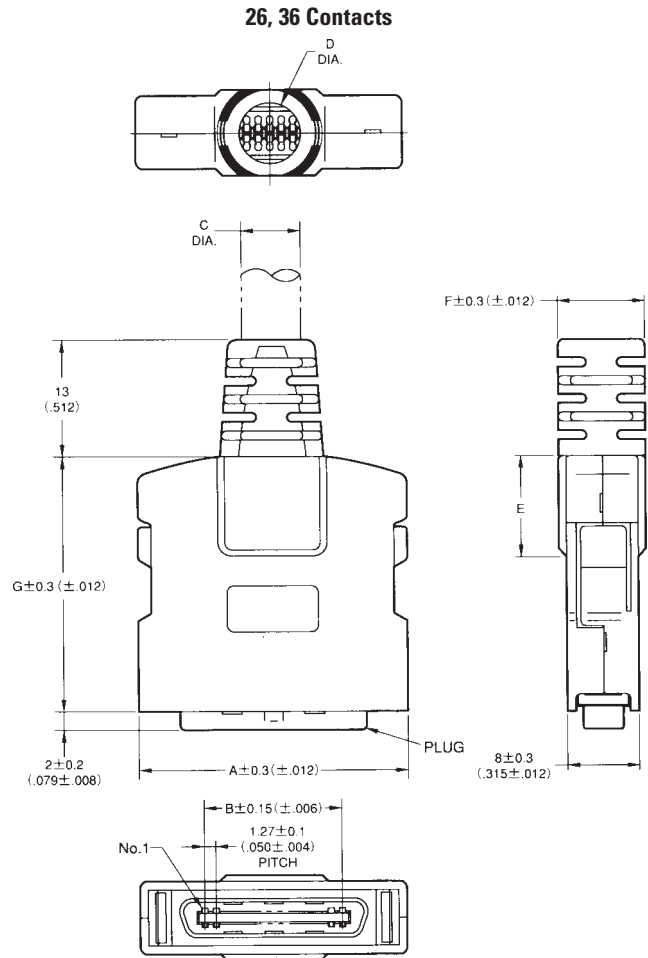
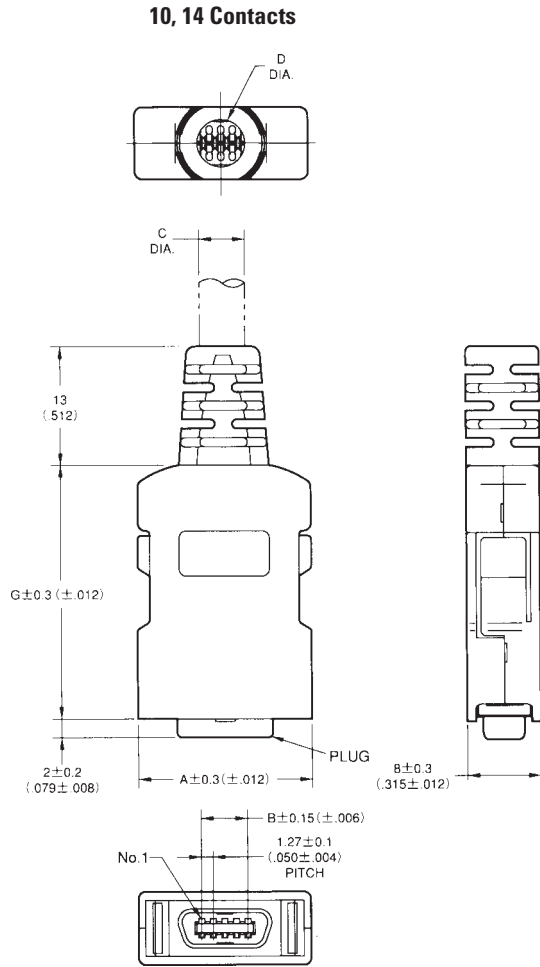
TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

PLUG WITH HOOD (IDC TERMINATION TYPE)

10, 14, 26, 36 Contacts

Note : The figures below show the plug assembled with the hood.
When items listed below are ordered, the plug and the hood are unassembled at delivery.



No. of Contacts	Part Number	A ± 0.3 (± .012)	B ± 0.15 (± .006)	C	D ± 0.4 (± .016)	E	F	G ± 0.3 (± .012)
10	TX20A-10PH1-D2P1-D1	19.08 (.751)	5.08 (.200)	5 (.197)	5.3 (.209)	—	—	28 (1.102)
14	TX20A-14PH1-D2P1-D1	21.62 (.851)	7.62 (.300)	5.5 (.217)	5.8 (.228)	—	—	28 (1.102)
26	TX20A-26PH1-D2P1-D1	29.24 (1.151)	15.24 (.600)	6.5 (.256)	6.8 (.268)	11 (.433)	9.5 (.374)	28 (1.102)
36	TX20A-36PH1-D2P1-D1	35.59 (1.401)	21.59 (.850)	7.2 (.283)	7.5 (.295)	11.5 (.453)	10.2 (.402)	28 (1.102)

Dimensions in mm (inches).

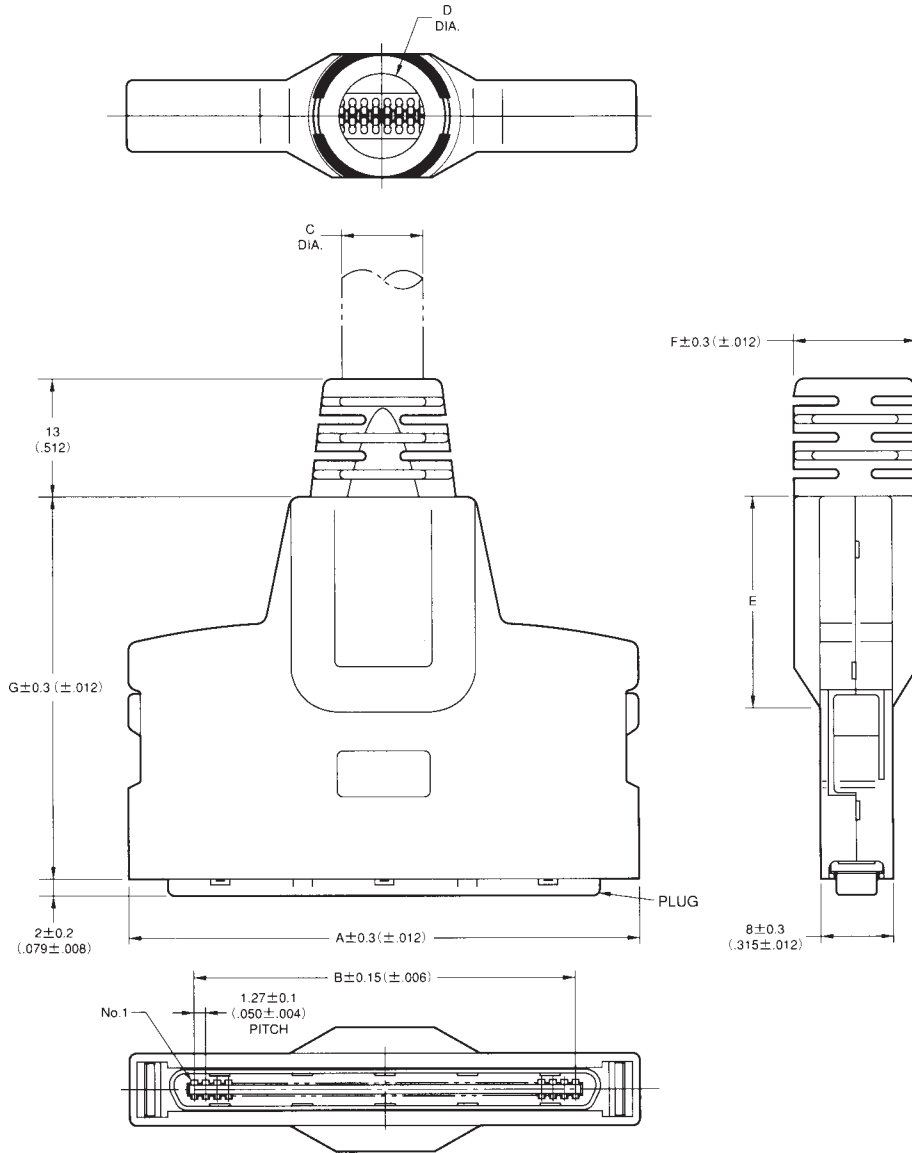
TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

PLUG WITH HOOD (IDC TERMINATION TYPE)

50, 68 Contacts

Note : The figures below show the plug assembled with the hood.
When items listed below are ordered, the plug and the hood are unassembled at delivery.



No. of Contacts	Part Number	A ± 0.3 (± .012)	B ± 0.15 (± .006)	C	D ± 0.4 (± .016)	E	F	G ± 0.3 (± .012)
50	TX20A-50PH1-D2P1-D1	44.48 (1.751)	30.48 (1.200)	8 (.315)	8.3 (.327)	21.5 (.846)	11 (.433)	36 (1.417)
68	TX20A-68PH1-D2P1-D1	55.91 (2.201)	41.91 (1.650)	8.8 (.346)	9.1 (.358)	23.5 (.925)	13.6 (.535)	42 (1.654)

Dimensions in mm (inches).

TX20A SERIES CONNECTORS

1.27mm (.050") Contact Spacing, PCB-to-Cable (IDC Type) Connectors

TERMINATION TOOLING

■ IDC MACHINE

Semi-Automatic IDC Machine (With Wire Number Detecting Device)

Part Numbers:

Main Unit: SP350-2-TX20A

Attachment: AT3**-TX20A-2

(Use a specific attachment depending on the number of contacts.)

Note 1: This machine is composed of two parts: the main unit and attachment.

Note 2: When ordering, enter the number of contacts in place of the two asterisks (**) on the Part No. of attachment.

- Semi-automatic IDC termination machine to terminate discrete wires to IDC type plug connectors.
- The wire No. detector avoids error in wiring.

Table-Top Hand IDC Machine

Part Numbers:

Press: CP110-3

Applicator: MT250-TX20A-2B

Attachment: AT2**-TX20A-2

(Use a specific attachment depending on the number of contacts.)

Note 1: This machine is composed of three parts: press, applicator and attachment.

Note 2: When ordering, enter the number of contacts in place of the two asterisks (**) of the Part No. of attachment.

- Table-top IDC termination machine to easily terminate discrete wires to IDC type plug connectors.
- By changing the attachment (option), you can terminate any number of contacts.

Table-Top Sheath Crimping Machine

Part Number: HT205-2-TX20A-**-**

Note : When ordering, enter the number of contacts in place of the two asterisks (**) of the part No.

- The wire-terminated plug is housed in the backshell. The sheath of the shielded cable is then crimped by this machine.

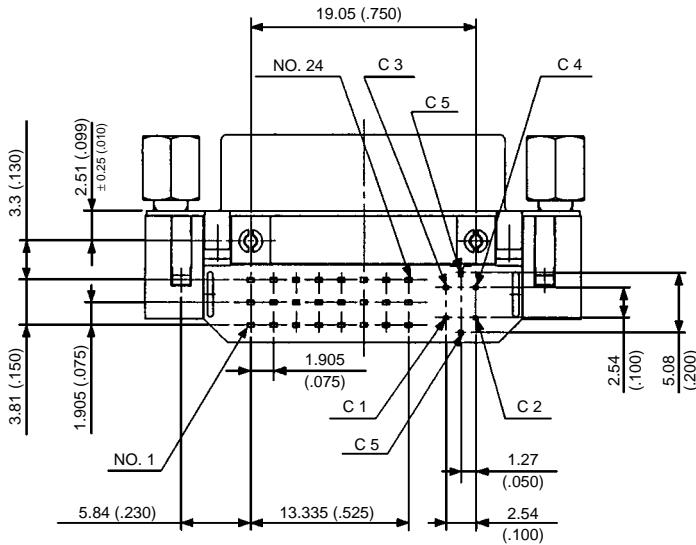
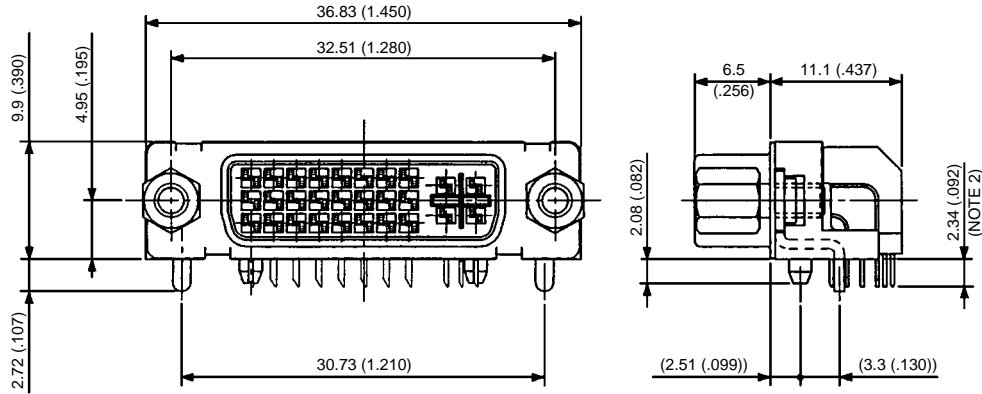
* Please consult JAE for details including IDC termination machines and operation manuals.

Consult JAE for details.

DV2 SERIES CONNECTORS

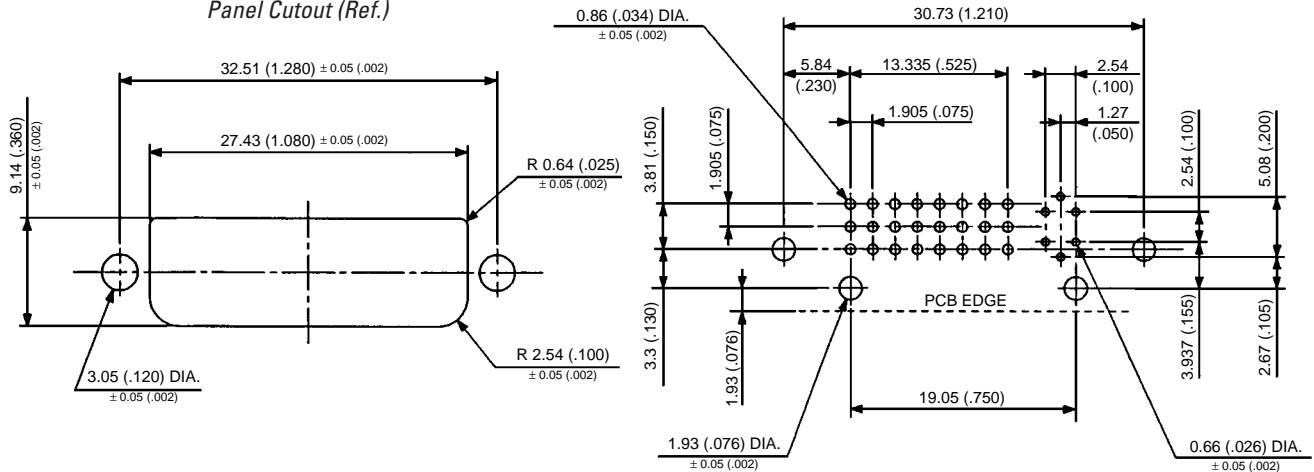
1.905mm (.075") Contact Spacing, EMI Shielded, PCB-to-Cable Connectors

RECEPTACLE: DV2R029N** • Analog & Digital



Applicable PCB Layout (Ref.)

Panel Cutout (Ref.)

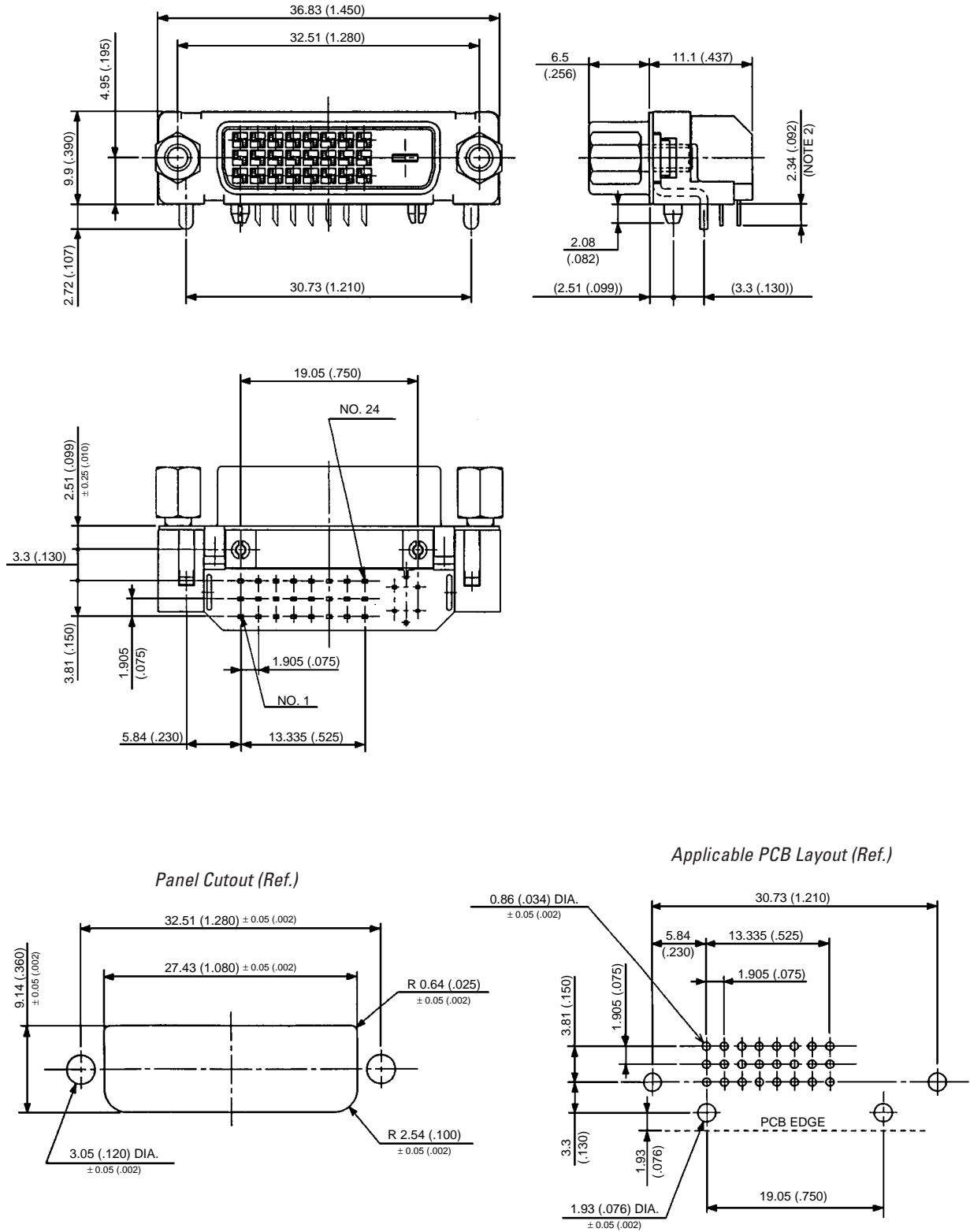


Dimensions in mm (inches).

DV2 SERIES CONNECTORS

1.905mm (.075") Contact Spacing, EMI Shielded, PCB-to-Cable Connectors

RECEPTACLE: DV2R024N** • Digital

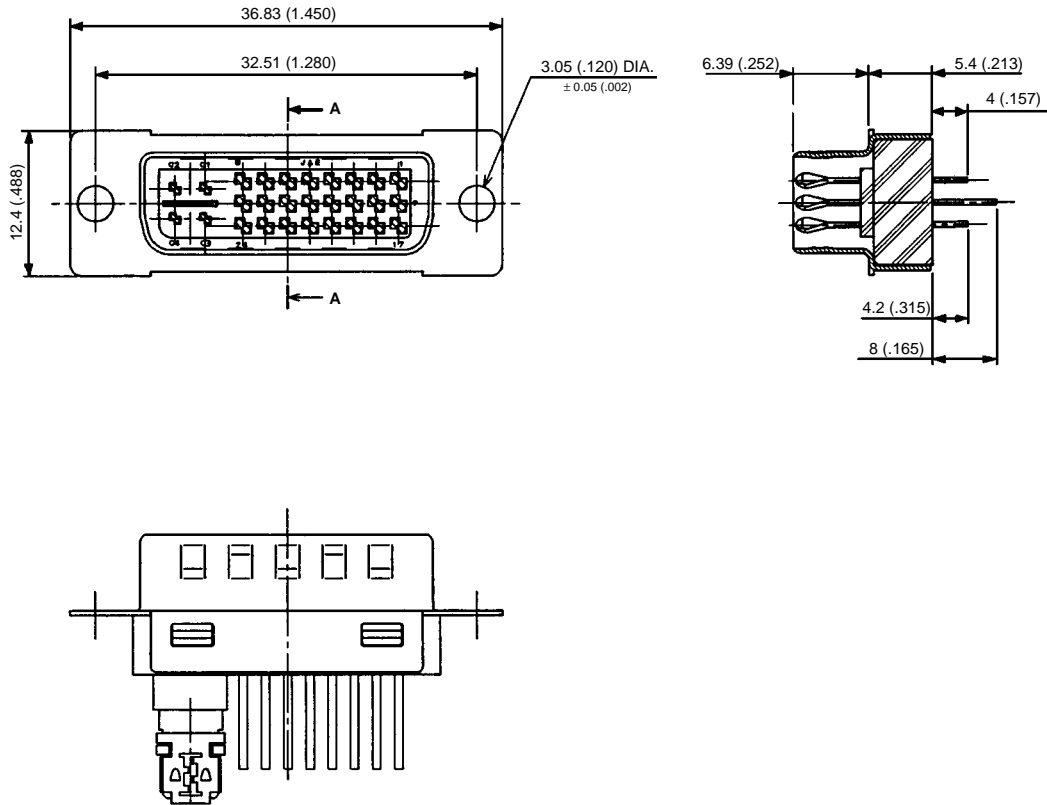


Dimensions in mm (inches).

DV2 SERIES CONNECTORS

1.905mm (.075") Contact Spacing, EMI Shielded, PCB-to-Cable Connectors

PLUG: DV2P***M11



Dimensions in mm (inches).

D30/D31 SERIES CONNECTORS

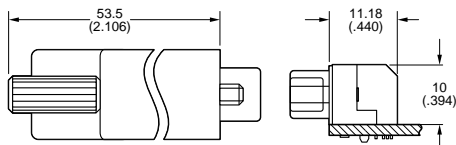
1.905mm (.075") Contact Spacing, P&D EMI Shielded PCB-to-Cable Connectors



FEATURES

- Meets VESA P&D standard
- Eliminates the need for up to seven different connectors by combining many functions into one connector system
- 30 signal contacts and four quasi-coaxial contacts
- Signal contacts support IEEE1394 and USB serial bus standards
- Four pin quasi-coaxial circuit provides impedance control, decreases crosstalk and permits high speed video signal transmission
- EMI shielded receptacles include two levels of "first make/last break" contacts

Connector Profile (Ref.)



The D30/D31 Series P&D connectors allow a monitor or flat panel to be used as an I/O hub for high frequency multimedia computer applications. D30/D31 P&D Series connectors meet or exceed the requirements of the Video Electronics Standards Association (VESA) Plug and Display standard and provide support for Transmission Minimized Differential Signal (TMDS) specified in the standard.

GENERAL SPECIFICATIONS

Number of Contacts	30 signal contacts, 4 coaxial contacts
Contact Spacing	1.905mm (.075")
Current Rating	
Signal Contacts	3 Amps
Coaxial Contacts	1 Amp
Dielectric Withstanding Voltage	500 VAC r.m.s. (for one minute)
Insulation Resistance	1,000 megohms min.
Contact Resistance	25 milliohms max.
Operating Temperature	-25°C to +85°C
Applicable Wire Size	
Signal Contacts	#22~30 AWG
Quasi-Coaxial Contacts	#30 AWG, 75 ohms RGB coaxial cable

MATERIALS AND FINISHES

• Plug

Description	Materials/Finishes
Signal Contact	Copper Connecting area: 0.76µm (.00030") Gold over Nickel Terminal area: Tin/Lead Plating
Coaxial Contact	Copper Connecting area: 0.76µm (.00030") Gold over Nickel Terminal area: Tin/Lead Plating
Coaxial Ground Contact	Copper Connecting area: 0.76µm (.00030") Gold over Nickel Terminal area: Tin/Lead Plating (D31-P30: Gold flash)
Insulator	PPS (UL94V-0, Black)
Shell	Steel, Tin Plated
Clip	Copper Alloy, Tin Plating
Backshell Cover and Base	Stainless Steel
Clamp Barrel	Copper Alloy, Nickel Plating
Hood	Polycarbonate (UL94V-0, Ivory)
Screw Lock	Steel, Nickel Plating

Dimensions and specifications subject to change without notice.

D30/D31 SERIES CONNECTORS

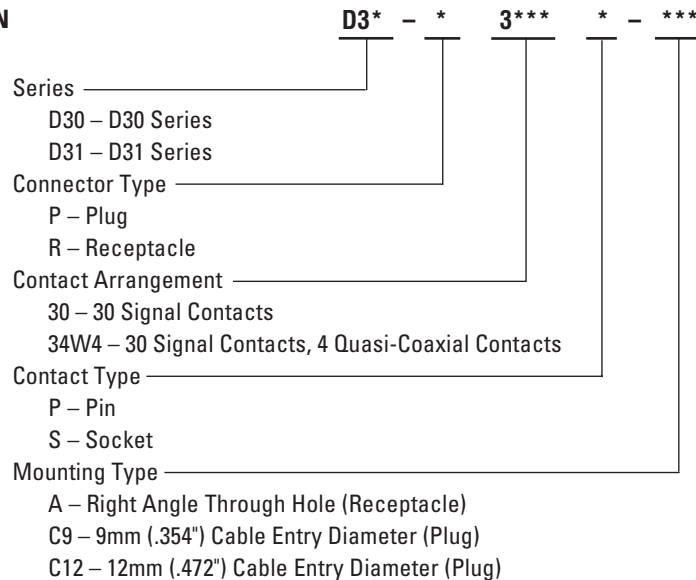
1.905mm (.075") Contact Spacing, P&D EMI Shielded PCB-to-Cable Connectors

MATERIALS AND FINISHES

• Receptacle

Description	Materials/Finishes
Signal Contact	Copper Connecting area: 0.76µm (.00030") Gold over Nickel Terminal area: Tin/Lead Plating
Coaxial Inner Contact	Copper Connecting area: 0.76µm (.00030") Gold over Nickel Terminal area: Tin/Lead Plating
Coaxial Ground Contact	Copper Connecting area: 0.76µm (.00030") Gold over Nickel Terminal area: Tin/Lead Plating (D31-P30: Gold flash)
Insulator	PPS (UL94V-0, Black)
Location Plate	PPS (UL94V-0)
Ground Rug	Copper Alloy, Tin Plating
Screw Lock	Steel, Nickel Plating

ORDERING INFORMATION



Dimensions in mm (inches).

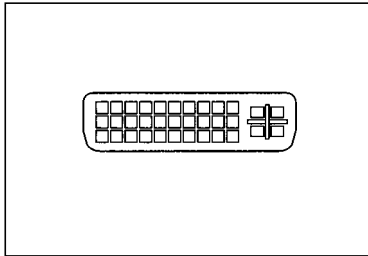


D30/D31 SERIES CONNECTORS

1.905mm (.075") Contact Spacing, P&D EMI Shielded PCB-to-Cable Connectors

RECEPTACLE

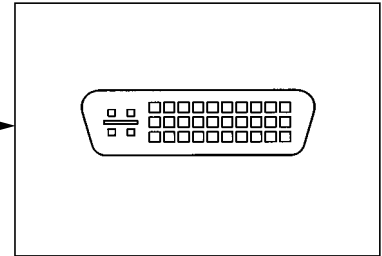
D31 (P&D-AD Analog/Digital)
D31-R34W4SA



Contact layout at mating interface

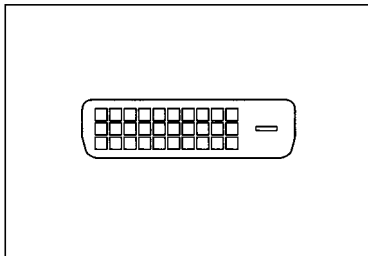
PLUG

D30 (P&D-A Analog)
D30-P34W4P-C12



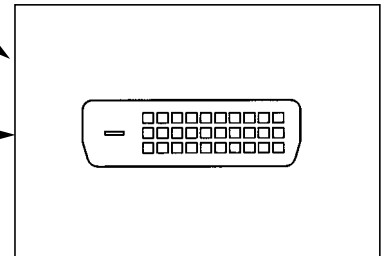
Contact layout at mating interface

D31 (P&D-D Digital)
D31-R30SA



Contact layout at mating interface

D31 (P&D-D Digital)
D31-P30P-C9



Contact layout at mating interface

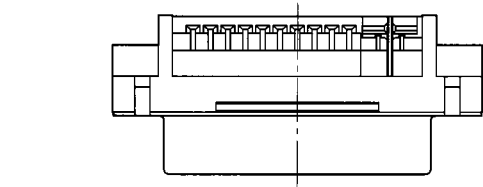
Dimensions in mm (inches).

D30/D31 SERIES CONNECTORS

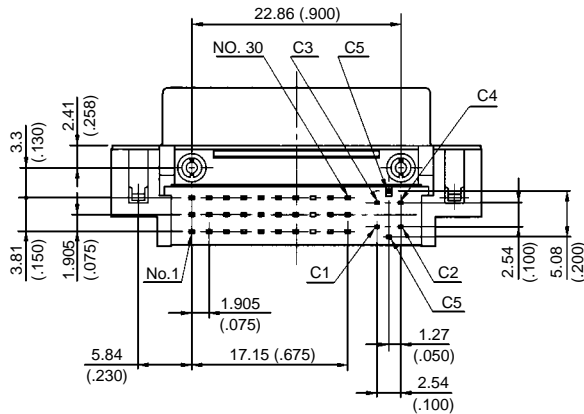
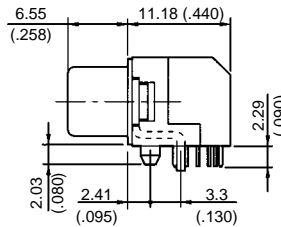
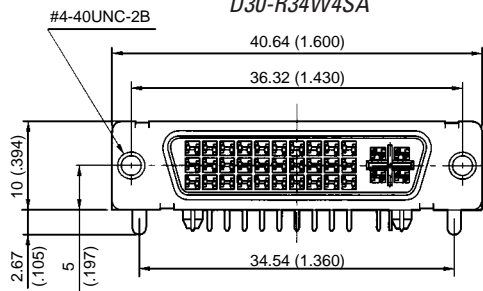
1.905mm (.075") Contact Spacing, P&D EMI Shielded PCB-to-Cable Connectors

Part Number	Application	Pin Count
D30-R34W4SA	Analog	30 Signal Contacts, 4 Coax
D31-R34W4SA	Analog/Digital	30 Signal Contacts, 4 Coax
D31-R30SA	Digital	30 Signal Contacts

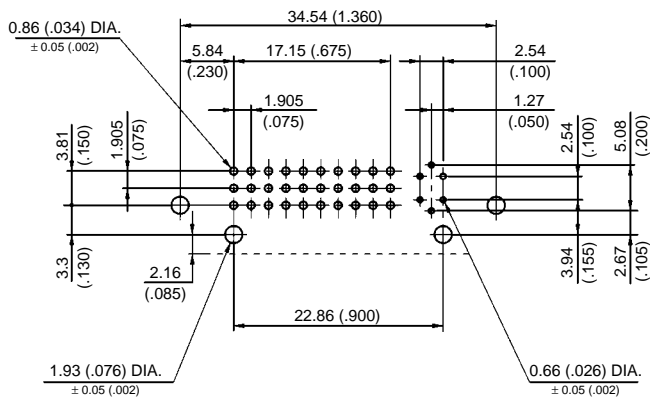
RECEPTACLE



D30-R34W4SA

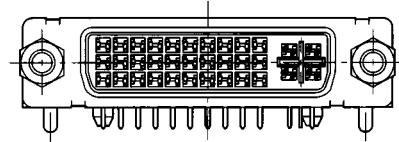


PCB Layout (Ref.)
PCB Thickness: 1.6mm (.063")

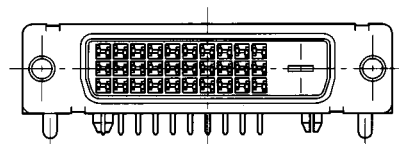


D31 Face Area

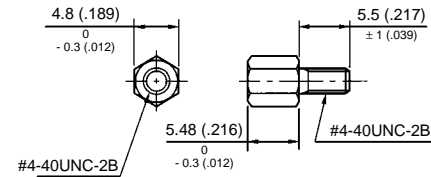
D31-R34W4SA



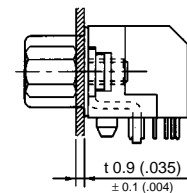
D31-R30SA



Screwlock (attached)

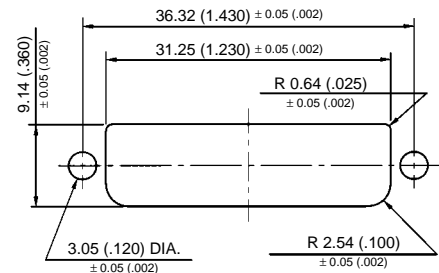


Screwlock Mounted View



Panel Cutout (Ref.)

Panel Thickness: 0.9mm (.035")



Note: For D31-R30SA: No coax cutout for C1-C6.

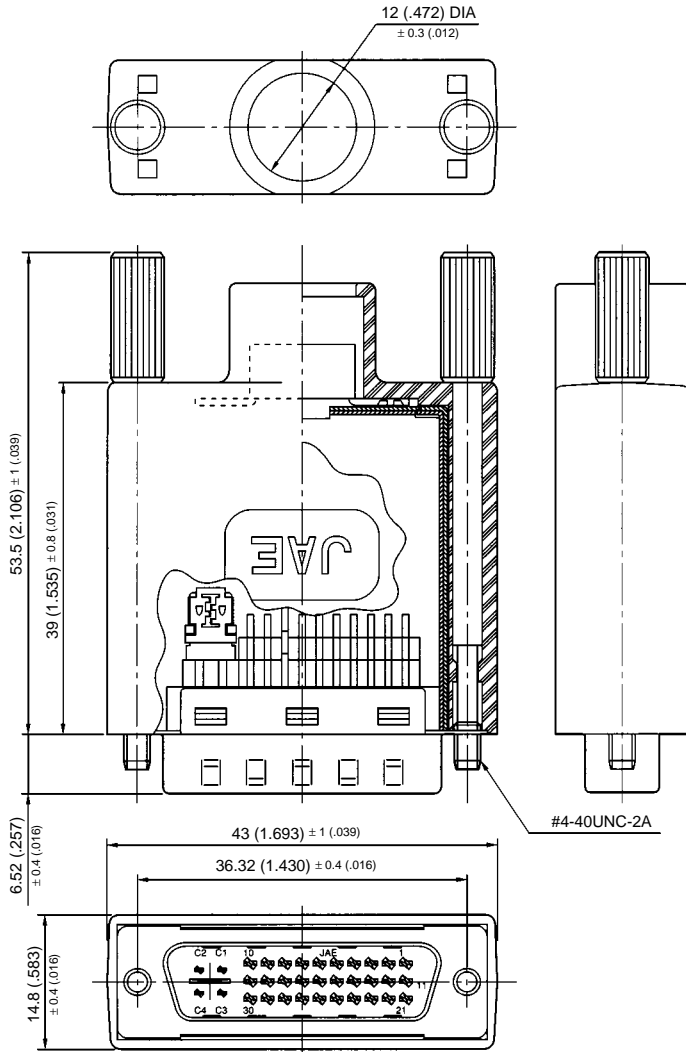
Dimensions in mm (inches).

D30/D31 SERIES CONNECTORS

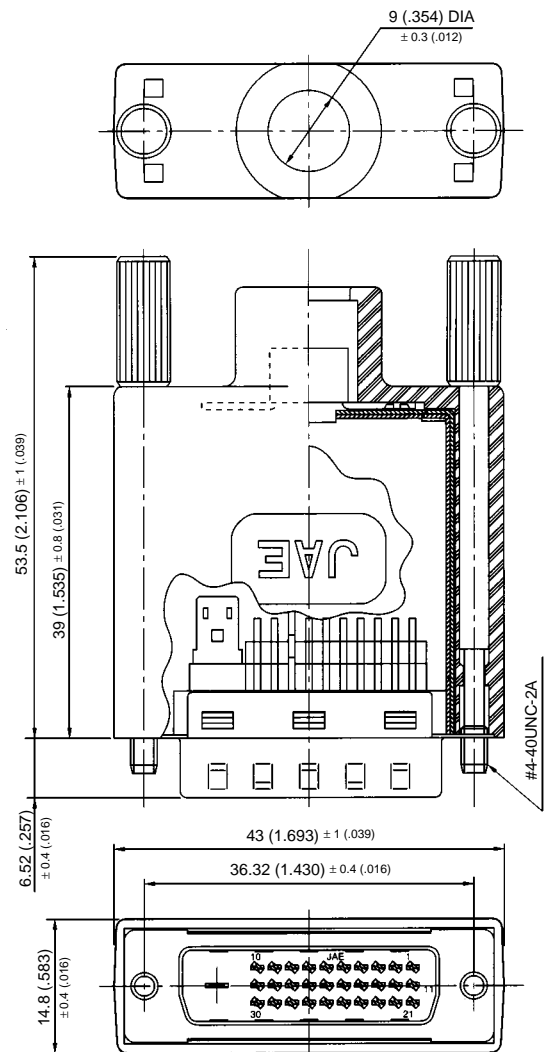
1.905mm (.075") Contact Spacing, P&D EMI Shielded PCB-to-Cable Connectors

PLUG

**D30 Analog
30 Signal/4 Coax
Part Number: D30-P34W4P-C12**



**D31 Digital
30 Signal
Part Number: D31-P30P-C9**



Dimensions in mm (inches).

JL04V SERIES CONNECTORS

Waterproof, Wire Soldering Type, Circular Connectors

ORDERING INFORMATION

	(Receptacle)	JL04V	-	2	*	**	-	**	*	E	-	B	
	(Plug)	JL04V	-	*	A	**	-	**	*	E			EB
Series	_____												
Connector Type	_____												
2 – Receptacle													
6 – Straight Plug													
8 – Right Angle Plug													
Waterproof	_____												
E – Waterproof													
A – Waterproof During Mating Only													
Shell Size	_____												
10 SL, 18, 20, 22, 24, 28, 32													
Contact Arrangement	_____												
(Ref. page xxx-xxx)													
Contact Type	_____												
P – Pin Contact													
S – Socket Contact													
With Protective Grounding Contact	_____												
Outer Shell Color	_____												
B – Black													
Endbell	_____												
EB – With Endbell													
Blank – Without Endbell													

Dimensions and specifications subject to change without notice.

JL04V SERIES CONNECTORS

Waterproof, Wire Soldering Type, Circular Connectors

PART NUMBERS

Contact Arrangement	Receptacle (Pin Insert)	Plug (Socket Insert)		Cable Clamp TÜV Certified
	TÜV Certified	Type	TÜV Certified	
10SL-3	JL04V-2E10SL-3PE-B	Straight without Endbell	JL04V-6A10SL-3SE	Conduit
		Straight	JL04V-6A10SL-3SE-EB	JL04-1012CK (05)
		Right Angle	JL04V-8A10SL-3SE-EB	or Conduit
18-10	JL04V-2E18-10PE-B	Straight without Endbell	JL04V-6A18-10SE	Conduit
		Straight	JL04V-6A18-10SE-EB	JL04-18CK (13)
		Right Angle	JL04V-8A18-10SE-EB	or Conduit
18-12	JL04V-2E18-12PE-B	Straight without Endbell	JL04V-6A18-12SE	Conduit
		Straight	JL04V-6A18-12SE-EB	JL04-18CK (13)
		Right Angle	JL04V-8A18-12SE-EB	or Conduit
20-4	JL04V-2E20-4PE-B	Straight without Endbell	JL04V-6A20-4SE	Conduit
		Straight	JL04V-6A20-4SE-EB	JL04-2022CK (14)
		Right Angle	JL04V-8A20-4SE-EB	or Conduit
20-15	JL04V-2E20-15PE-B	Straight without Endbell	JL04V-6A20-15SE	Conduit
		Straight	JL04V-6A20-15SE-EB	JL04-2022CK (14)
		Right Angle	JL04V-8A20-15SE-EB	or Conduit
22-22	JL04HV-2E22-22PE-B	Straight without Endbell	JL04V-6A22-22SE	Conduit
		Straight	JL04V-6A22-22SE-EB	JL04-2022CK (14)
		Right Angle	JL04V-8A22-22SE-EB	or Conduit
22-23	JL04V-2E22-23PE-B	Straight without Endbell	JL04V-6A22-23SE	Conduit
		Straight	JL04V-6A22-23SE-EB	JL04-2022CK (14)
		Right Angle	JL04V-8A22-23SE-EB	or Conduit
24-10	JL04V-2E24-10PE-B	Straight without Endbell	JL04V-6A24-10SE	Conduit
		Straight	JL04V-6A24-10SE-EB	JL04-2428CK (17)
		Right Angle	JL04V-8A24-10SE-EB	or Conduit
24-10 (G)	JL04V-2E24-10PE(G)-B	Straight without Endbell	JL04V-6A24-10SE(G)	Conduit
		Straight	JL04V-6A24-10SE(G)-EB	JL04-2428CK (17)
		Right Angle	JL04V-8A24-10SE(G)-EB	or Conduit
24-11	JL04V-2E24-11PE-B	Straight without Endbell	JL04V-6A24-11SE	Conduit
		Straight	JL04V-6A24-11SE-EB	JL04-2428CK (17)
		Right Angle	JL04V-8A24-11SE-EB	or Conduit
28-11 (Note 1)	JL04V-2A28-11*E	Straight without Endbell	JL04V-6A28-11*E	Conduit
		Straight	JL04V-6A28-11*E-EB	JL04-2428CK (17)
		Right Angle	JL04V-8A28-11*E-EB	or Conduit
32-17	JL04V-2E32-17PE-B	Straight without Endbell	JL04V-6A32-17SE	Conduit


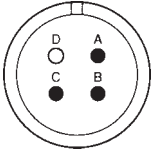
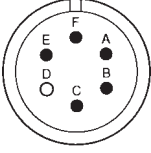
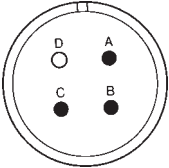
Note 1: Pin and socket inserts are available for both receptacle and plug with contact arrangement 28-11.
Add contact type code to *. (P – Pin, S – Socket)

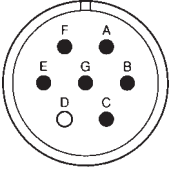
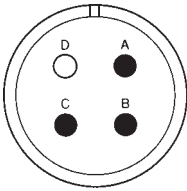
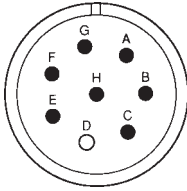
Dimensions in mm (inches).

JL04V SERIES CONNECTORS

Waterproof, Wire Soldering Type, Circular Connectors

CONTACT ARRANGEMENT

Arrangement	10SL-3	18-10	18-12	20-4
Contact Arrangement (View from Pin Insert Mating Side) (Note 2)				
Size x No. of Contact	#16 x 3	#12 x 4	#16 x 6	#12 x 4
Current Rating (Note 1)	13A (34.5A) max.	23A (76.2A) max.	13A (55.6A) max.	23A (76.2A) max.
Rated Voltage	200 VAC rms	250 VAC rms	250 VAC rms	250 VAC rms
D.W.V. (for one minute)	2,000 VAC rms	2,000 VAC rms	2,000 VAC rms	2,000 VAC rms
Applicable Wire (Cross Section)	1.25mm ² max. (Receptacle/2E: 0.5mm ² max.)	3.5mm ² max.	1.25mm ² max.	3.5mm ² max.
Grounding Contact	C Contact	D Contact	D Contact	D Contact
TÜV Certification No.	R9451302	R9351091	R9551021	R9551022

Arrangement	20-15	22-22	22-23
Contact Arrangement (View from Pin Insert Mating Side) (Note 2)			
Size x No. of Contact	#12 x 7	#8 x 4	#12 x 8
Current Rating (Note 1)	23A (105.7A) max.	46A (152.5A) max.	23A (110.4A) max.
Rated Voltage	250 VAC rms	250 VAC rms	250 VAC rms
D.W.V. (for one minute)	2,000 VAC rms	2,000 VAC rms	2,000 VAC rms
Applicable Wire (Cross Section)	3.5mm ² max.	5.5mm ² max.	3.5mm ² max.
Grounding Contact	D Contact	D Contact	D Contact
TÜV Certification No.	R9551022	R9351189	R9551327

Note 1: Current Rating for one contact. Total Current Rating is in parenthesis.

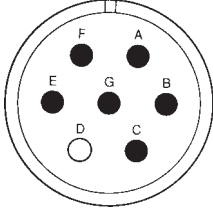
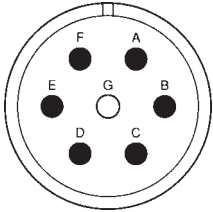
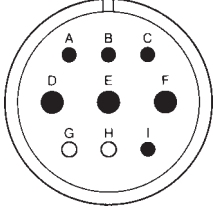
Note 2: ○ in sketch indicates Grounding Contact.

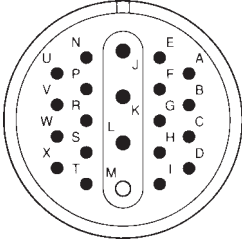
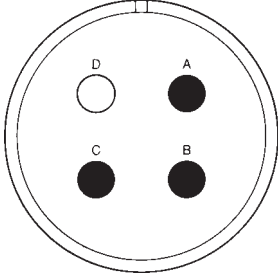
Dimensions in mm (inches).

JL04V SERIES CONNECTORS

Waterproof, Wire Soldering Type, Circular Connectors

CONTACT ARRANGEMENT

Arrangement	24-10	24-10 (G)	24-11
Contact Arrangement (View from Pin Insert Mating Side) (Note 2)			
Size x No. of Contact	#8 x 7	#8 x 7	#8 x 3, #12 x 6
Current Rating (Note 1)	46A (211.5A) max.	46A (211.5A) max.	#8: 46A, #12: 23A (149.8A) max.
Rated Voltage	250 VAC rms	250 VAC rms	250 VAC rms
D.W.V. (for one minute)	2,000 VAC rms	2,000 VAC rms	2,000 VAC rms
Applicable Wire (Cross Section)	5.5mm ² max.	5.5mm ² max.	#8: 5.5mm ² max. #12: 3.5mm ² max.
Grounding Contact	D Contact	G Contact (Note 3)	G, H Contact (Note 4)
TÜV Certification No.	R9451242	R9451242	R9451243

Arrangement	28-11	32-17
Contact Arrangement (View from Pin Insert Mating Side) (Note 2)		
Size x No. of Contact	#12 x 4, #16 x 18	#4 x 4
Current Rating (Note 1)	#12: 23A, #16: 13A (65.2A) max.	80A (265.2A) max.
Rated Voltage	#12: 250 VAC rms, #16: 100 VAC rms	250 VAC rms
D.W.V. (for one minute)	2,000 VAC rms	2,000 VAC rms
Applicable Wire (Cross Section)	#12: 3.5mm ² max. #16: 1.25mm ² max.	22mm ² max.
Grounding Contact	M Contact	D Contact
TÜV Certification No.	R9451477	R9551023

Note 3: Grounding Contact connects with outer metal shell except for contact arrangement 24-10 (G), 2E Type receptacle.

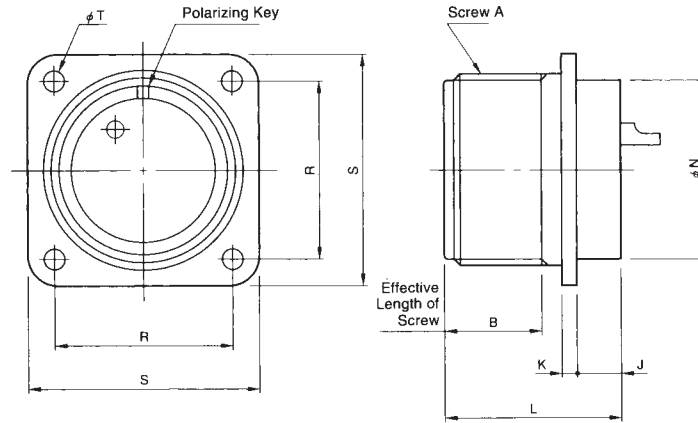
Note 4: Divide wire into two for Grounding Contacts G and H.

Dimensions in mm (inches).

JL04V SERIES CONNECTORS

Waterproof, Wire Soldering Type, Circular Connectors

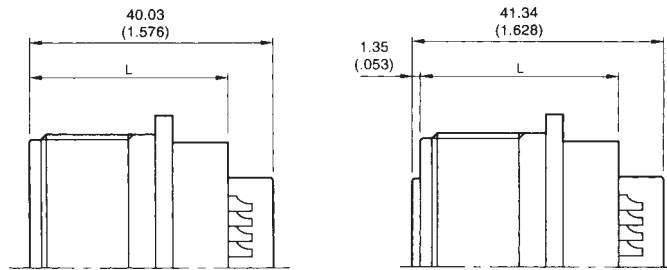
TÜV CERTIFIED • JL04V
JL04V-2E • Receptacle (Pin Insert) • Waterproof Type



Ref: Contact Arrangement "28-11"

Pin Side

Socket Side



Part Number	Contact Arrangement		A Screw	B min.	K ±0.3 (±0.12)	J	L	øN 0 (0) -0.4 (-.016)	R ±0.13 (.005)	S ±0.79 (±0.31)	øT +0.2 (+.008) -0.1 (-.004)
	Arrangement Code	Size x No. of Contacts									
JL04V-2E10SL-3PE-B	10SL-3	#16 x 3	5/8 -24UNEF-2A	9.5 (.374)	2.1 (.083)	7 (.276)	23.4 (.921)	15.8 (.622)	18.26 (.719)	25.4 (1.000)	3.1 (.122)
JL04V-2E18-10PE-B	18-10	#12 x 4	1-1/8 -18UNEF-2A	15.9 (.626)	2.7 (.106)	8.25 (.325)	30 (1.181)	27 (1.063)	26.97 (1.062)	34.9 (1.374)	3.1 (.122)
JL04V-2E18-12PE-B	18-12	#16 x 6	1-1/8 -18UNEF-2A	15.9 (.626)	2.7 (.106)	6.45 (.254)	28.2 (1.110)	24.85 (.978)	26.97 (1.062)	34.9 (1.374)	3.1 (.122)
JL04V-2E20-4PE-B	20-4	#12 x 4	1-1/4 -18UNEF-2A	15.9 (.626)	2.7 (.106)	7.05 (.278)	28.8 (1.134)	29.6 (1.165)	29.36 (1.156)	38.1 (1.500)	3.1 (.122)
JL04V-2E20-15PE-B	20-15	#12 x 7									
JL04HV-2E22-22PE-B	22-22	#8 x 4	1-3/8 -18UNEF-2A	15.9 (.626)	2.7 (.106)	9.1 (.358)	30.85 (1.215)	33 (1.299)	31.75 (1.250)	41.3 (1.626)	3.1 (.122)
JL04V-2E22-23PE-B	22-23	#12 X 8	1-3/8 -18UNEF-2A	15.9 (.626)	2.7 (.106)	7.05 (.278)	28.8 (1.134)	32 (1.260)	31.75 (1.250)	41.3 (1.626)	3.1 (.122)
JL04V-2E24-10PE-B	24-10	#8 x 7	1-1/2 -18UNEF-2A	15.9 (.626)	2.7 (.106)	9.1 (.358)	32.45 (1.278)	36 (1.417)	34.92 (1.375)	44.4 (1.748)	3.73 (.147)
JL04V-2E24-10PE(G)-B	24-10 (G)										
JL04V-2E24-11PE-B	24-11	#8 x 3, #12 x 6									
JL04V-2A28-11PE JL04V-2A28-11SE**	28-11	#12 x 4 #16 x 18	1-3/4 -18UNS-2A	15.9 (.626)	2.7 (.106)	9.38 (.369)	32.7 (1.287)	41.5 (1.634)	39.67 (1.562)	50.8 (2.000)	3.75 (.148)
JL04V-2E32-17PE-B	32-17	#4 x 4	2 -18UNS-2A	15.9 (.626)	4 (.157)	6.45 (.254)	32.7 (1.287)	47.85 (1.884)	44.45 (1.750)	57.2 (2.252)	4.4 (.173)

*Note 1: Grounding Contact does not connect with shell.

**Note 2: Socket insert type mating with pin insert type plug.

***Note 3: Contact arrangement 28-11 is waterproof only when mated.

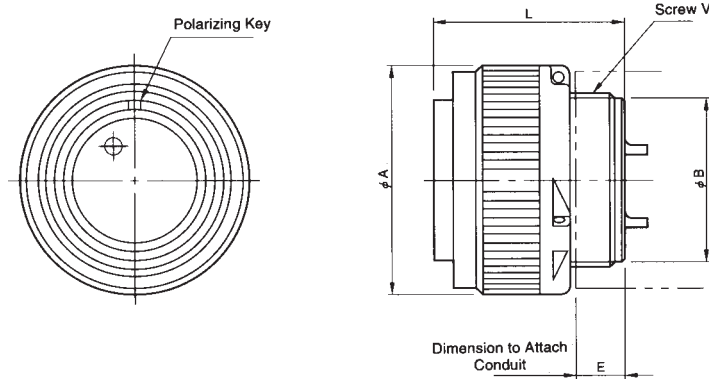
Dimensions in mm (inches).

JL04V SERIES CONNECTORS

Waterproof, Wire Soldering Type, Circular Connectors

TÜV CERTIFIED • JL04V

JL04V-6A • Straight Plug Without Endbell (Socket Insert) • Waterproof Type (Mated Condition)



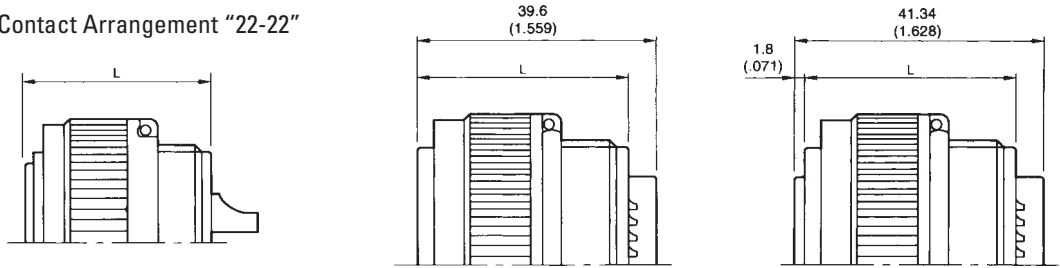
Note: For use with conduit.

Ref: Contact Arrangement "28-11"

Pin Side

Socket Side

Ref: Contact Arrangement "22-22"



Part Number	Contact Arrangement		ϕA $\pm 0.8 (\pm .031)$	ϕB $\pm 0.2 (\pm .008)$	L $\pm 0.4 (\pm .016)$	E max.	V Screw
	Arrangement Code	Size x No. of Contacts					
JL04V-6A10SL-3SE	10SL-3	#16 x 3	22.0 (.866)	12.5 (.492)	23.54 (.927)	5.5 (.217)	9/16- 24UNEF-2A
JL04V-6A18-10SE	18-10	#12 x 4	34.1 (1.343)	23.6 (.929)	30.4 (1.197)	7.5 (.295)	1- 20UNEF-2A
JL04V-6A18-12SE	18-12	#16 x 6					
JL04V-6A20-4SE	20-4	#12 x 4	37.3 (1.469)	27.0 (1.063)	31.5 (1.240)	8 (.315)	1-1/8- 18UNEF-2A
JL04V-6A20-15SE	20-15	#12 x 7					
JL04V-6A22-22SE	22-22	#8 x 4	40.5 (1.594)	29.7 (1.169)	31.2 (1.228)	8 (.315)	1-1/4- 18UNEF-2A
JL04V-6A22-23SE	22-23	#12 x 8			31.5 (1.240)		
JL04V-6A24-10SE	24-10	#8 x 7	43.7 (1.720)	32.9 (1.295)	35 (1.378)	10 (.394)	1-3/8- 18UNEF-2A
JL04V-6A24-10SE(G)	24-10 (G)						
JL04V-6A24-11SE	24-11	#8 x 3, #12 x 6	49.94 (1.966)	39.3 (1.547)	35 (1.378)	10 (.394)	1-5/8- 18UNEF-2A
JL04V-6A28-11SE JL04V-6A28-11PE*	28-11	#12 x 4 #16 x 18					
JL04V-6A32-17SE	32-17	#4 x 4	56.3 (2.216)	45.4 (1.787)	35.8 (1.409)	10 (.394)	1-7/8- 16UN-2A

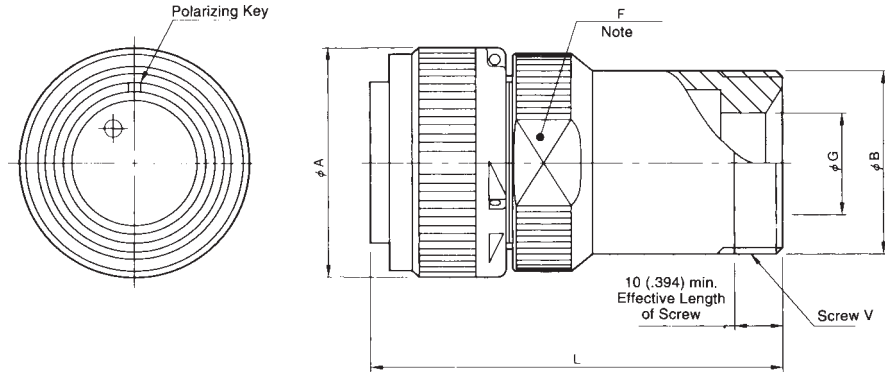
*Note 1: Pin insert type mating with socket insert type receptacle.

Dimensions in mm (inches).

JL04V SERIES CONNECTORS

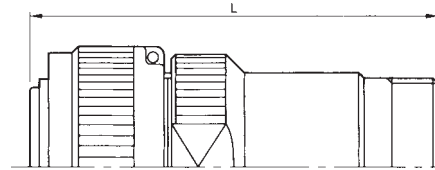
Waterproof, Wire Soldering Type, Circular Connectors

TÜV CERTIFIED • JL04V
JL04V-6A-EB • Straight Plug (Socket Insert) • Waterproof Type (Mated Condition)



Note: Dimension F – Distance between beveled edges.

Ref: Contact Arrangement "22-22", "28-11SE"



Part Number	Contact Arrangement		øA ± 0.8 (± .031)	øB ± 0.2 (± .008)	L ± 0.8 (± .031)	F ± 0.5 (± .020)	øG ± 0.5 (± .020)	V Screw
	Arrangement Code	Size x No. of Contacts						
JL04V-6A10SL-3SE-EB	10SL-3	#16 x 3	22.0 (.866)	15.77 (.621)	44.1 (1.736)	18 (.709)	7 (.276)	5/8- 24UNEF-2A
JL04V-6A18-10SE-EB	18-10	#12 x 4	34.1 (1.343)	25.3 (.996)	57.4 (2.260)	29 (1.142)	15 (.591)	1- 20UNEF-2A
JL04V-6A18-12SE-EB	18-12	#16 x 6						
JL04V-6A20-4SE-EB	20-4	#12 x 4	37.3 (1.469)	29.72 (1.170)	58.5 (2.303)	33 (1.299)	17 (.669)	1-3/16- 18UNEF-2A
JL04V-6A20-15SE-EB	20-15	#12 x 7						
JL04V-6A22-22SE-EB	22-22	#8 x 4	40.5 (1.594)	30.05 (1.183)	67.63 (2.663)	35 (1.378)	17 (.669)	1-3/16- 18UNEF-2A
JL04V-6A22-23SE-EB	22-23	#12 X 8			67.9 (2.673)			
JL04V-6A24-10SE-EB	24-10	#8 x 7	43.7 (1.720)	36.4 (1.433)	71 (2.795)	38 (1.496)	20 (.787)	1-7/16- 18UNEF-2A
JL04V-6A24-10SE(G)-EB	24-10 (G)							
JL04V-6A24-11SE-EB	24-11	#8 x 3, #12 x 6						
JL04V-6A28-11SE-EB	28-11	#12 x 4	49.94 (1.966)	36.4 (1.433)	72.8 (2.866)	45 (1.772)	20 (.787)	1-7/16- 18UNEF-2A
JL04V-6A28-11PE-EB*		#16 x 18			71 (2.795)			

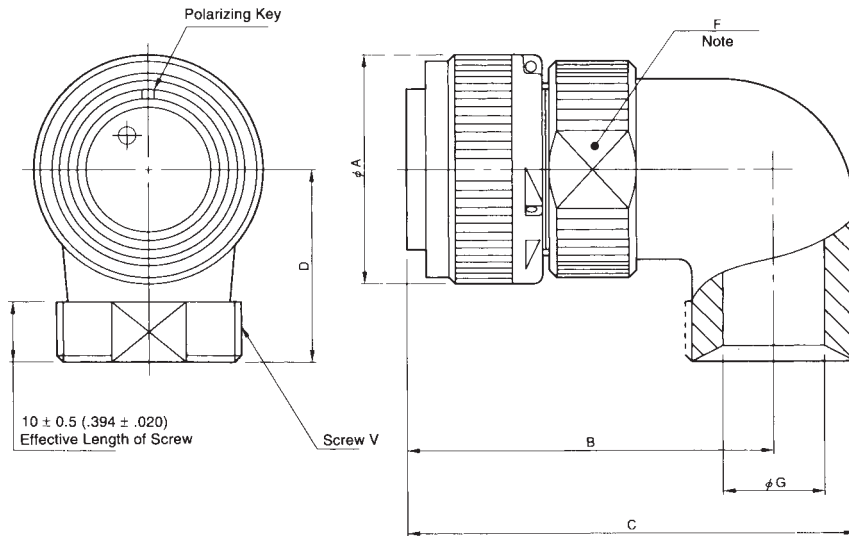
*Note 1: Pin insert type mating with socket insert type receptacle.

Dimensions in mm (inches).

JL04V SERIES CONNECTORS

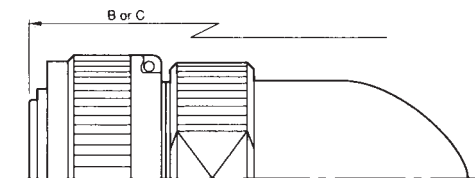
Waterproof, Wire Soldering Type, Circular Connectors

TÜV CERTIFIED • JL04V
JL04V-8A-EB • Right Angle Plug (Socket Insert) • Waterproof Type (Mated Condition)



Note: Dimension F – Distance between beveled edges.

Ref: Contact Arrangement "22-22", "28-11SE"



Part Number	Contact Arrangement		øA ± 0.8 (± .031)	B ± 0.8 (± .031)	C ± 0.8 (± .031)	D ± 0.8 (± .031)	F ± 0.5 (± .020)	øG ± 0.5 (± .020)	V Screw
	Arrangement Code	Size x No. of Contacts							
JL04V-8A10SL-3SE-EB	10SL-3	#16 x 3	22.0 (.866)	37 (1.457)	43.95 (1.730)	24 (.945)	18 (.709)	7 (.276)	5/8- 24UNEF-2A
JL04V-8A18-10SE-EB	18-10	#12 x 4	34.1 (1.343)	54 (2.126)	65.2 (2.567)	30 (1.181)	29 (1.142)	15 (.591)	1- 20UNEF-2A
JL04V-8A18-12SE-EB	18-12	#16 x 6							
JL04V-8A20-4SE-EB	20-4	#12 x 4	37.3 (1.469)	60.5 (2.382)	74.2 (2.921)	32 (1.260)	33 (1.299)	17 (.669)	1-3/16- 18UNEF-2A
JL04V-8A20-15SE-EB	20-15	#12 x 7							
JL04V-8A22-22SE-EB	22-22	#8 x 4	40.5 (1.594)	60.23 (2.371)	73.93 (2.911)	32 (1.260)	35 (1.378)	17 (.669)	1-3/16- 18UNEF-2A
JL04V-8A22-23SE-EB	22-23	#12 X 8		60.5 (2.382)					
JL04V-8A24-10SE-EB	24-10	#8 x 7	43.7 (1.720)	65 (2.559)	82 (3.228)	38 (1.496)	38 (1.496)	20 (.787)	1-7/16- 18UNEF-2A
JL04V-8A24-10SE(G)-EB	24-10 (G)								
JL04V-8A24-11SE-EB	24-11	#8 x 3, #12 x 6	49.94 (1.966)	65 (2.559)	82.8 (3.260) 82 (3.228)	38 (1.496)	45 (1.772)	20 (.787)	1-7/16- 18UNEF-2A
JL04V-8A28-11SE-EB	28-11	#12 x 4							
JL04V-8A28-11PE-EB*		#16 x 18							

*Note 1: Pin insert type mating with socket insert type receptacle.

Dimensions in mm (inches).

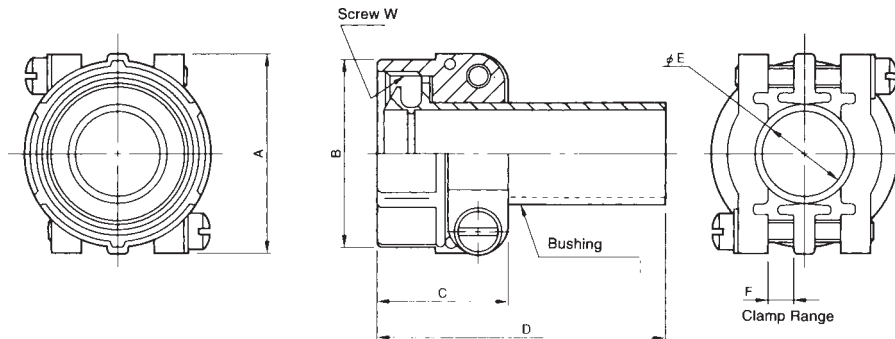


JL04V SERIES CONNECTORS

Waterproof, Wire Soldering Type, Circular Connectors

ACCESSORY

JL04-CK • Cable Clamp • Waterproof Type (Mated Condition)



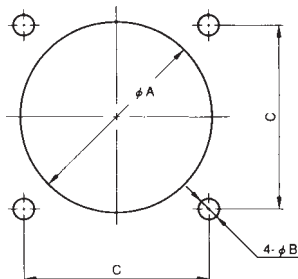
Shell Size	Part Number	A ± 0.8 (± .031)	B ± 0.8 (± .031)	C ± 0.8 (± .031)	D ± 0.8 (± .031)	øE ± 0.8 (± .031)	F ± 0.8 (± .031)	W Screw	Applicable Cable Diameter
10SL	JL04-1012CK (05)	22.2 (.874)	20.6 (.811)	20.7 (.815)	50.6 (1.992)	6.0 (.236)	1.6 (.063)	5/8 -24UNEF-2B	ø4 to ø6 (ø.157 to ø.236)
18	JL04-18CK (13)	31.8 (1.252)	30.2 (1.189)	24.1 (.949)	53.8 (2.118)	14 (.551)	3.2 (.126)	1 -20UNEF-2B	ø11 to ø14 (ø.433 to ø.551)
20,22	JL04-2022CK (14)	37.3 (1.469)	34.9 (1.374)	24.3 (.957)	53.8 (2.118)	15.9 (.626)	4 (.157)	1-3/16 -18UNEF-2B	ø12.9 to ø15.9 (ø.508 to ø.626)
24,28	JL04-2428CK (17)	42.9 (1.689)	42.1 (1.657)	26.2 (1.031)	56.2 (2.213)	18 (.709)	4.8 (.189)	1-7/16 -18UNEF-2B	ø15 to ø18 (ø.591 to ø.709)

Note : Shell size is represented by first part of contact arrangement code.
(Example: JL04V-6A18-10SE-EB – Shell Size 18)

MATERIALS AND FINISHES (JL04-CK)

Description	Materials/Finishes
Grand Nut	Aluminum Alloy/Zinc Plating (Black)
Clamp Saddle	Aluminum Alloy/Zinc Plating (Black)
Screw	Copper Alloy/Zinc Plating (Black)
Toothed Lock Washer	Steel/Zinc Plating (Black)
Bushing	Nitrile Rubber (Black)
Washer	Synthetic Resin

PANEL HOLE PATTERN



Part Number	øA ± 0.5 (± .020)	øB +0.2 (+.008) 0 0	C ± 0.13 (± .005)
JL04V-2E10SL-3PE-B	17.5 (.689)	3.3 (.130)	18.26 (.719)
JL04V-2E18-10PE-B	30.2 (1.189)	3.3 (.130)	26.97 (1.062)
JL04V-2E18-12PE-B			
JL04V-2E20-4PE-B	33.4 (1.315)	3.3 (.130)	29.36 (1.156)
JL04V-2E20-15PE-B			
JL04HV-2E22-22PE-B	36.6 (1.441)	3.3 (.130)	31.75 (1.250)
JL04V-2E22-23PE-B			
JL04V-2E24-11PE-B	39.7 (1.563)	3.8 (.150)	34.92 (1.375)
JL04V-2E24-10PE(G)-B			
JL04V-2E24-11PE-B			
JL04V-2A28-11PE	46.1 (1.815)	3.8 (.150)	39.67 (1.562)
JL04V-2A28-11SE			
JL04V-2E32-17PE-B	52.48 (2.066)	4.4 (.173)	44.45 (1.750)

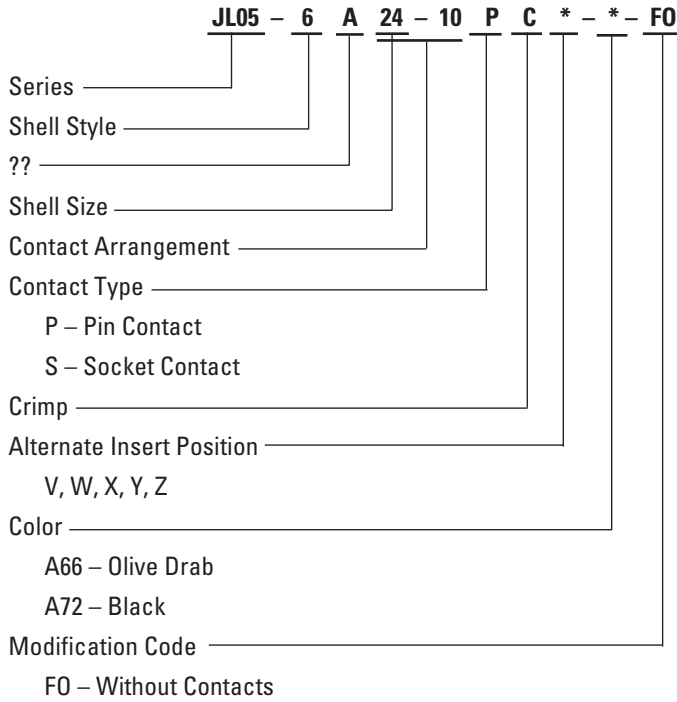
Dimensions in mm (inches).

JL05 SERIES CONNECTORS

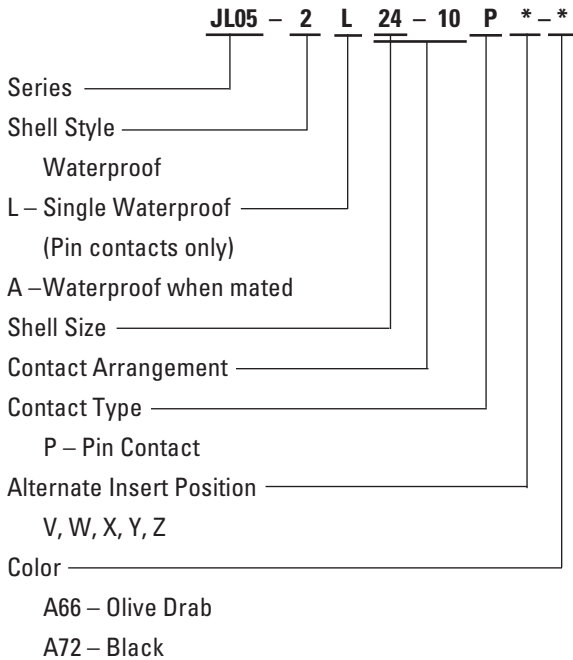
Waterproof, Circular Connectors

ORDERING INFORMATION

• JL05-A

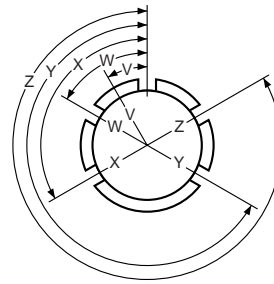


• JL05-L



ALTERNATE INSERT POSITIONS (POLARIZATION)

The position of the guide key of the shell changed by a certain angle in relation to the standard insert position is indicated by the symbols V, W, X, Y and Z. Use this table for reference when instructing since the changeable angle will differ depending on the contact arrangement. This diagram shows the contact pin arrangement as viewed from the pin side coupling.



No. of Contacts	Polarization					
	Arrangements	V°	W°	X°	Y°	Z°
4	22-22	45	—	160	—	300
5	18-11	35	—	170	265	—
7	20-15	30	80	—	—	280
	24-10	30	80	—	—	280
8	22-23	25	85	—	—	—
9	24-11	—	35	110	190	325
10	18-1	—	70	145	260	290
17	20-29	—	80	—	—	280
19	18-19A	—	80	110	250	280
	22-14	—	75	150	—	285
24	24-28	—	80	110	250	280
30	20-30A	—	80	110	250	280
36	28-36B	—	80	110	250	280
37	28-21	—	80	110	250	280
58	24-52A	—	80	110	250	280
73	28-73A	—	80	110	250	280

Dimensions and specifications subject to change without notice.

JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

CONTACT ARRANGEMENT (By Number of Contacts) • FACE VIEW • PIN INSERT

No. of Contacts	4	5	7		8
Arrangement	22-22	18-11	20-15	24-10	22-23
Size x No. of Contact	#8 x 4	#12 x 5	#12 x 7	#8 x 7	#12 x 8
*Classification Code	A	A	A	A	D (4), A
No. of Contacts	9	10	17	19	
Arrangement	24-11	18-1	20-29	18-19A	22-14
Size x No. of Contact	#8 x 3, #12 x 6	#16 x 10	#16 x 17	#20 x 19	#16 x 19
*Classification Code	A	A (3, 5, 6, 8), INST	A	INST	A
No. of Contacts	24	30	36	37	52
Arrangement	24-28	20-30A	28-36B	28-21	24-52A
Size x No. of Contact	#16 X 24	#20 x 30	#12 x 4, #16 x 4, #20 x 28	#16 x 37	#20 x 52
*Classification Code	INST	INST	Note 2	A	INST
No. of Contacts	73				
Arrangement	28-73A				
Size x No. of Contact	#20 X 73				
*Classification Code	INST	* Classification Code: Dielectric withstanding voltage in symbols shown in general specifications.			

Dimensions in mm (inches).

JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

JL05-2A (Waterproof when mated)

Pin Insert

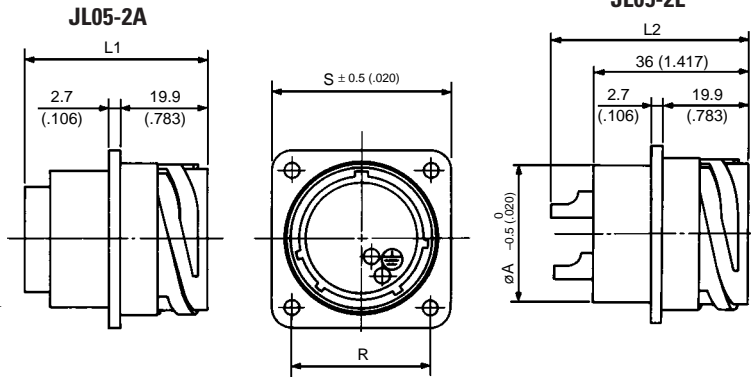
Socket Insert



JL05-2L (Waterproof)



BOX MOUNTING RECEPTACLE

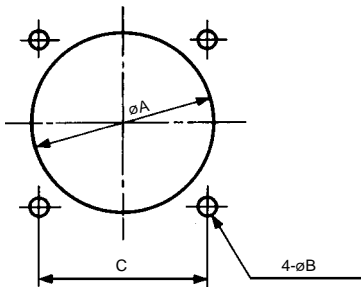


Shell Size	No. of Contacts	Part Number		A	B	S	R	Contact Size	L1		L2
		Waterproof when mated	Waterproof						Pin Insert	Socket Insert	Pin Insert
18	5	JL05-2A18-11*C*-F0	JL05-2L18-11P-*	24.9 (.930)	3.2 (.126)	35 (1.380)	26.97 (1.060)	#12	46 (1.811)	43 (1.693)	42 (1.653)
	10	JL05-2A18-1*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
	19	JL05-2A18-19A*C*-F0	—					#20	40 (1.575)	36.5 (1.430)	—
20	7	JL05-2A20-15*C*-F0	JL05-2L20-15P-*	29.6 (1.166)	3.2 (.126)	38.1 (1.500)	29.36 (1.156)	#12	46 (1.811)	43 (1.693)	42 (1.653)
	17	JL05-2A20-29*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
	30	JL05-2A20-30A*C*-F0	—					#20	40 (1.575)	36.5 (1.430)	—
22	4	JL05-2A22-22*C*-F0	JL05-2L22-22P-*	31.8 (1.250)	3.2 (.126)	41.3 (1.626)	31.75 (1.250)	#8	48 (1.890)	48 (1.890)	46 (1.811)
	8	JL05-2A22-23*C*-F0	JL05-2L22-23P-*					#12	46 (1.811)	43 (1.693)	42 (1.653)
	19	JL05-2A22-14*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
24	7	JL05-2A24-10*C*-F0	JL05-2L24-10P-*	35 (1.378)	4.2 (.166)	44.3 (1.744)	34.92 (1.374)	#8	48 (1.890)	48 (1.890)	46 (1.811)
	9	JL05-2A24-11*C*-F0	—					#8, #12	48 (1.890)	48 (1.890)	—
	24	JL05-2A24-28*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
	52	JL05-2A24-52A*C*-F0	—					#20	40 (1.575)	36.5 (1.430)	—
28	36	JL05-2A28-36B*C*-F0	—	41.3 (1.626)	4.2 (.166)	50.8 (2.000)	39.67 (1.562)	#12, #16, #20	45 (1.772)	43 (1.693)	—
	37	JL05-2A28-21*C*-F0	—					#16	43 (1.693)	38 (1.496)	—
	73	JL05-2A28-73A*C*-F0	—					#20	40 (1.575)	36.5 (1.430)	—

Note 1: When ordering pin contacts, insert P, when ordering socket contacts, insert S.

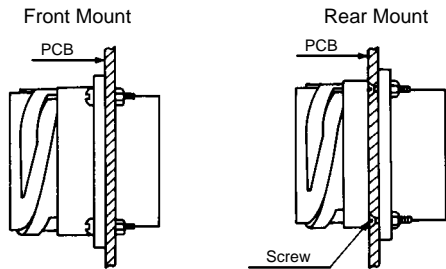
Note 2: Insert A66 for Olive Drab, or A72 for Black.

Note 3: For alternate insert positions, see Polarization Chart.



Note 1: ØA size is common from front and rear of installation.

Note 2: ØB is possible in the hole that fit with installation screw.



Shell Size	Ø A ±0.5	Ø B +0.2 -0	C ±0.13	Mounting Screw (Ref.) Unified Screw Metric Screw	
18	30.2 (1.189)	3.3 (.130)	26.97 (1.168)	#4-40	M3
20	34.9 (1.374)	3.3 (.130)	29.36 (1.156)	#4-40	M3
22	36.6 (1.440)	3.3 (.170)	31.75 (1.250)	#4-40	M3
24	39.7 (1.563)	4.3 (.170)	34.93 (1.375)	#6-32	M4
28	46.1 (1.815)	4.3 (.170)	39.67 (1.562)	#6-32	M4

Dimensions in mm (inches).

JL05 SERIES CONNECTORS

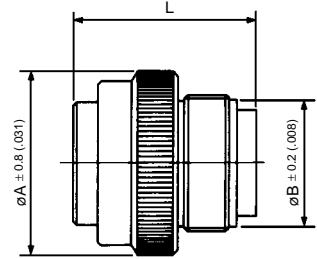
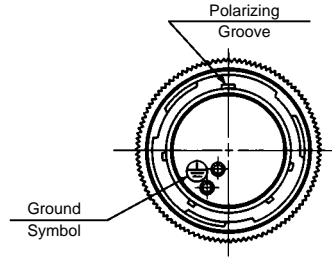
Waterproof, Circular Connectors

JL05-6A

Pin Insert

Socket Insert

STRAIGHT PLUG



Shell Size	No. of Contacts	Part Number	A	ϕB	V Thread	Contact Size	L	
							Pin Insert	Socket Insert
18	5	JL05-6A18-11 *C*-F0	35.9 (1.413)	23.5 (.925)	1-20UNEFF-2A	#12	46 (1.811)	43 (1.693)
	10	JL05-6A18-1 *C*-F0				#16	43 (1.693)	38 (1.496)
	19	JL05-6A18-19A *C*-F0				#20	40 (1.575)	37.5 (1.476)
20	7	JL05-6A20-15 *C*-F0	40.6 (1.600)	26.9 (1.059)	1-1/8-18UNEF-2A	#12	46 (1.811)	43 (1.693)
	17	JL05-6A20-29 *C*-F0				#16	43 (1.693)	38 (1.496)
	30	JL05-6A20-30A *C*-F0				#20	40 (1.575)	37.5 (1.476)
22	4	JL05-6A22-22 *C*-F0	42.2 (1.660)	29.6 (1.165)	1-1/4-18UNEF-2A	#8	48 (1.890)	48 (1.890)
	8	JL05-6A22-23 *C*-F0				#12	46 (1.811)	43 (1.693)
	19	JL05-6A22-14 *C*-F0				#16	43 (1.693)	38 (1.496)
24	7	JL05-6A24-10 *C*-F0	45.4 (1.787)	32.8 (1.291)	1-3/8-18UNEF-2A	#8	48 (1.890)	48 (1.890)
	9	JL05-6A24-11 *C*-F0				#8, #12	48 (1.890)	48 (1.890)
	24	JL05-6A24-28 *C*-F0				#16	43 (1.693)	38 (1.496)
28	52	JL05-6A24-52A *C*-F0	51.7 (2.035)	39.0 (1.535)	1-5/8-18UNEF-2A	#20	40 (1.575)	37.5 (1.476)
	36	JL05-6A28-36B *C*-F0				#12, #16, #20	45 (1.772)	43 (1.693)
	37	JL05-6A28-21 *C*-F0				#16	43 (1.693)	38 (1.496)
	73	JL05-6A28-73A *C*-F0				#20	40 (1.575)	37.5 (1.476)

Note 1: When ordering pin contacts, insert P, when ordering socket contacts, insert S.

Note 2: Insert A66 for Olive Drab, or A72 for Black.

Note 3: For alternate insert positions, see Polarization Chart.

Dimensions in mm (inches).

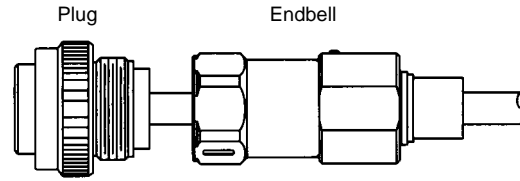
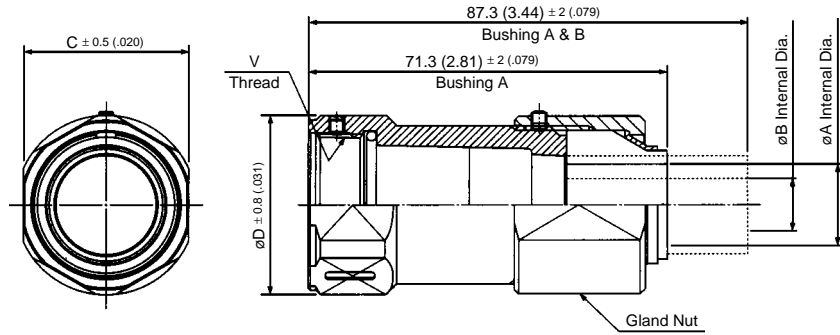
JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

ENDBELL WATERPROOF

MATERIALS AND FINISHES

End Bell	Aluminum, Zinc
Gland Nut	Aluminum, Zinc
Bushing	Rubber, Black
Sleeve	Aluminum, Zinc, Black
O-Ring	Rubber
Screw Hexagon Hole	Copper, Zinc



Shape of gland nut is different for shell size 18, ask JAE for details.

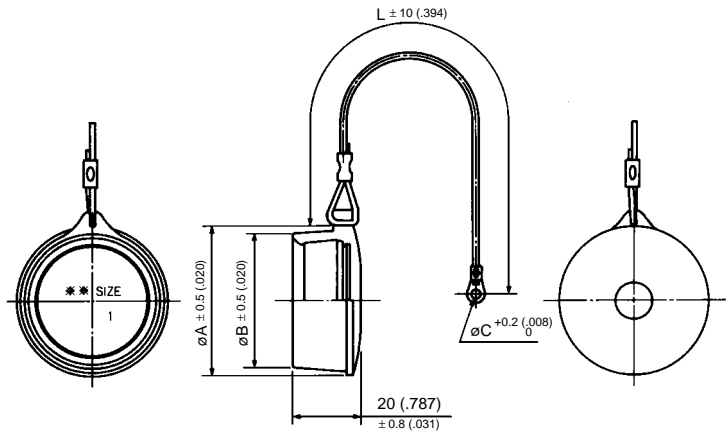
Shell Size	Cable Clamp	øA	øB	øC ± 0.5 (± .020)	øD ± 0.8 (± .031)	V Thread
18	JL05-18EB3B-(11)	11 (.433)	—	29 (1.14)	32 (1.26)	1-20UNEF-2B
	JL05-20EB3B-(11)	20 (.787)	10.6 (.417)	33 (1.30)	36 (1.42)	1-1/8-18UNEF-2B
JL05-20EB3B-(13)	20 (.787)	12.7 (.500)				
JL05-20EB3B-(17)	16.5 (.650)	—				
JL05-20EB3B-(20)	20 (.787)	—				
22	JL05-22EB3B-(11)	20 (.787)	10.6 (.417)	35 (1.38)	38 (1.50)	1-1/4-18UNEF-2B
	JL05-22EB3B-(13)	20 (.787)	12.7 (.500)			
	JL05-22EB3B-(17)	16.5 (.650)	—			
	JL05-22EB3B-(20)	20 (.787)	—			
24	JL05-24EB3B-(17)	16.5 (.650)	—	38 (1.50)	41 (1.61)	1-3/8-18UNEF-2B
	JL05-24EB3B-(21)	21 (.827)	—			
28	JL05-28EB3B-(17)	16.5 (.650)	—	44 (1.73)	47 (1.85)	1-5/8-18UNEF-2B
	JL05-28EB3B-(21)	21 (.827)	—			

DUST CAP (Used on: JL05-2A, JL05-2L)

MATERIALS AND FINISHES

Dust Cap	Rubber (Black)
Sleeve	Copper Alloy, Tin Plating/Silver
Wire	Nylon (Black)
Ring Terminal	Copper Alloy, Tin Plating/Silver

Size	Part Number	øA ± 0.5 (± .020)	øB ± 0.5 (± .020)	øC $+0.2 \begin{smallmatrix} +0.008 \\ -0 \end{smallmatrix}$	L ± 10 (0.393)
18	JL05-18DC	37.5 (.15)	33.1 (1.30)	3.2 (.126)	80 (3.15)
20	JL05-20DC	42.6 (1.68)	38.2 (1.50)	3.2 (.126)	100 (3.94)
22	JL05-22DC	43.8 (1.72)	39.4 (1.55)	3.2 (.126)	110 (4.33)
24	JL05-24DC	47.0 (1.85)	42.6 (1.68)	4.3 (.169)	130 (5.12)
28	JL05-28DC	53.3 (2.10)	49.0 (1.93)	4.3 (.169)	150 (5.91)

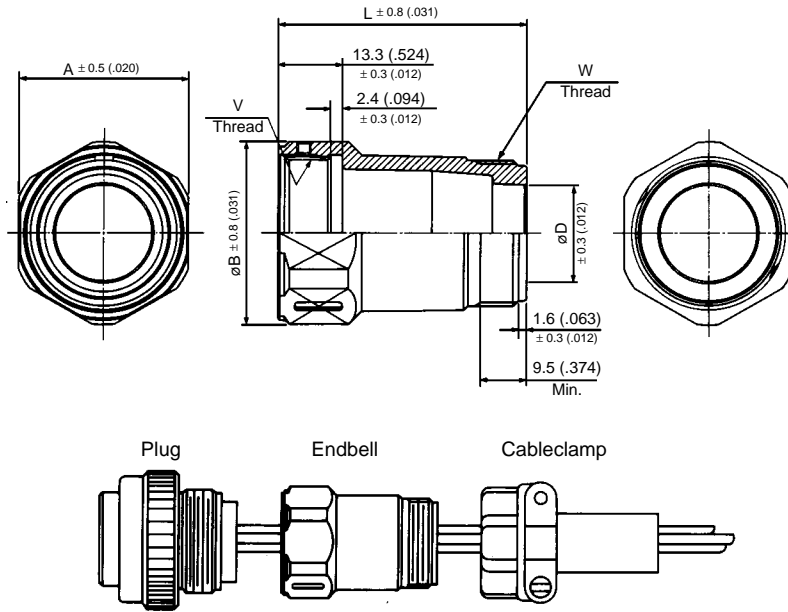


Dimensions in mm (inches).

JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

ENDBELL



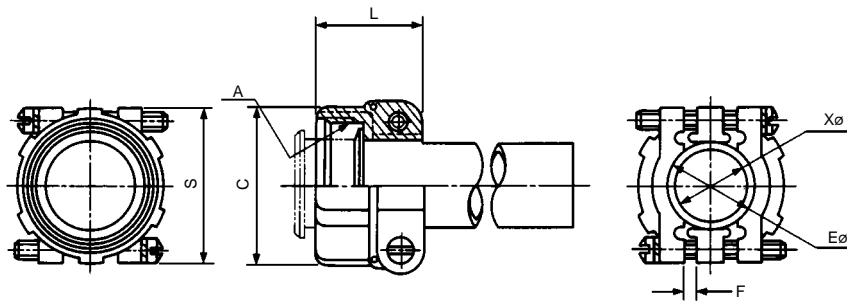
Shell Size	Part Number		A $\pm 0.5 (\pm .02)$	ϕB $\pm 0.8 (\pm .03)$	ϕD $\pm 0.3 (.01)$	V Thread	Thread
	L 51.3 (2.02)	L 71.3 (2.81)					
18	JL05-18EB1A	—	29 (1.14)	32 (.126)	16 (.630)	1-20UNEF-2B	1-20UNEF-2A
20	JL05-20EB1A	—	33 (1.30)	36 (1.42)	20 (.787)	1-1/8-18UNEF-2B	1-3/16-18UNEF-2A
22	JL05-22EB1A	JL05-22EB2A	35 (1.38)	38 (1.50)	20 (.787)	1-1/4-18UNEF-2B	1-3/16-18UNEF-2A
24	JL05-24EB1A	JL05-24EB2A	38 (1.50)	41 (1.61)	25 (.984)	1-3/8-18UNEF-2B	1-7/16-18UNEF-2A
28	JL05-28EB1A	JL05-28EB2A	44 (1.73)	47 (1.85)	25 (.984)	1-5/8-18UNEF-2B	1-7/16-18UNEF-2A

Note: When ordering olive drab, insert (A66); for black, insert (A72) : Example: JL05-18EB1A-A66

CABLE CLAMP

MATERIALS AND FINISHES

Clamp Saddle	Aluminum, Olive Drab, or Black
Bushing	Rubber



Shell Size	Part Number		A	$\pm C$ $\pm 0.8 (\pm .031)$	ϕE	F	$\pm L$ $\pm 0.8 (\pm .031)$	$\pm S$ $\pm 0.8 (\pm .031)$	ϕX Bushing Internal Dim.
	Black	Olive Drab							
18	JA3057-10A (A72)	JA3057-10A	1-20UNEF-2B	30.2 (1.189)	15.9 (.626)	3.2 (.126)	23.8 (.937)	31.8 (1.252)	14 (.551)
20,22	JA3057-12A (A72)	JA3057-12A	1-3/16-18UNEF-2B	34.9 (1.374)	19.0 (.748)	4.0 (.157)	23.8 (.937)	37.3 (1.469)	16 (.630)
24, 28	JA3057-16A (A72)	JA3057-16A	1-7/16-18UNEF-2B	42.1 (1.657)	23.8 (.937)	4.8 (.189)	26.2 (1.030)	42.9 (1.689)	16 (.630)

Dimensions in mm (inches).

JL05 SERIES CONNECTORS

Waterproof, Circular Connectors

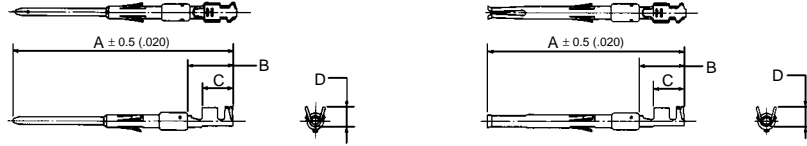


CONTACTS

Pin

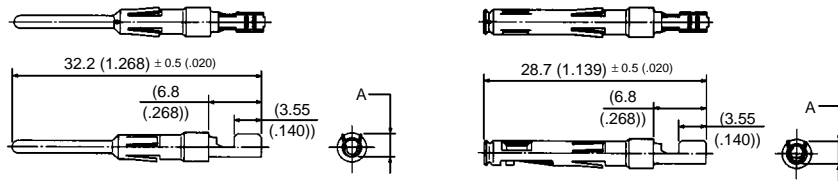
Socket

#20 Stamped



Version	A	B (Ref.)	C (Ref.)	D (Ref.)	Version	A	B (Ref.)	C (Ref.)	D (Ref.)
C1	28.43 (1.12)	5.81 (.229)	3.92 (.154)	2.49 (.098)	C1	25.43 (1.001)	5.81 (.229)	3.92 (.154)	2.49 (.098)
C2	29.04 (1.14)	6.42 (.253)	4.53 (.178)	2.7 (.106)	C2	26.04 (1.025)	6.42 (.253)	4.53 (.178)	2.7 (.106)

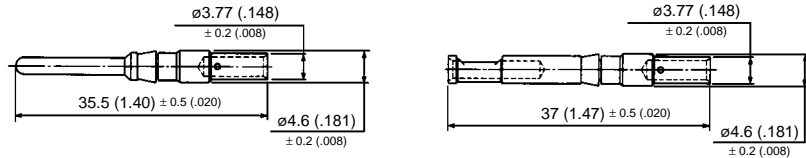
#16 Stamped



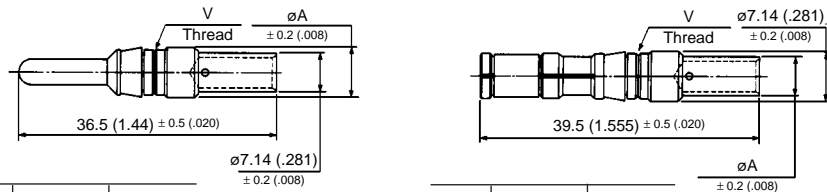
Version	A (Ref.)
C1	3.7 (.146)
C2	3 (.118)
C3	2.2 (.087)

Version	A (Ref.)
C1	3.7 (.146)
C2	3 (.118)
C3	2.2 (.087)

#12 Machined



#8 Machined



Version	øA	V Thread
C1	5.6 (.220)	With
C2	4.5 (.117)	Without

Version	øA	V Thread
C1	5.6 (.220)	With
C2	4.5 (.117)	Without

Contact Size	Part Number			Contact	Available Wire			
	Bag/Reel	Pin Contacts	Socket Contacts		AWG No.	Area of Conductor	Outer Dia. for Insulator	
#20	C1	100 (loose piece)	ST-JL05-20P-C1-100	ST-JL05-20S-C1-100	Stamped	#18 ~ #22	0.8 (.031) ~ 0.3 (.012) mm ²	ø2.3 (.091) Max.
		10,000 (reel)	ST-JL05-20P-C1-10000	ST-JL05-20S-C1-10000				
	C2	100 (loose piece)	ST-JL05-20P-C2-100	ST-JL05-20S-C2-100		#22 ~ #26	0.3 (.012) ~ 0.13 (.512) mm ²	ø1.0 (.039) ~ 1.7 (.109)
		10,000 (reel)	ST-JL05-20P-C2-10000	ST-JL05-20S-C2-10000				
#16	C1	100 (loose piece)	ST-JL05-16P-C1-100	ST-JL05-16S-C1-100	Stamped	#14 ~ #16	2 (.079) ~ 1.25 (.049) mm ²	ø3.8 (.150) Max.
		3,500 (Reel of of 500)	ST-JL05-16P-C1-3500	ST-JL05-16S-C1-3500				
	C2	100 (loose piece)	ST-JL05-16P-C2-100	ST-JL05-16S-C2-100		#16 ~ #20	1.25 (.049) ~ 0.5 (.020) mm ²	ø3.8 (.150) Max.
		3,500 (Reel of of 500)	ST-JL05-16P-C2-3500	ST-JL05-16S-C2-3500				
	C3	100 (loose piece)	ST-JL05-16P-C3-100	ST-JL05-16S-C3-100		#20 ~ #24	0.5 (.020) ~ 0.2 (.079) mm ²	ø3.8 (.150) Max.
		3,500 (Reel of of 500)	ST-JL05-16P-C3-3500	ST-JL05-16S-C3-3500				
#12	C1	10 (loose piece)	CONT-JL05-12P-C1-10	CONT-JL05-12S-C1-10	Machined	#12 ~ #16	3.5 (.138) ~ 1.25 (.049) mm ²	ø4.65 (.183) Max.
#8	C1	10 (loose piece)	CONT-JL05-08P-C1-10	CONT-JL05-08S-C1-10	Machined	#8 ~ #10	8 (.315) ~ 5.5 (.217) mm ²	ø7.25 (.285) Max.
		C3	10 (loose piece)	CONT-JL05-08P-C2-10				

Dimensions in mm (inches).

JL05 SERIES CONNECTORS

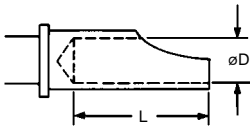
Waterproof, Circular Connectors

TOOLING

Crimp Tool		#20	#16	#12	#8
		CT150-2	CT160-3	M22520/1-01 JP-JL05-12	JCT-16128-3
Extraction Tool		ET-JL05-20-2 ET-JL05-20-3	ET-JL05-16	JET-GTC-K15	JET-GTC-8
Contact Size		Wire	Part Number		Extraction Tool
			Hand Tool	Locator	
#20	C1	#18 ~ #22	CT150-2C-JL05	—	ET-JL05-20-2 for Pin Contact
	C2	#22 ~ #26	CT150-2B-JL05	—	ET-JL05-20-3 for Socket Contact
#16	C1	#14 ~ #16	CT160-3C-JL05	—	ET-JL05-16
	C2	#16 ~ #20	CT160-3B-JL05	—	
	C3	#20 ~ #24	CT160-3-JL05	—	
#12	C1	#12 ~ #16	M22520/1-01	JP-JL05-12	JET-GTC-K15
#8	C1	#8 ~ #10	JCT-16128-3	—	JET-GTC-8
	C2	#10 ~ #12			

CONTACT TERMINAL

• Solder Type



Contact Size	L	øD
#12	9.6 (.378)	2.95 (.116)
#8	12.7 (.500)	5.31 (.209)

Dimensions in mm (inches).

JB1 SERIES CONNECTORS

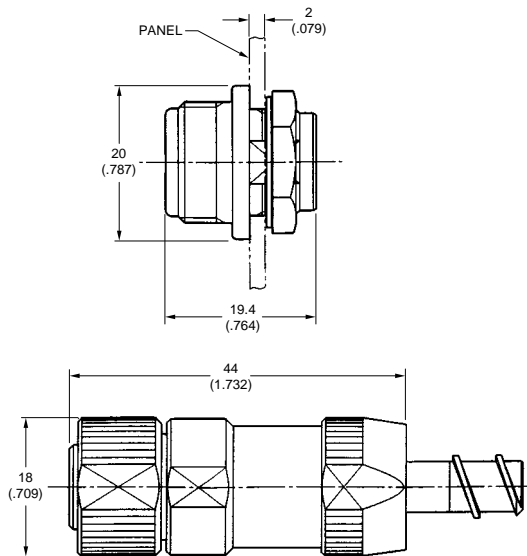
General Purpose Waterproof, Miniature Circular Connectors



FEATURES

- Compact circular connector for EMI protection
- Earth lug on plug can be grounded by attaching it to the shield line of the cable
- Crimp contacts
- Waterproof when mated in accordance with IP67 specification

Connector Profile (Ref.)



The JB1 Series are circular, crimp connectors that are waterproof when in the mated condition. Applications for this series include various industrial equipment, and test & measurement equipment.

GENERAL SPECIFICATIONS

Number of Contacts	3, 5, 10
Current Rating	3 Amps per contact
Rated Voltage	Less than 300 VAC r.m.s.
Dielectric Withstanding Voltage	900 VAC r.m.s. (for one minute)
Operating Temperature	-55°C to +85°C
Applicable Wire Size	AWG #22 to 28

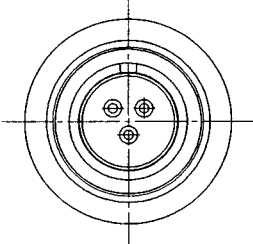
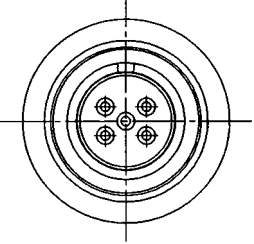
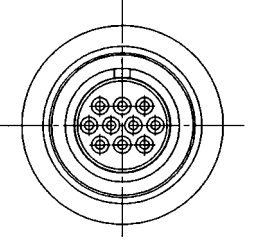
MATERIALS AND FINISHES

Components	Receptacle (body & relay)	Plug
Housing	Synthetic resin	Synthetic resin
Shell	Zinc alloy (Nickel plated)	Zinc alloy (Nickel plated)
End Bell	Aluminum alloy (Nickel plated)	Aluminum alloy (Nickel plated)
Ground Nut	Zinc alloy (Nickel plated)	Zinc alloy (Nickel plated)
O-Ring	Nitrile rubber	Nitrile rubber
Bushing	Nitrile rubber, ethylene propylene rubber	Nitrile rubber, ethylene propylene rubber
Contact	Copper alloy (Gold plated)	Copper alloy (Gold plated)

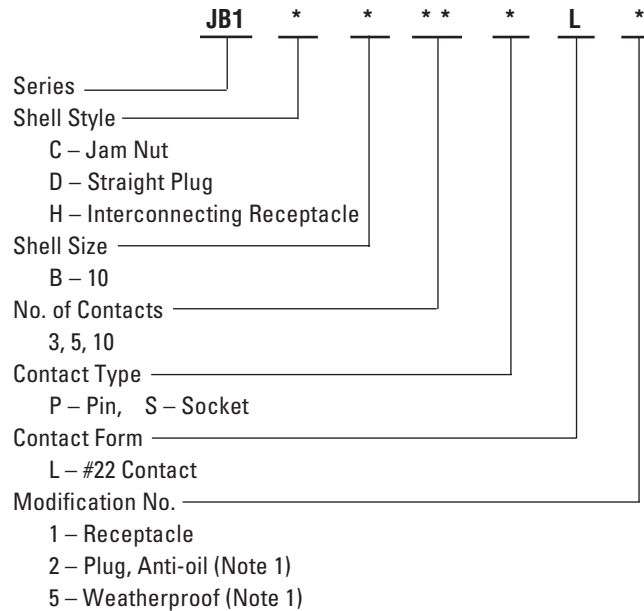
Dimensions and specifications subject to change without notice.

JB1 SERIES CONNECTORS

General Purpose Waterproof, Miniature Circular Connectors

Arrangement	3 Contacts	5 Contacts	10 Contacts
Contact Arrangement (View from Pin Insert Mating Side)			
Size x No. of Contact	#22 x 3	#22 x 5	#22 x 10
Current Rating	3 Amps	3 Amps	3 Amps
Rated Voltage	300 VAC r.m.s.	300 VAC r.m.s.	300 VAC r.m.s.
D.W.V. (for one minute)	900 VAC r.m.s.	900 VAC r.m.s.	900 VAC r.m.s.
Applicable Wire	#22 ~ #28 AWG	#22 ~ #28 AWG	#26 ~ #28 AWG

ORDERING INFORMATION



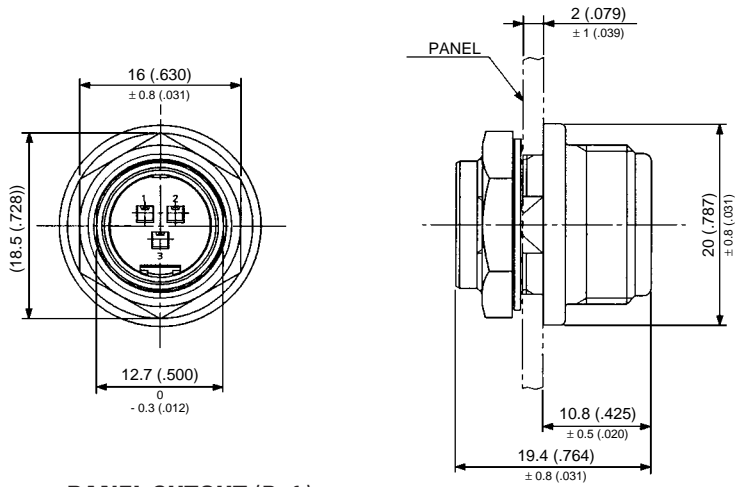
Note 1: Cable plugs are waterproof only in the mated condition.

Dimensions in mm (inches).

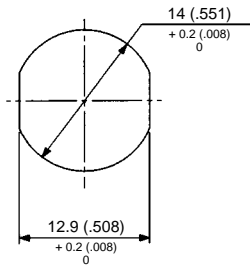
JB1 SERIES CONNECTORS

General Purpose Waterproof, Miniature Circular Connectors

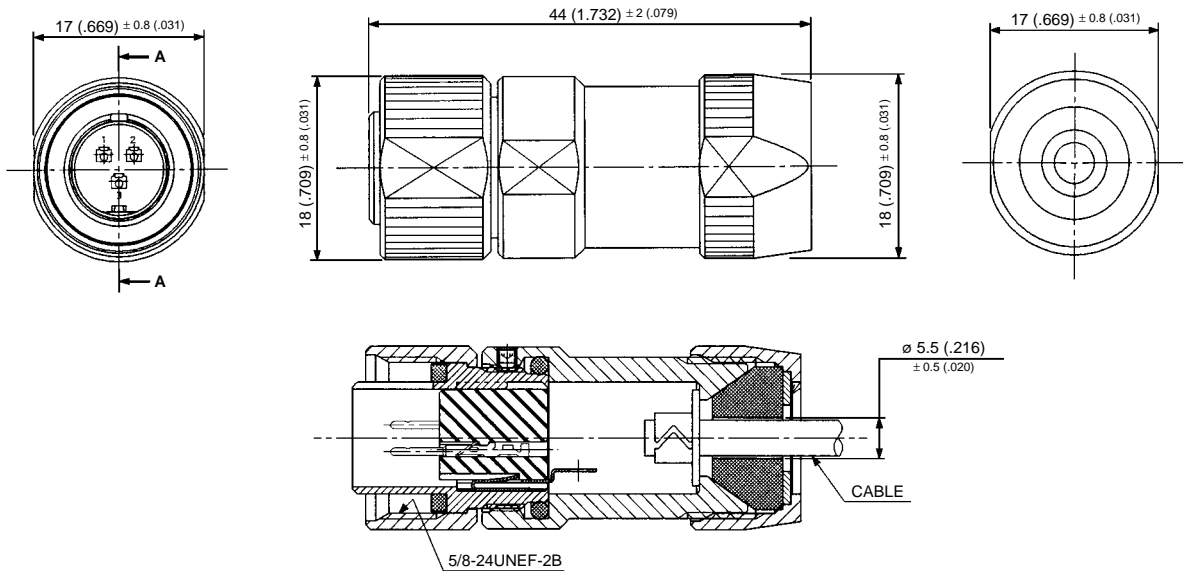
JAM NUT RECEPTACLE: JB1CB*SL1



PANEL CUTOUT (Ref.)



CABLE PLUG: JB1DB*PL2



Note 1: Contacts are ordered separately.

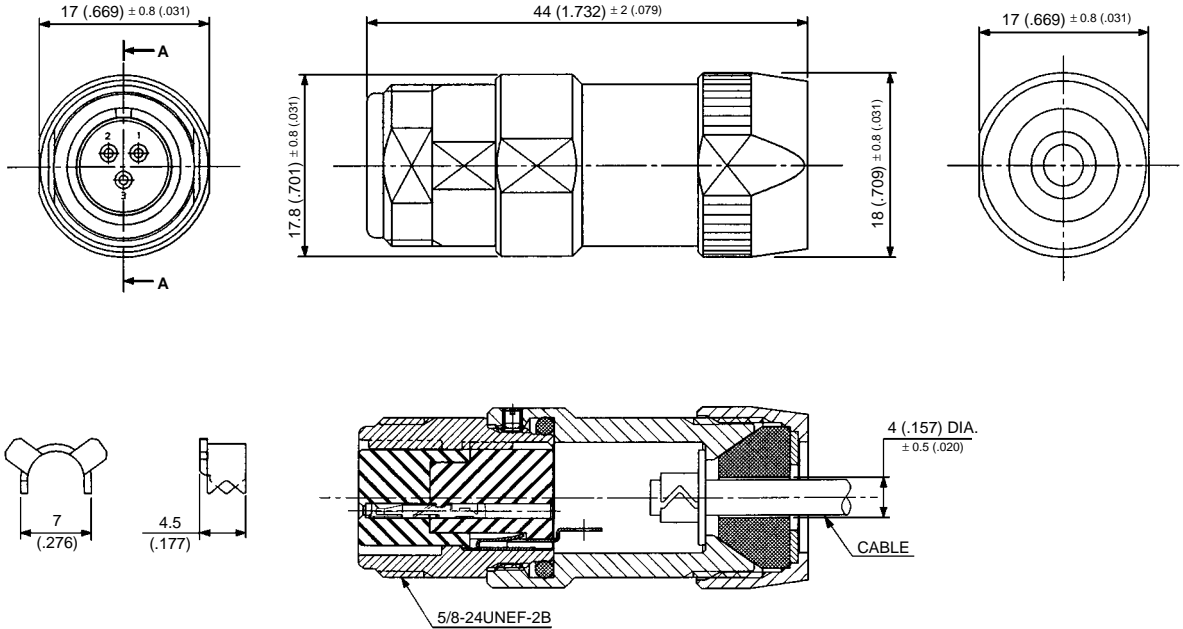
* indicates number of contacts. Outer diameters of connectors with different number of contacts have the same dimensions, 3 position shown.

Dimensions in mm (inches).

JB1 SERIES CONNECTORS

General Purpose Waterproof, Miniature Circular Connectors

CABLE CONNECTING PLUG: JB1HB*SL*



Applicable Cable

3 Contacts: $4\phi \pm 0.5\text{mm} (.020\text{'})$

5 and 10 Contacts: $5.5\phi \pm 0.5\text{mm} (.020\text{'})$

Type	Socket Contact Part Number	Applicable Wire		Tooling		
		Wire Size	Insulation Outer	Hand Tool	Semi-Automatic	Contact Removal Tool
Reel (1000 pcs)	D02-22-22S-10000	AWG #22 ~ 24	$\phi 1.3 \text{ max.}$	CT150-2-D02	CP210-1B	ET-D02
	D02-22-26S-10000	AWG #26 ~ 28	$\phi 1.1 \text{ max.}$		Machine	
Package (100 pcs)	D02-22-22S-PKG100	AWG #22 ~ 24	$\phi 1.3 \text{ max.}$		350-2-D02	
	D02-22-26S-PKG100	AWG #26 ~ 28	$\phi 1.1 \text{ max.}$			

Note 1: Contacts are ordered separately.

* indicates number of contacts. Outer diameters of connectors with different number of contacts have the same dimensions, 3 position shown.

Dimensions in mm (inches).

JB3 SERIES CONNECTORS

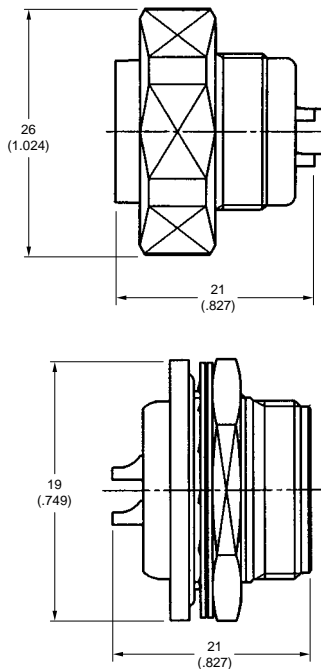
General Purpose Waterproof, Miniature Circular Connectors



FEATURES

- Jam nut receptacle allows easy panel mounting
- Front insulator has synthetic rubber for waterproofing
- Cable plug is waterproof when assembled
- Solder contacts

Connector Profile (Ref.)



The JB3 Series is a waterproof circular connector with solder contacts for excellent resistance to harsh environments. Uses include FA equipment and outdoor electronic devices.

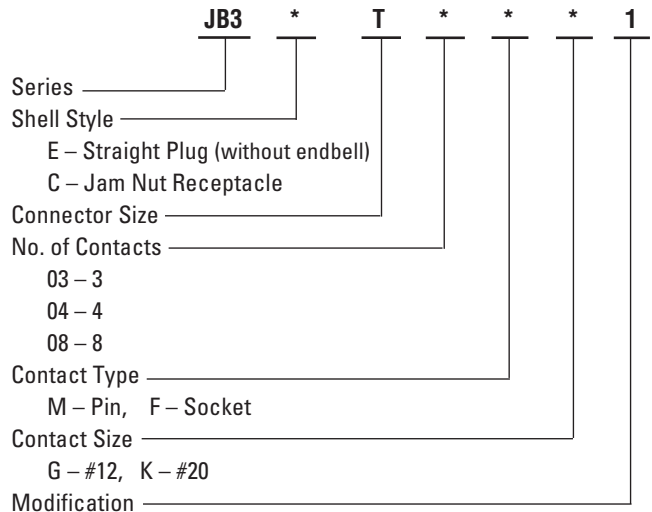
GENERAL SPECIFICATIONS

Number of Contacts	3, 4, 8
Current Rating	For 3 and 4 contact: 10 Amps per contact For 8 contact: 5 Amps per contact
Rated Voltage	AC500V, DC700V
Dielectric Withstanding Voltage	For 3 contact: 2,000 VAC r.m.s. (for one minute) For 4 and 8 contact: 1,500 VAC r.m.s. (for one minute)
Operating Temperature	-25°C to +85°C
Connection	Solder (Condition: 350° ± 10°C, 3 seconds ± 1 second)
Insertion/Removal Life	100 times

MATERIALS AND FINISHES

Components	Receptacle	Plug
Shell	Zinc alloy (Nickel plating)	—
Front Insulator	Synthetic rubber	Synthetic resin
Rear Insulator	Synthetic rubber	Synthetic resin
Contact	Copper alloy (Gold plating)	Copper alloy (Gold plating)
Jam Nut	Copper alloy (Nickel plating)	—
Plate Washer	Copper alloy (Nickel plating)	—
Internal Tooth Washer	Copper alloy (Nickel plating)	—
O-Ring	Synthetic rubber	Synthetic rubber
Barrel	—	Zinc alloy (Chrome plating)
Coupling Nut	—	Copper alloy (Nickel plating)
Spacer	—	Synthetic resin
Hood	—	Synthetic resin
Adapter	—	Synthetic resin

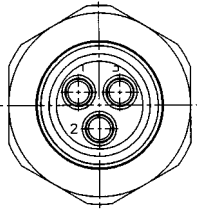
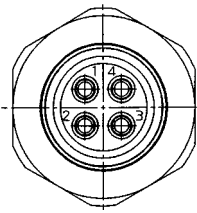
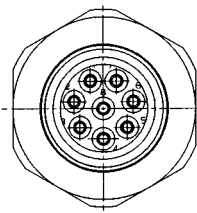
ORDERING INFORMATION



Dimensions and specifications subject to change without notice.

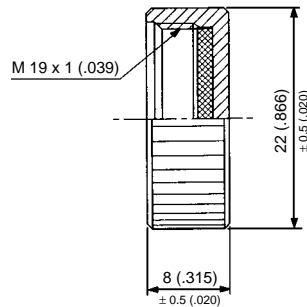
JB3 SERIES CONNECTORS

General Purpose Waterproof, Miniature Circular Connectors

Arrangement	3 Contacts	4 Contacts	8 Contacts
Contact Arrangement (View from Pin Insert Mating Side)			
Size x No. of Contact	#12 x 3	#12 x 4	#20 x 8
Current Rating	10 Amps	10 Amps	5 Amps
Rated Voltage	500 VAC rms, 700 VDC	500 VAC rms, 700 VDC	500 VAC rms, 700 VDC
D.W.V. (for one minute)	2,000 VAC rms	1,500 VAC rms (for one minute)	1,500 VAC rms (for one minute)

RECEPTACLE DUST CAP

(Fits All Jam Nut Receptacles)



APPLICABLE CABLES

Receptacle

No. of contacts	Cross-sectional area of core wire of applicable cable	Solder pot diameter of receptacle
3	Less than 3.5mm ²	ø 2.9 (.114)
4	Less than 2mm ²	ø 1.9 (.075)
8	Less than 0.75mm ²	ø 1.2 (.047)

Plug

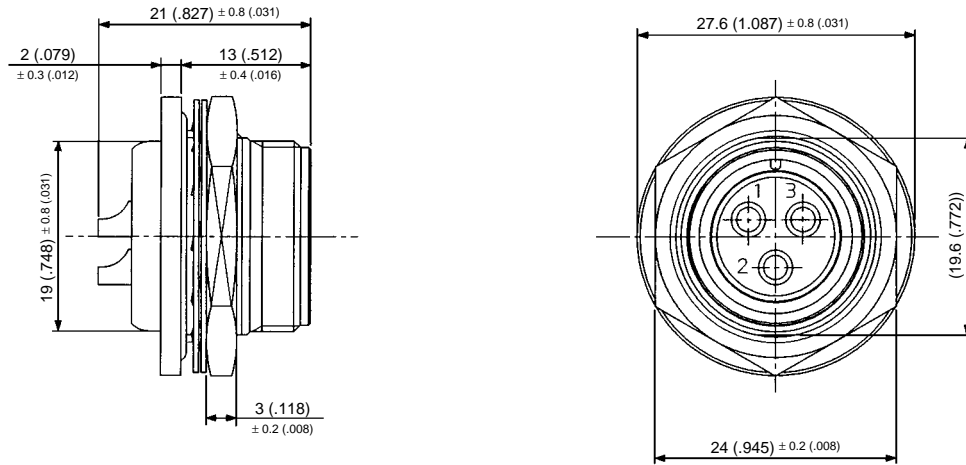
No. of contacts	Specs of applicable cables	Finished outside diameter
3	VVR (TDS) 3 x 2.0	ø 11.25 ± 0.25 (.443 ± .010)
4	KEV-AL 2P x 1/0.65A	ø 8 ± 0.2 (.315 ± .008)
8	KPCV-ALD 3P x ø 0.65A	ø 10 ± 0.2 (.394 ± .008)

Dimensions in mm (inches).

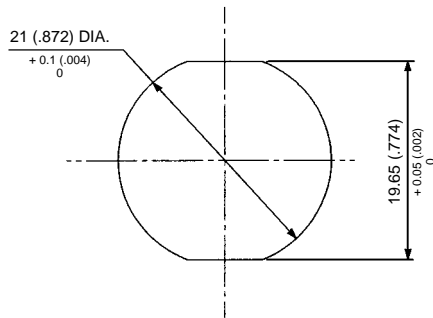
JB3 SERIES CONNECTORS

General Purpose Waterproof, Miniature Circular Connectors

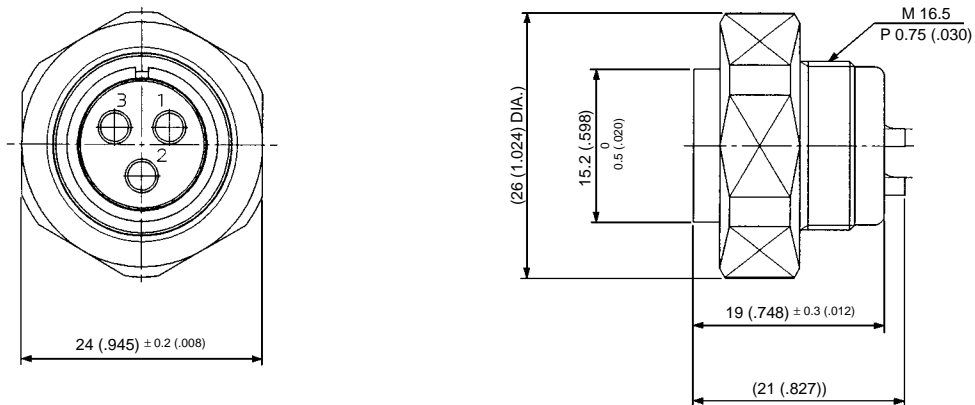
JAM NUT RECEPTACLE



PANEL CUTOUT (Panel Thickness: 0.5 ~ 2.5)



STRAIGHT PLUG



Dimensions in mm (inches).

SRCN SERIES CONNECTORS

Low Cost, General Purpose Miniature Circular Connectors



SRCN Series connectors are low cost, light weight, general purpose, circular connectors with soldering termination, recognized under the Component Program of Underwriter Laboratories, File No. E-67741 (S). Three styles are available for making connection between cables, and between cable and panel: Straight Plug, Cable Connecting Plug and Box Mounting Receptacle. Both pin and socket inserts are available in each style.

Applications include broadcast and communication systems, medical equipment, telecommunications, measurement equipment, business machines, computers and peripherals, automation equipment, tooling, controlling devices, vending machines, electronic entertainment equipment and other electronic equipment.

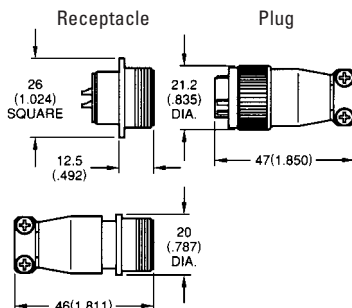
FEATURES

- Miniature, lightweight, solid construction
- General purpose
- Low cost connector
- Product approved by UL standard: File No. E-67741 (s)
- Highly reliable contact finish
- Stable connections
- Positive polarization with five keys and keyways

GENERAL SPECIFICATIONS

Number of Contacts	#16: 3, 7, 10, 16 #20: 5, 10, 16, 24
Current Rating	5 Amps max. for #20 contact 10 Amps max. for #16 contact
Operating Voltage	250 VAC r.m.s., max. 350 VDC max.
Operating Temperature	-25°C to +85°C
Dielectric Withstanding Voltage	1000 VAC r.m.s. (for one minute)
Insulation Resistance	1000 megohms min. (with 500 VDC)
Contact Resistance	5 milliohms max.
Durability	500 cycles

Connector Profile (Ref.)



MATERIALS AND FINISHES

Description	Materials/Finishes
Shell, Barrel, Endbell, Coupling Nut, Clamp	Aluminum alloy, Nickel plated (satin)
Insulator	Synthetic resin, UL94V-0 (Green)
Contact	Copper alloy, Silver plated
Retaining Ring	Copper alloy, Nickel plated
Set Screw, Clamp Screw	Steel, Nickel plated

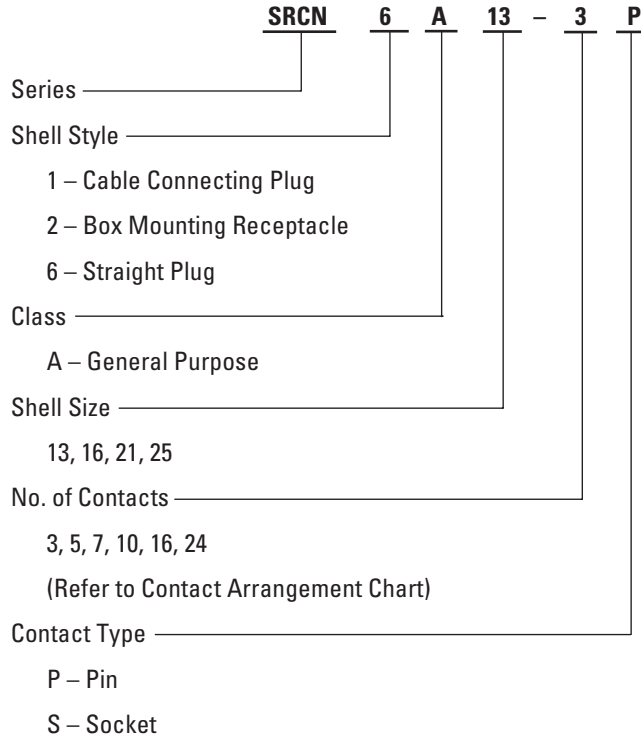
Dimensions and specifications subject to change without notice.



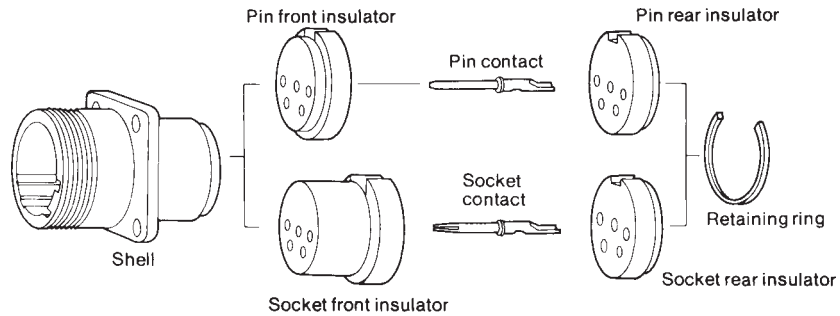
SRCN SERIES CONNECTORS

Low Cost, General Purpose Miniature Circular Connectors

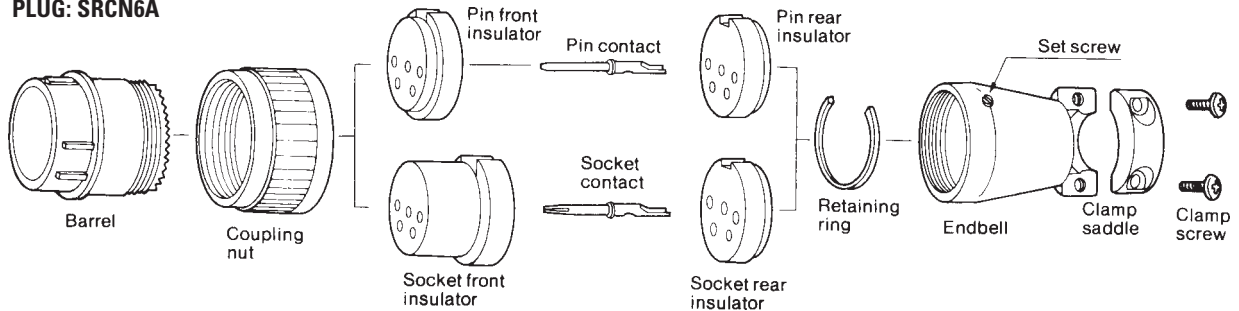
ORDERING INFORMATION



RECEPTACLE: SRCN2A



PLUG: SRCN6A



Dimensions in mm (inches).

SRCN SERIES CONNECTORS

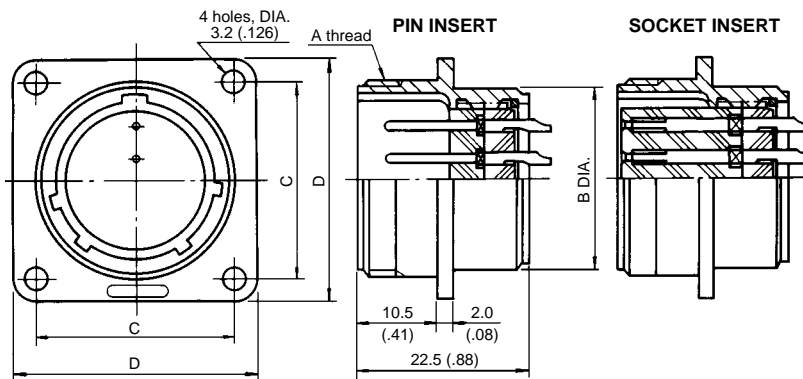
Low Cost, General Purpose Miniature Circular Connectors

CONTACT ARRANGEMENTS (Face view of pin insert)

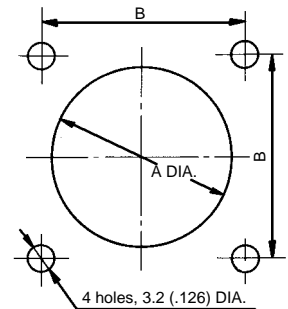
Shell Size	13	16	21	25
Current Rating 10 Amp				
Contact Size No. of Contacts	#16 Contact 3	#16 Contact 7	#16 Contact 10	#16 Contact 16
Current Rating 5 Amp				
Contact Size No. of Contacts	#20 Contact 5	#20 Contact 10	#20 Contact 16	#20 Contact 24

SRCN 2A • RECEPTACLE (SRCN 2A is receptacle mounted on box or panel.)

• Mating Connector: SRCN 6A



Mounting Hole Dimension



No. of Contacts	Part Number P: Pin Connector S: Socket Connector	A Metric Thread	B dia. ±0.3 (±.012)	C ±0.2 (±.008)	D ±0.5 (±.02)
3	SRCN2A13- 3P SRCN2A13- 3S	M18-P1	16 (.630)	20 (.787)	26 (1.024)
5	SRCN2A13- 5P SRCN2A13- 5S	M18-P1	16 (.630)	20 (.787)	26 (1.024)
7	SRCN2A16- 7P SRCN2A16- 7S	M22-P1	20 (.787)	23 (.906)	29 (1.142)
10	SRCN2A16- 10P SRCN2A16- 10S	M22-P1	20 (.787)	23 (.906)	29 (1.142)
10	SRCN2A21- 10P SRCN2A21- 10S	M26-P1	24 (.945)	26 (1.024)	32 (1.260)
16	SRCN2A21- 16P SRCN2A21- 16S	M26-P1	24 (.945)	26 (1.024)	32 (1.260)
16	SRCN2A25- 16P SRCN2A25- 16S	M30-P1	28 (1.102)	29 (1.142)	35 (1.378)
24	SRCN2A25- 24P SRCN2A25- 24S	M30-P1	28 (1.102)	29 (1.142)	35 (1.378)

Shell Size	A dia. ±0.5 (±.02)	B ±0.2 (±.008)
13	20 (.787)	20 (.787)
16	24 (.945)	23 (.906)
21	28 (1.102)	26 (1.024)
25	32 (1.260)	29 (1.142)

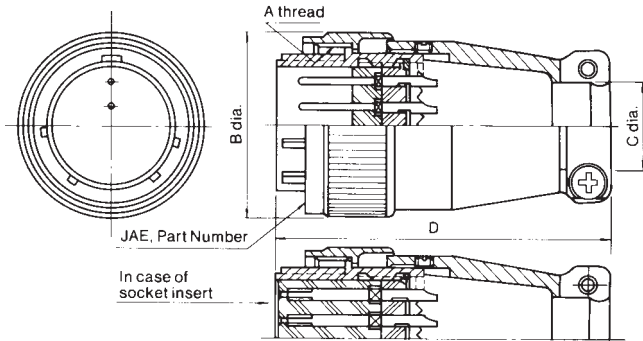
Note: In rear panel mounting, the panel shall be 4mm (.157") thick max.

Dimensions in mm (inches).

SRCN SERIES CONNECTORS

Low Cost, General Purpose Miniature Circular Connectors

SRCN 6A • STRAIGHT PLUG



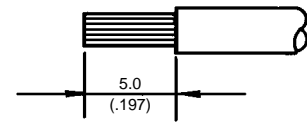
SRCN 6A is plug used at the end of cable. Cable lead-out port is straight with cable clamp. Before terminating, slide endbell over wire bundle.

- Mating Connector:
SRCN 2A
SRCN 1A

Applicable Wire Size

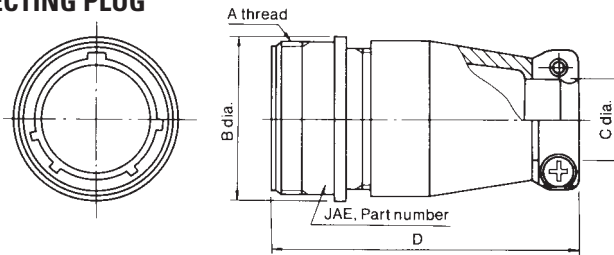
Contact Size	AWG No.	Conductor Sect. Area
20	#20 max.	0.5mm ² max.
16	#16 max.	1.25mm ² max.

Insulation Stripping Length



No. of Contacts	Part Number P: Pin Connector S: Socket Connector	A Metric Thread	B dia. ± 0.8 (± .031)	C dia. ± 0.5 (± .02)	D ± 2 (± .08)
3	SRCN6A13- 3P SRCN6A13- 3S	M18-P1	21.2 (.835)	8.5 (.335)	47 (1.850)
5	SRCN6A13- 5P SRCN6A13- 5S	M18-P1	21.2 (.835)	8.5 (.335)	47 (1.850)
7	SRCN6A16- 7P SRCN6A16- 7S	M22-P1	25.2 (.992)	11.5 (.453)	50 (1.969)
10	SRCN6A16- 10P SRCN6A16- 10S	M22-P1	25.2 (.992)	11.5 (.453)	50 (1.969)
10	SRCN6A21- 10P SRCN6A21- 10S	M26-P1	29.2 (1.150)	14 (.551)	54 (2.126)
16	SRCN6A21- 16P SRCN6A21- 16S	M26-P1	29.2 (1.150)	14 (.551)	54 (2.126)
16	SRCN6A25- 16P SRCN6A25- 16S	M30-P1	33.2 (1.307)	17 (.669)	57 (2.244)
24	SRCN6A25- 24P SRCN6A25- 24S	M30-P1	33.2 (1.307)	17 (.669)	57 (2.244)

SRCN 1A • CABLE CONNECTING PLUG



SRCN 1A is mated with straight plug for cable extension.

- Mating Connector:
SRCN 6A

No. of Contacts	Part Number P: Pin Connector S: Socket Connector	A Metric Thread	B dia. ± 2 (± .08)	C dia. ± 0.5 (± .02)	D ± 2 (± .08)
3	SRCN1A13- 3P SRCN1A13- 3S	M18-1P	20 (.787)	8.5 (.335)	46 (1.811)
5	SRCN1A13- 5P SRCN1A13- 5S	M18-1P	20 (.787)	8.5 (.335)	46 (1.811)
7	SRCN1A16- 7P SRCN1A16- 7S	M22-1P	24 (.945)	11.5 (.453)	49 (1.929)
10	SRCN1A16- 10P SRCN1A16- 10S	M22-1P	24 (.945)	11.5 (.453)	49 (1.929)
10	SRCN1A21- 10P SRCN1A21- 10S	M26-1P	28 (1.102)	14 (.551)	53 (2.087)
16	SRCN1A21- 16P SRCN1A21- 16S	M26-1P	28 (1.102)	14 (.551)	53 (2.087)
16	SRCN1A25- 16P SRCN1A25- 16S	M30-1P	32 (1.260)	17 (.669)	56 (2.205)
24	SRCN1A25- 24P SRCN1A25- 24S	M30-1P	32 (1.260)	17 (.669)	56 (2.205)

Dimensions in mm (inches).

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- Please consult JAE for verification of product availability.

Input/Output Connectors



Japan Aviation Electronics Industry, Limited

- **Japan Aviation Electronics Industry, Limited**
1-19, Aobadai 3-chome, Meguro-ku
Tokyo 153, Japan
Telephone: (03) 3780-2736 • Fax: (03) 3780-2883
- **JAЕ Electronics, Inc.**
142 Technology Drive, Suite 100
Irvine, California 92618-2430, U.S.A.
Telephone: (949) 753-2600 • Fax: (949) 753-2699
(800) 523-7278 Toll free in the U.S.A.
- **JAЕ United Kingdom**
Coliseum Business Centre
Riverside Way, Camberley
Surrey, GU15 3YL, England
Telephone: (44) (0) 1276-404000 • Fax: (44) (0) 1276-404010
- **JAЕ Taiwan, Ltd Taipei Branch Office**
4F-1, No. 88, Chung Hsiao E. Rd.
Sec. 2, Taipei, Taiwan, R.O.C.
Telephone: (8862) 2396-7676 • Fax: (8862) 2392-5929
- **JAЕ Hong Kong, Ltd.**
Units 1601 & 1612, Silvercord Tower 2
30 Canton Road, Tsimshatsui, KLN, Hong Kong
Telephone: (852) 2723-7782 • Fax: (852) 2723-9028
- **JAЕ Korea, Inc.**
Suite #516, Korea City Air Terminal Building
159-6 Samsung-Dong, Kangnam-ku
Seoul, 135-728, Korea
Telephone: (2551) 8959 • Fax: (2551) 8958
- **JAЕ Philippines, Inc.**
SEPZ, Gateway Business Park, Javalera
General Trias, 4107 Cavite, Philippines
Telephone: (06346) 433-0276 • Fax: (06346) 433-0287
- **JAЕ Singapore Pte., Ltd.**
33 Tannery Lane, #02-00 Hoesteel Industrial Building
Singapore 347789
Telephone: (65) 748-1332 • Fax: (65) 748-2920