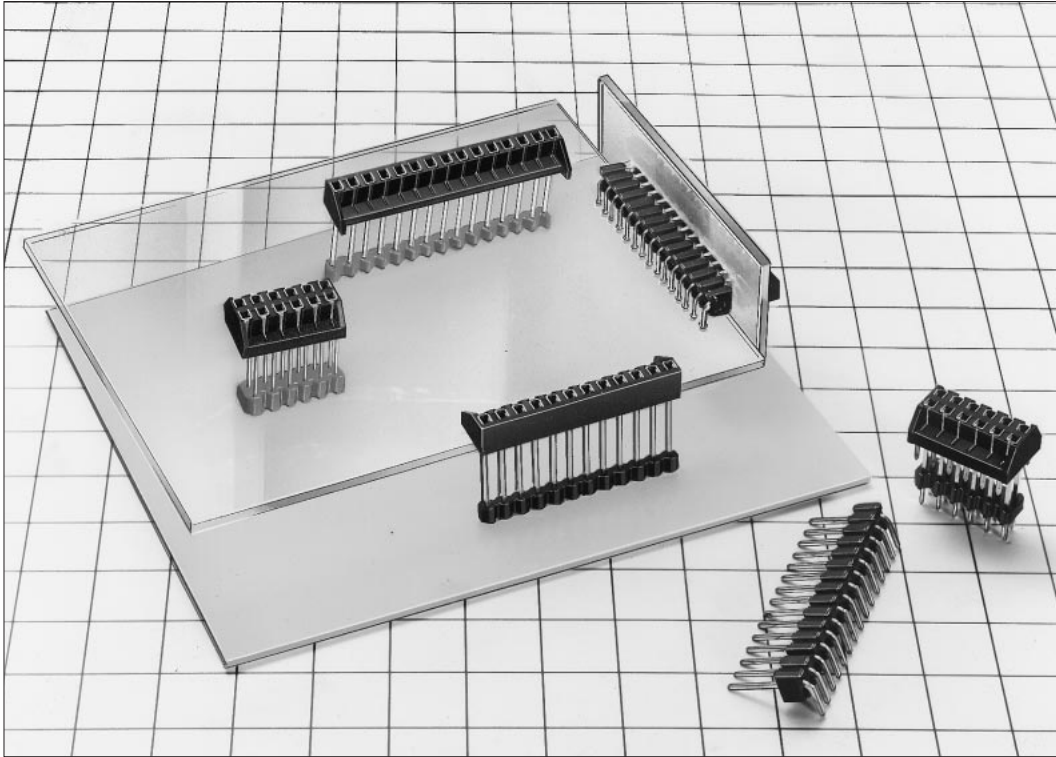


MDF7 SERIES

2.54 mm Pitch Bottom Entry Type Connector



■ Features

1. Board-to-board distance can be freely set.

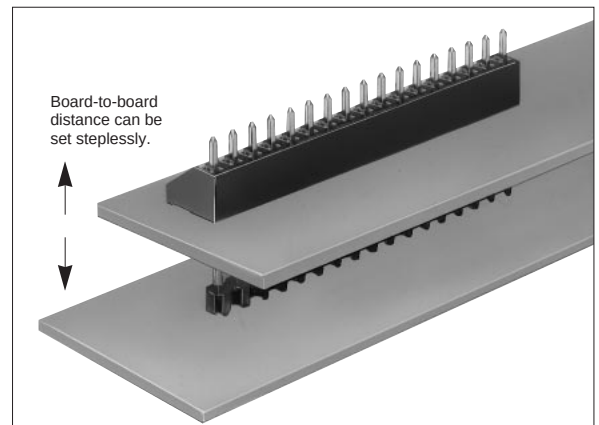
Pass-through construction header pins and many header variations allow you set the board-to-board steplessly.

2. Arrangement of component sides

Components sides of two boards can be arranged on the same side, without facing each other.

3. Many variations

Single-row, double-row, tin-plated, and gold-plated models are available, as are various types of headers to suit board-to-board distance requirements. For board-to-boards distances not specified in our catalog, please contact us.



■ Applications

Telephones, internal connections of OA/FA equipment, connection of IPM and IGBT to boards

Product standard

Rating	Rated current Rated voltage	3A AC250V	Operating temp. Operating humidity	-35~85°C (Note 1) 40~80%	Storage temp. Storage humidity	-10~60°C (Note 2) 40~70% (Note 2)
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Item	Standard	Conditions
1. Insulation resistance	1000 MΩ or more	Measured at 500 VDC
2. Withstand voltage	No flashover or dielectric breakdown allowed	AC650V 1 minute
3. Contact resistance	30 mΩ or less	Measured at 100 mA
4. Insertion and withdrawals force	MIN 0.4 N (40gf), MAX 4.4 N (450gf)	To be measured with a steel pin of $\varnothing 0.635 \pm 0.002$ mm
5. Vibration resistance	No electrical discontinuity of 10 μs or more allowed	Frequency: 10 - 55 Hz, single-side amplitude: 0.75 mm, 3 directions for 2 hours
6. Moisture resistance	Contact resistance: 30 mΩ or less, insulation resistance: 500 MΩ or more	Temperature: 40±2°C, humidity: 90 - 95%, allow 96 hours before measurement
7. Temperature cycle	Contact resistance: 30 mΩ or less, insulation resistance: 1000 MΩ or more	(-55°C for 30 min. → 5 - 35°C for 10 min. → 85°C for 30 min. → 5 - 35°C for 10 min.) 5 cycles
8. Insertion/extraction life	Contact resistance: 30 mΩ or less	Tin-plate : 30 insertions/extractions Gold-plate : 50 insertions/extractions
9. Solder heat resistance	No melting of resin affecting the connector performance allowed	Flow: 250°C for 10 seconds Manual soldering: solder temperature: 300°C for 3 seconds

Note 1: Includes temperature rise when power is on.

Note 2: "Storage" refers to a long period of storage without use of the product before being mounted on a board.

The operating temperature and humidity ranges apply to the connectors mounted on a board when turned off, and connectors under temporary storage such as those being transported.

Note 3: The above standards are typical for the MDF7 series. The formal standards are stated in the delivery specifications.

Material

Product No.	Part	Material	Processing	UL Rating
Receptacle	Insulation	Polyamide resin	Black	UL94V-0
	Terminal	Phosphor bronze	Tin-plated or gold-plated	_____
Pin header	Insulation	PBT resin	Main body : Black / Locator : Grey	UL94V-0
	Terminal	Brass	Tin-plated or gold-plated	_____

Note : Our tin plating is protected from whiskers.

Structure of the product number

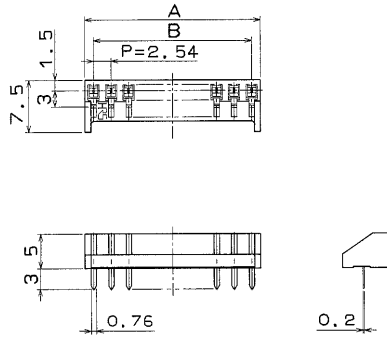
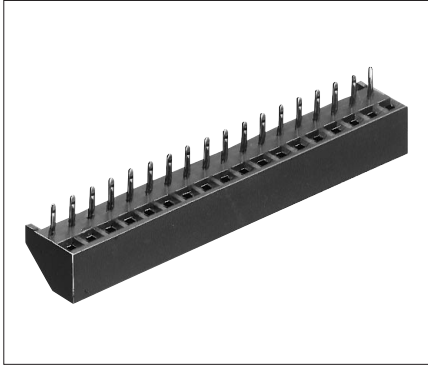
The product specifications can be determined from the product number.

When ordering, select products using the product numbers listed in this catalog. 132 to 136 pages.

MDF7 - *S - 2.54DSA
 ① ② ③ ④ ⑤ ⑥

① Series Name : MDF	⑤ Contact pitch : 2.54mm
② Series No. : 7	⑥ Type of termination DSA : Straight dip DS : Right angle dip
③ Number of contacts : 3~46	
④ Types of connectors S : Single row receptacle D : Double row receptacle P : Single row pin header DP : Double row pin header	

Single row receptacle



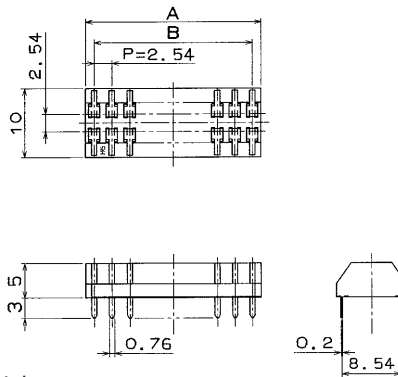
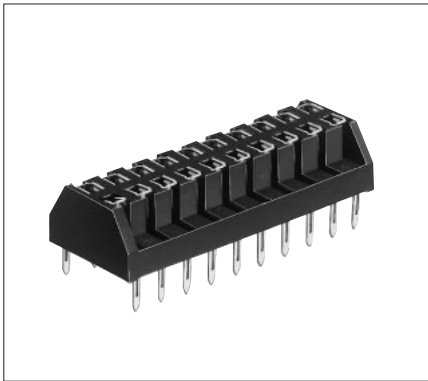
[Specification No.]: -**, (**)
Blank : Tin-plated
(01) : Gold-plated

Unit : mm

HRS No.	Product No.	No. of contacts	A	B	HRS No.	Product No.	No. of contacts	A	B
547-0355-0-**-	MDF7- 3S-2.54DSA (**)	3	7.62	5.08	547-0012-4-**-	MDF7-15S-2.54DSA (**)	15	38.10	35.56
547-0112-9-**-	MDF7- 5S-2.54DSA (**)	5	12.70	10.16	547-0141-7-**-	MDF7-16S-2.54DSA (**)	16	40.64	38.10
547-0129-1-**-	MDF7- 6S-2.54DSA (**)	6	15.24	12.70	547-0142-0-**-	MDF7-17S-2.54DSA (**)	17	43.18	40.64
547-0135-4-**-	MDF7- 7S-2.54DSA (**)	7	17.78	15.24	547-0013-7-**-	MDF7-18S-2.54DSA (**)	18	45.72	43.18
547-0136-7-**-	MDF7- 8S-2.54DSA (**)	8	20.32	17.78	547-0143-2-**-	MDF7-19S-2.54DSA (**)	19	48.26	45.72
547-0137-0-**-	MDF7- 9S-2.54DSA (**)	9	22.86	20.32	547-0051-6-**-	MDF7-20S-2.54DSA (**)	20	50.80	48.26
547-0038-8-**-	MDF7-10S-2.54DSA (**)	10	25.40	22.86	547-0144-5-**-	MDF7-21S-2.54DSA (**)	21	53.34	50.80
547-0138-2-**-	MDF7-11S-2.54DSA (**)	11	27.94	25.40	547-0145-8-**-	MDF7-22S-2.54DSA (**)	22	55.88	53.34
547-0040-0-**-	MDF7-12S-2.54DSA (**)	12	30.48	27.94	547-0146-0-**-	MDF7-23S-2.54DSA (**)	23	58.42	55.88
547-0139-5-**-	MDF7-13S-2.54DSA (**)	13	33.02	30.48	547-0147-3-**-	MDF7-24S-2.54DSA (**)	24	60.96	58.42
547-0140-4-**-	MDF7-14S-2.54DSA (**)	14	35.56	33.02	547-0014-0-**-	MDF7-25S-2.54DSA (**)	25	63.50	60.96

Note : Minimum order quantity of the models without a number specified is one pack containing 100 sockets.

Double row receptacle



Unit : mm

HRS No.	Product No.	No. of contacts	A	B
547-0032-1-**-	MDF7-12D-2.54DSA (**)	12	15.24	12.70
547-0354-8-**-	MDF7-14D-2.54DSA (**)	14	17.78	15.24
547-0363-9-**-	MDF7-16D-2.54DSA (**)	16	20.32	17.78
547-0033-4-**-	MDF7-20D-2.54DSA (**)	20	25.40	22.86
547-0246-5-**-	MDF7-22D-2.54DSA (**)	22	27.94	25.40
547-0244-0-**-	MDF7-24D-2.54DSA (**)	24	30.48	27.94
547-0247-8-**-	MDF7-26D-2.54DSA (**)	26	33.02	30.48
547-0016-5-**-	MDF7-30D-2.54DSA (**)	30	38.10	35.56
547-0227-0-**-	MDF7-34D-2.54DSA (**)	34	43.18	40.64
547-0228-3-**-	MDF7-40D-2.54DSA (**)	40	50.80	48.26
547-0229-6-**-	MDF7-46D-2.54DSA (**)	46	58.42	55.88

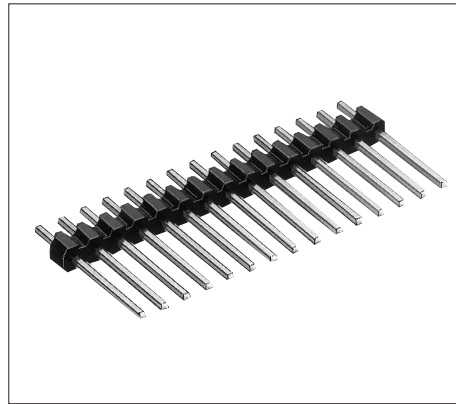
[Specification No.]: -**, (**)
Blank : Gold-plated
(01) : Tin-plated

Note 1: Minimum order quantity of the models without a number specified is one pack containing 100 sockets.

Note 2: Plating specifications of the double-row MDF7 series:

Blank: Gold-plated, (01): Tin-plated (different from the single-row MDF-7)

Single row straight pin header

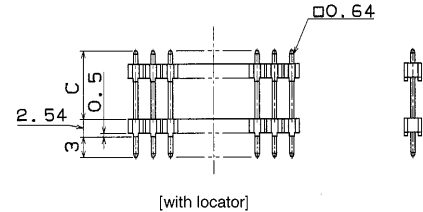
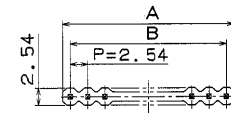
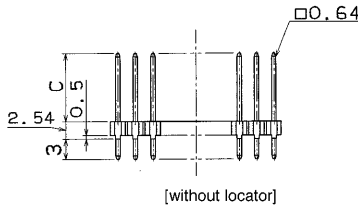
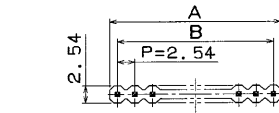


● Board through-hole dia. : $\phi 1.0 \pm 0.1$

[Specification No.]: -**, (**)

Blank : Tin-plated

(01) : Gold-plated



● MDF7 (Board-to-board distance 2.54~5.5mm)

● MDF7B (Board-to-board distance 2.54~12mm)

Unit : mm

HRS No.	Product No.	No. of contacts	A	B	C
547-0220-1-**-	MDF7- 3P-2.54DSA (**)	3	7.62	5.08	10
547-0113-1-**-	MDF7- 5P-2.54DSA (**)	5	12.70	10.16	10
547-0130-0-**-	MDF7- 6P-2.54DSA (**)	6	15.24	12.70	10
547-0148-6-**-	MDF7- 7P-2.54DSA (**)	7	17.78	15.24	10
547-0149-9-**-	MDF7- 8P-2.54DSA (**)	8	20.32	17.78	10
547-0150-8-**-	MDF7- 9P-2.54DSA (**)	9	22.86	20.32	10
547-0039-0-**-	MDF7-10P-2.54DSA (**)	10	25.40	22.86	10
547-0151-0-**-	MDF7-11P-2.54DSA (**)	11	27.94	25.40	10
547-0043-8-**-	MDF7-12P-2.54DSA (**)	12	30.48	27.94	10
547-0152-3-**-	MDF7-13P-2.54DSA (**)	13	33.02	30.48	10
547-0153-6-**-	MDF7-14P-2.54DSA (**)	14	35.56	33.02	10
547-0018-0-**-	MDF7-15P-2.54DSA (**)	15	38.10	35.56	10
547-0111-6-**-	MDF7-16P-2.54DSA (**)	16	40.64	38.10	10
547-0154-9-**-	MDF7-17P-2.54DSA (**)	17	43.18	40.64	10
547-0022-8-**-	MDF7-18P-2.54DSA (**)	18	45.72	43.18	10
547-0155-1-**-	MDF7-19P-2.54DSA (**)	19	48.26	45.72	10
547-0123-5-**-	MDF7-20P-2.54DSA (**)	20	50.80	48.26	10
547-0156-4-**-	MDF7-21P-2.54DSA (**)	21	53.34	50.80	10
547-0157-7-**-	MDF7-22P-2.54DSA (**)	22	55.88	53.34	10
547-0158-0-**-	MDF7-23P-2.54DSA (**)	23	58.42	55.88	10
547-0159-2-**-	MDF7-24P-2.54DSA (**)	24	60.96	58.42	10
547-0023-0-**-	MDF7-25P-2.54DSA (**)	25	63.50	60.96	10

Unit : mm

HRS No.	Product No.	No. of contacts	A	B	C
547-0304-0-**-	MDF7B- 3P-2.54DSA (**)	3	7.62	5.08	16.46
547-0133-9-**-	MDF7B- 5P-2.54DSA (**)	5	12.70	10.16	16.46
547-0131-3-**-	MDF7B- 6P-2.54DSA (**)	6	15.24	12.70	16.46
547-0177-4-**-	MDF7B- 7P-2.54DSA (**)	7	17.78	15.24	16.46
547-0178-7-**-	MDF7B- 8P-2.54DSA (**)	8	20.32	17.78	16.46
547-0179-0-**-	MDF7B- 9P-2.54DSA (**)	9	22.86	20.32	16.46
547-0048-1-**-	MDF7B-10P-2.54DSA (**)	10	25.40	22.86	16.46
547-0047-9-**-	MDF7B-11P-2.54DSA (**)	11	27.94	25.40	16.46
547-0041-2-**-	MDF7B-12P-2.54DSA (**)	12	30.48	27.94	16.46
547-0180-9-**-	MDF7B-13P-2.54DSA (**)	13	33.02	30.48	16.46
547-0181-1-**-	MDF7B-14P-2.54DSA (**)	14	35.56	33.02	16.46
547-0024-3-**-	MDF7B-15P-2.54DSA (**)	15	38.10	35.56	16.46
547-0182-4-**-	MDF7B-16P-2.54DSA (**)	16	40.64	38.10	16.46
547-0183-7-**-	MDF7B-17P-2.54DSA (**)	17	43.18	40.64	16.46
547-0025-6-**-	MDF7B-18P-2.54DSA (**)	18	45.72	43.18	16.46
547-0184-0-**-	MDF7B-19P-2.54DSA (**)	19	48.26	45.72	16.46
547-0052-9-**-	MDF7B-20P-2.54DSA (**)	20	50.80	48.26	16.46
547-0185-2-**-	MDF7B-21P-2.54DSA (**)	21	53.34	50.80	16.46
547-0186-5-**-	MDF7B-22P-2.54DSA (**)	22	55.88	53.34	16.46
547-0066-3-**-	MDF7B-23P-2.54DSA (**)	23	58.42	55.88	16.46
547-0067-6-**-	MDF7B-24P-2.54DSA (**)	24	60.96	58.42	16.46
547-0026-9-**-	MDF7B-25P-2.54DSA (**)	25	63.50	60.96	16.46

Note 1: The board-to-board distances in the above Table are for boards of 1.6 mm in thickness.

Note 2: Minimum order quantity of the models without a number specified is one pack containing 100 sockets.

● MDF7P (Board-to-board distance 2.54 ~ 8mm)

● MDF7C (Board-to-board distance 5.08 ~ 15mm with locator)

Unit: mm

Unit : mm

HRS No.	Product No.	No. of contacts	A	B	C
—————	MDF7P- 3P-2.54DSA (**)	3	7.62	5.08	12.5
—————	MDF7P- 5P-2.54DSA (**)	5	12.70	10.16	12.5
—————	MDF7P- 6P-2.54DSA (**)	6	15.24	12.70	12.5
—————	MDF7P- 7P-2.54DSA (**)	7	17.78	15.24	12.5
—————	MDF7P- 8P-2.54DSA (**)	8	20.32	17.78	12.5
—————	MDF7P- 9P-2.54DSA (**)	9	22.86	20.32	12.5
547-0360-0-*	MDF7P-10P-2.54DSA (**)	10	25.40	22.86	12.5
—————	MDF7P-11P-2.54DSA (**)	11	27.94	25.40	12.5
547-0345-7-*	MDF7P-12P-2.54DSA (**)	12	30.48	27.94	12.5
—————	MDF7P-13P-2.54DSA (**)	13	33.02	30.48	12.5
547-0385-1-*	MDF7P-14P-2.54DSA (**)	14	35.56	33.02	12.5
547-0230-5-*	MDF7P-15P-2.54DSA (**)	15	38.10	35.56	12.5
547-0346-0-*	MDF7P-16P-2.54DSA (**)	16	40.64	38.10	12.5
—————	MDF7P-17P-2.54DSA (**)	17	43.18	40.64	12.5
—————	MDF7P-18P-2.54DSA (**)	18	45.72	43.18	12.5
547-0347-2-*	MDF7P-19P-2.54DSA (**)	19	48.26	45.72	12.5
—————	MDF7P-20P-2.54DSA (**)	20	50.80	48.26	12.5
—————	MDF7P-21P-2.54DSA (**)	21	53.34	50.80	12.5
—————	MDF7P-22P-2.54DSA (**)	22	55.88	53.34	12.5
—————	MDF7P-23P-2.54DSA (**)	23	58.42	55.88	12.5
—————	MDF7P-24P-2.54DSA (**)	24	60.96	58.42	12.5
547-0348-5-*	MDF7P-25P-2.54DSA (**)	25	63.50	60.96	12.5

HRS No.	Product No.	No. of contacts	A	B	C
—————	MDF7C- 3P-2.54DSA (**)	3	7.62	5.08	19.46
547-0344-4-*	MDF7C- 5P-2.54DSA (**)	5	12.70	10.16	19.46
547-0268-8-*	MDF7C- 6P-2.54DSA (**)	6	15.24	12.70	19.46
547-0378-6-*	MDF7C- 7P-2.54DSA (**)	7	17.78	15.24	19.46
547-0375-8-*	MDF7C- 8P-2.54DSA (**)	8	20.32	17.78	19.46
—————	MDF7C- 9P-2.54DSA (**)	9	22.86	20.32	19.46
—————	MDF7C-10P-2.54DSA (**)	10	25.40	22.86	19.46
547-0376-0-*	MDF7C-11P-2.54DSA (**)	11	27.97	25.40	19.46
—————	MDF7C-12P-2.54DSA (**)	12	30.48	27.94	19.46
547-0401-6-*	MDF7C-13P-2.54DSA (**)	13	33.02	30.48	19.46
547-0380-8-*	MDF7C-14P-2.54DSA (**)	14	35.56	33.02	19.46
—————	MDF7C-15P-2.54DSA (**)	15	38.10	35.56	19.46
—————	MDF7C-16P-2.54DSA (**)	16	40.64	38.10	19.46
—————	MDF7C-17P-2.54DSA (**)	17	43.18	40.64	19.46
547-0029-7-*	MDF7C-18P-2.54DSA (**)	18	45.72	43.18	19.46
547-0361-3-*	MDF7C-19P-2.54DSA (**)	19	48.26	45.72	19.46
547-0198-4-*	MDF7C-20P-2.54DSA (**)	20	50.80	48.26	19.46
—————	MDF7C-21P-2.54DSA (**)	21	53.34	50.80	19.46
—————	MDF7C-22P-2.54DSA (**)	22	55.88	53.34	19.46
—————	MDF7C-23P-2.54DSA (**)	23	58.42	55.88	19.46
—————	MDF7C-24P-2.54DSA (**)	24	60.96	58.42	19.46
547-0305-2-*	MDF7C-25P-2.54DSA (**)	25	63.50	60.96	19.46

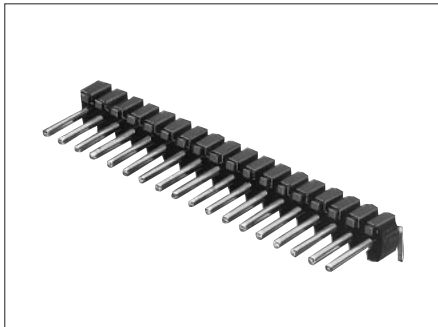
Note 1: The board-to-board distances in the above Table are for boards of 1.6 mm in thickness.

Note 2: Minimum order quantity of the models without a number specified is one pack containing 100 sockets.

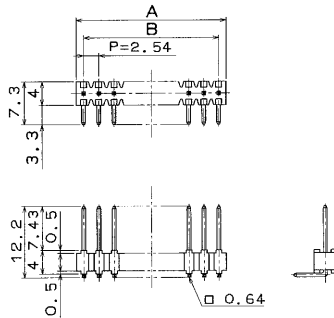
Note 3: For the products without HRS No. in the above Table, we will be ready to meet your request by sample or mass production.

Please feel free to ask us.

Single row right angle pin header



● Board through-hole dia. : $\phi 1.1 \pm 0.1$



[Specification No.]: -**, (**)

Blank : Tin-plated

(01) : Gold-plated

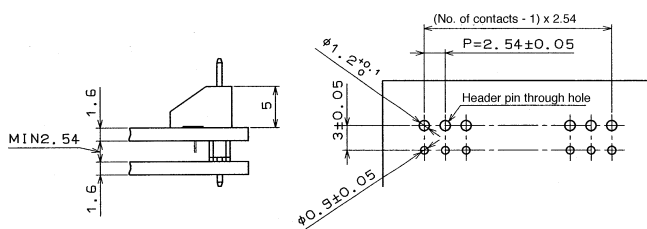
Unit : mm

HRS No.	Product No.	No. of contacts	A	B	HRS No.	Product No.	No. of contacts	A	B
547-0160-1-**-	MDF7- 5P-2.54DS (**)	5	12.70	10.16	547-0169-6-**-	MDF7-16P-2.54DS (**)	16	40.64	38.10
547-0161-4-**-	MDF7- 6P-2.54DS (**)	6	15.24	12.70	547-0170-5-**-	MDF7-17P-2.54DS (**)	17	43.18	40.64
547-0162-7-**-	MDF7- 7P-2.54DS (**)	7	17.78	15.24	547-0019-3-**-	MDF7-18P-2.54DS (**)	18	45.72	43.18
547-0163-0-**-	MDF7- 8P-2.54DS (**)	8	20.32	17.78	547-0171-8-**-	MDF7-19P-2.54DS (**)	19	48.26	45.72
547-0164-2-**-	MDF7- 9P-2.54DS (**)	9	22.86	20.32	547-0172-0-**-	MDF7-20P-2.54DS (**)	20	50.80	48.26
547-0165-5-**-	MDF7-10P-2.54DS (**)	10	25.40	22.86	547-0173-3-**-	MDF7-21P-2.54DS (**)	21	53.34	50.80
547-0166-8-**-	MDF7-11P-2.54DS (**)	11	27.94	25.40	547-0174-6-**-	MDF7-22P-2.54DS (**)	22	55.88	53.34
547-0116-0-**-	MDF7-12P-2.54DS (**)	12	30.48	27.94	547-0175-9-**-	MDF7-23P-2.54DS (**)	23	58.42	55.88
547-0167-0-**-	MDF7-13P-2.54DS (**)	13	33.02	30.48	547-0176-1-**-	MDF7-24P-2.54DS (**)	24	60.96	58.42
547-0168-3-**-	MDF7-14P-2.54DS (**)	14	35.56	33.02	547-0028-4-**-	MDF7-25P-2.54DS (**)	25	63.50	60.96
547-0027-1-**-	MDF7-15P-2.54DS (**)	15	38.10	35.56					

Note : Minimum order quantity of the models without a number specified is one pack containing 100 sockets.

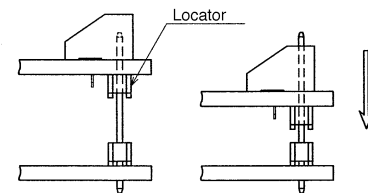
Application drawings and back board dimensional drawings

● When a single-row straight pin header is used



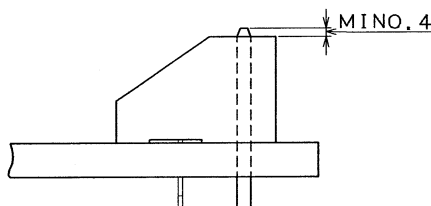
● Header with a locator

The locator will move when the connector is inserted.

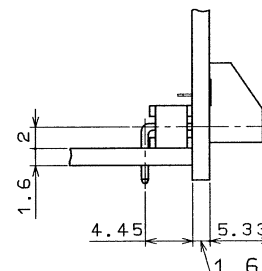


● Conditions for maximizing the setting of the board-to-board distance

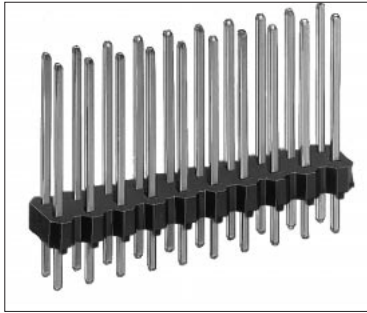
The maximum board-to-board distance allows the male pin to protrude from the receptacle by 0.4 mm.



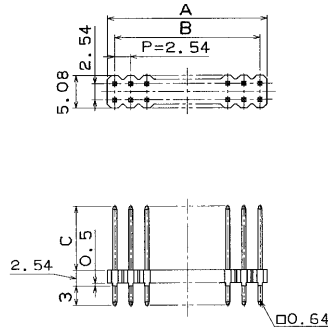
● When a right-angle pin header is used



Double row right angle pin header



● Board through-hole dia. : $\phi 1.1 \pm 0.1$



[Specification No.]: -**, (**)

Blank : Gold-plated

(01) : Tin-plated

● MDF7 (Board-to-board distance 2.54 ~ 5.5mm) ● MDF7P (Board-to-board distance 2.54 ~ 8mm)

HRS No.	Product No.	No. of contacts	A	B	C
547-0034-7-*	MDF7-12DP-2.54DSA (**)	12	15.24	12.70	10
547-0365-4-*	MDF7-14DP-2.54DSA (**)	14	17.78	15.24	10
547-0364-1-*	MDF7-16DP-2.54DSA (**)	16	20.32	17.78	10
547-0114-4-*	MDF7-20DP-2.54DSA (**)	20	25.40	22.86	10
547-0093-6-*	MDF7-22DP-2.54DSA (**)	22	27.94	25.40	10
547-0250-2-*	MDF7-24DP-2.54DSA (**)	24	30.48	27.94	10
547-0251-5-*	MDF7-26DP-2.54DSA (**)	26	33.02	30.48	10
547-0037-5-*	MDF7-30DP-2.54DSA (**)	30	38.10	35.56	10
547-0252-8-*	MDF7-34DP-2.54DSA (**)	34	43.18	40.64	10
547-0253-0-*	MDF7-40DP-2.54DSA (**)	40	50.80	48.26	10
547-0254-3-*	MDF7-46DP-2.54DSA (**)	46	58.42	55.88	10

Unit : mm

HRS No.	Product No.	No. of contacts	A	B	C
547-0407-2-*	MDF7P-12DP-2.54DSA (**)	12	15.24	12.70	12.5
—	MDF7P-14DP-2.54DSA (**)	14	17.78	15.24	12.5
547-0367-0-*	MDF7P-16DP-2.54DSA (**)	16	20.32	17.78	12.5
547-0260-6-*	MDF7P-20DP-2.54DSA (**)	20	25.40	22.86	12.5
547-0261-9-*	MDF7P-22DP-2.54DSA (**)	22	27.94	25.40	12.5
547-0262-1-*	MDF7P-24DP-2.54DSA (**)	24	30.48	27.94	12.5
547-0263-4-*	MDF7P-26DP-2.54DSA (**)	26	33.02	30.48	12.5
547-0264-7-*	MDF7P-30DP-2.54DSA (**)	30	38.10	35.56	12.5
—	MDF7P-34DP-2.54DSA (**)	34	43.18	40.64	12.5
—	MDF7P-40DP-2.54DSA (**)	40	50.80	48.26	12.5
—	MDF7P-46DP-2.54DSA (**)	46	58.42	55.88	12.5

Unit : mm

Note 1: The board-to-board distances in the above Table are for boards of 1.6 mm in thickness.

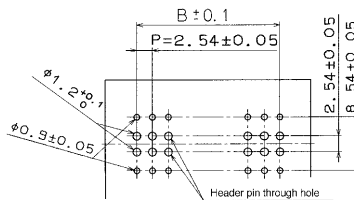
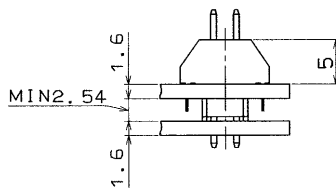
Note 2: Minimum order quantity of the models without a number specified is one pack containing 100 sockets.

Note 3: In the second row plating of the MDF7 series, "blank" denotes gold plating and (01) denotes tin plating, being different from the first row plating.

Note 4: For the products without HRS No. in the above Table, we will be ready to meet your request by sample or mass production. Please feel free to ask us.

Application drawings and back board dimensional drawings

● When a double-row straight pin header is used



Notes on use

1. Recommended soldering conditions	■ Flow conditions for automatic soldering device: Solder temperature: $250 \pm 5^\circ\text{C}$, soldering time: Within 3 seconds ■ Manual soldering conditions: Solder temperature: $290 \pm 10^\circ\text{C}$, soldering time: Within 3 seconds
2. Board masking	When using an automatic soldering device, close the through holes for pin headers with a masking tape, in order to prevent flux from entering. If flux on the contacts is so excessive that it affects the function of the contacts, clean them.
3. Cleaning conditions	See "GUIDE TO HIROSE NYLON CONNECTORS."
4. PRECAUTIONS	■ Do not use the connectors to fix the board-to-board distance. Use fixtures to fix the boards. ■ If a board is considered to warp due to vibration, use connectors with gold-plated contacts. ■ Do not use the above connectors for "top entry" mounting.