

A3/A4 Series

2mm Pitch Miniature Connector



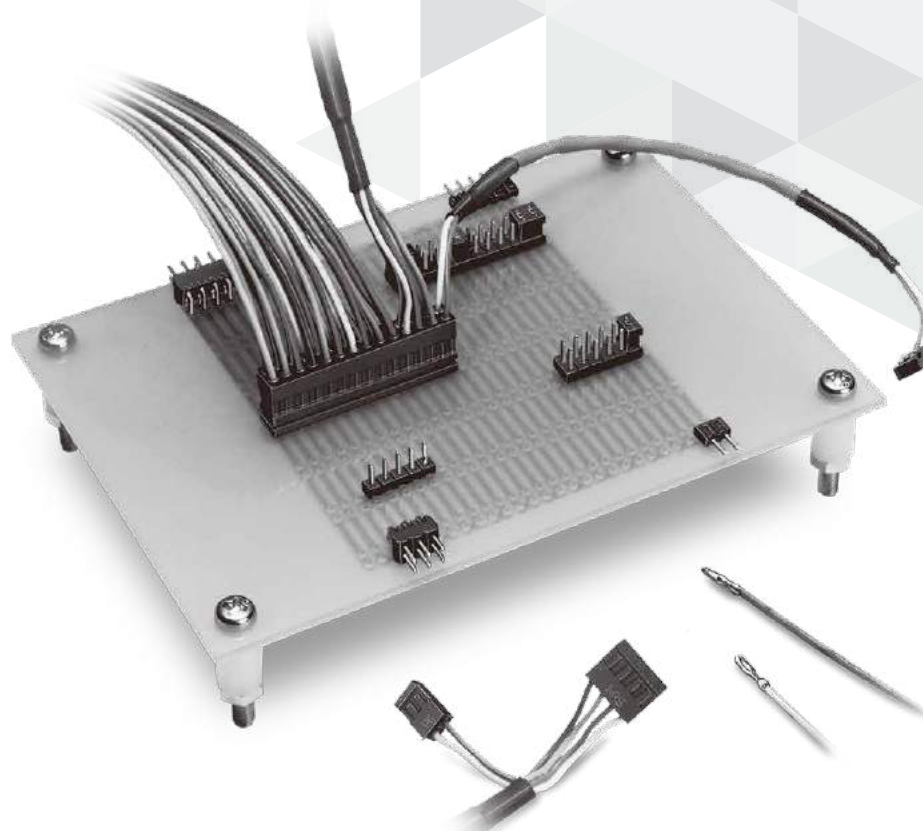
P=2.0 mm



Wide Variation



Compact



Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

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Features

1. Miniature Type and High Density Mounting

These connectors are designed to be a miniature and light weight product, and mounted in the high density. The crimp socket is structured in the 2mm pitch grid, so that connectors can be arranged for use.

2. Variation in Number of Contacts

In addition to the dip type, SMT and crimping types are available with broad variations.

3. Stacking Variation

When the connector is used for board to board, set 6mm between boards in conjunction with the pin header A3B, or 5.1mm between boards in conjunction with the pin header A3C.

Applications

Various kinds of electronic equipment

Product Specifications

Rated Current	1A	Operating Temperature (Note 1)	-55 to +85°C
Rated Voltage	200V AC	Storage Temperature (Note 2)	-10 to +60°C
		Operating Humidity Range	40 to 80%
		Storage Humidity Range (Note 2)	40 to 70%

Items	Specifications	Conditions
Insulation Resistance	1000M Ω Min.	Measured at 500V DC
Withstanding Voltage	No flashover or insulation breakdown	650V AC for 1 min
Contact Resistance	15m Ω Max.	Measured at 0.1A
Vibration Resistance	No electrical discontinuity of 10 μ s or more.	Frequency : 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.
Humidity Resistance	Insulation Resistance : 1000M Ω Min.	96 hours at temperature of 40 $\pm$ 2°C and humidity of 90% to 95%
Temperature Cycles	No damage, cracks, or parts looseness.	-65°C : 30 minutes $\rightarrow$ 15 to 35°C : MAX 5 minutes $\rightarrow$ 125°C : 30 minutes $\rightarrow$ 15 to 35°C : MAX 5 minutes, 5 cycles
Mating Durability	Contact Resistance : 20m Ω Max.	100 times
Solder Heat Resistance	No dissolution of the resin part affecting performance.	Solder tank : 260°C , 10sec. Hand soldering : temperature of soldering iron at 350°C for 3sec.

Note 1 : Includes temperature rise caused by current flow.

Note 2 : The storage condition refers to long-term storage of the product on the shelf before assembly.

Please use the operating temperature for temporary storage such as pre-assembly and during shipping.

Note 3 : Information contained in this catalog represents general requirements for this Series.

Contact us for the drawings and specifications for a specific part number shown.

Materials / Finish

Item	Component	Material	Color / Finish	Remarks		
Pin Header (Through Hole)	Insulator	Polyamide	Black	UL94V-0		
Receptacle (Through Hole)		PBT				
Pin Header (SMT)		PPS	Light Brown			
Receptacle (SMT)		PBT	Black			
Crimp Socket						
Pin Header	Contact	Brass	Partially Gold Plating	-		
Receptacle		Phosphorous Bronze				
Crimp Contact						

Note : Slight variations in color of the plastic compounds do not affect form, fit or function of the connector.

Product Number Structure

Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

■ Pin Header (Through Hole type)

A 3B - 12 P - 2 DS

① ② ③ ④ ⑤ ⑥

① Series Name	A	④ Connector Type	P, PA : Pin Header
② Series No.	3B : Dual-Row 4B : Single-Row 3C : Dual-Row (Low Profile Product)	⑤ Contact Pitch	2mm
③ No. of Pos.	Dual-Row : 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, 28, 30, 32, 44, 50 (44 and 50 pos. correspond to the right angle type only. Straight angle type corresponds to the A3C type.) Single-Row : 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16	⑥ Housing Type	DS : Right Angle Type DSA : Straight Type

■ Pin Header (SMT type)

A 3 A - 44 P A - 2 SV

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Series Name	A	⑤ Connector Type	P : Pin Header
② Series No.	3	⑥ A	Partially Gold Plating
③ Positioning Boss	A : With Boss No Symbol : Without Boss	⑦ Contact Pitch	2mm
④ No. of Pos.	4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28, 30, 32, 44, 50	⑧ Housing Type	SV : Board Vertical Type

■ Receptacle (Through Hole type)

A 3 - 44 D - 2 DS

① ② ③ ④ ⑤ ⑥

① Series Name	A	④ Connector Type	DA : Receptacle
② Series No.	3 : Dual-Row 3C : Dual-Row 3D : Dual-Row (For FPC, FFC)(Note)	⑤ Contact Pitch	2mm
③ No. of Pos.	3 : 44, 50 3C, 3D : 4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28, 32, 50	⑥ Housing Type	DS : Right Angle Type DSA : Straight Type (Lead Length 3mm) DSC : Straight Type (Lead Length 2mm) DSE : Straight Type (Lead Length 1.27mm)

Note : A standoff has been added to the center portion of the connector to provide stable mounting.

■ Receptacle (SMT Type)

A 3 A - 32 D A - 2 SV

① ② ③ ④ ⑤ ⑥ ⑦ ⑧

① Series Name	A	⑤ Connector Type	D : Receptacle
② Series No.	3	⑥ A	Partially Gold Plating
③ Positioning Boss	A : With Boss No Symbol : Without Boss	⑦ Contact Pitch	2mm
④ No. of Pos.	4, 6, 8, 10, 12, 14, 16, 18, 20, 24, 28, 30, 32	⑧ Housing Type	SV : Board Vertical Type

■ Crimp Socket

A 3B - 44 D - 2 C

① ② ③ ④ ⑤ ⑥

① Series Name	A	④ Contact Alignment	D : Dual-Row S : Single-Row
② Series No.	3B : Dual-Row 4B : Single-Row	⑤ Contact Pitch	2mm
③ No. of Pos.	Dual-Row : 8, 10, 12, 14, 18, 20, 24, 28, 44 Single-Row : 2, 3, 4, 5, 6, 8, 10, 12, 15, 16, 18	⑥ Connection Type	C : Crimping

■ Crimp Contact

A 3B - 2630 SCFC

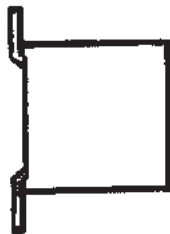
① ② ③ ④

① Series Name	A	③ Applicable Wire Size	2630 : 26 to 30 AWG
② Series No.	3B	④ Packaging Type	SCFC : Reel Contact SCC : Loose Contact

Connector Mating Combinations Diagram

● Receptacle and Socket Side

Straight SMT Type



A3(A)-#DA-2SV

Straight Through Hole Type



A3C(D)-#DA-2DSA(DSC, DSE)

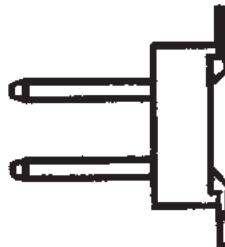
Cable Crimping Type



A3B-#D-2C

● Pin Header Side

Straight SMT Type



A3(A)-#PA-2SV

Straight Through Hole (low profile) Type



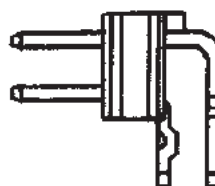
A3C-#P-2DSA

Straight Through Hole Type



A3B-#PA-2DSA

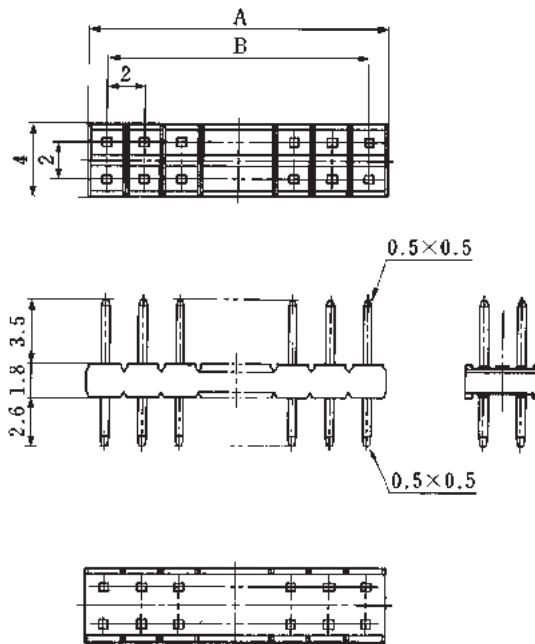
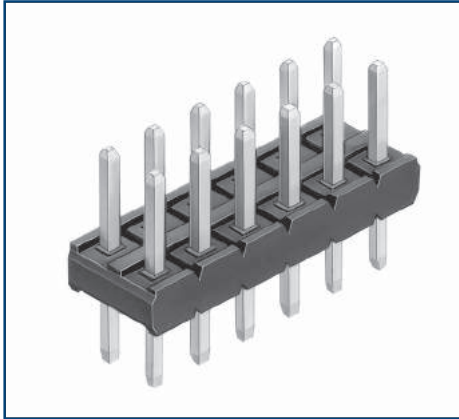
Right Angle Through Hole Type



A3B-#PA-2DS

Pin Header

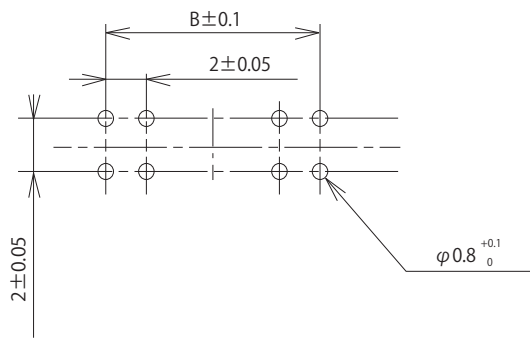
●A3B Straight Type (Dual-Row)



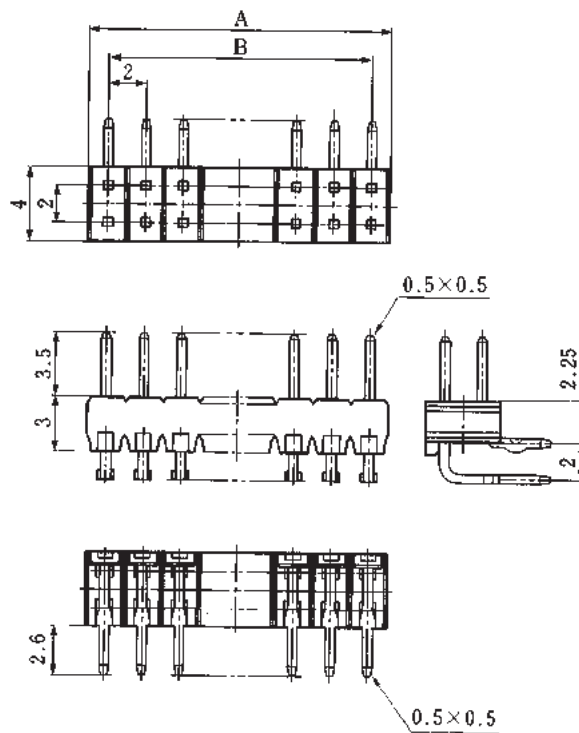
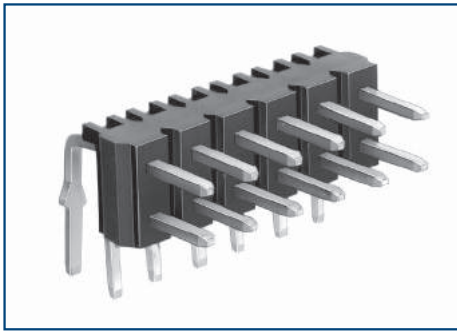
Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	RoHS	Purchase Unit
A3B-4PA-2DSA(51)	CL0621-0401-1-51	4	4	2	○	100pcs per bag
A3B-6PA-2DSA(51)	CL0621-0402-4-51	6	6	4		
A3B-8PA-2DSA(51)	CL0621-0403-7-51	8	8	6		
A3B-10PA-2DSA(51)	CL0621-0404-0-51	10	10	8		
A3B-12PA-2DSA(51)	CL0621-0405-2-51	12	12	10		
A3B-14PA-2DSA(51)	CL0621-0406-5-51	14	14	12		
A3B-16PA-2DSA(51)	CL0621-0407-8-51	16	16	14		
A3B-18PA-2DSA(51)	CL0621-0408-0-51	18	18	16		
A3B-20PA-2DSA(51)	CL0621-0409-3-51	20	20	18		
A3B-22PA-2DSA(51)	CL0621-0410-2-51	22	22	20		
A3B-24PA-2DSA(51)	CL0621-0411-5-51	24	24	22		
A3B-26PA-2DSA(51)	CL0621-0412-8-51	26	26	24		
A3B-28PA-2DSA(51)	CL0621-0413-0-51	28	28	26		
A3B-30PA-2DSA(51)	CL0621-0414-3-51	30	30	28		
A3B-32PA-2DSA(51)	CL0621-0415-6-51	32	32	30		

■ Recommended PCB Dimensions



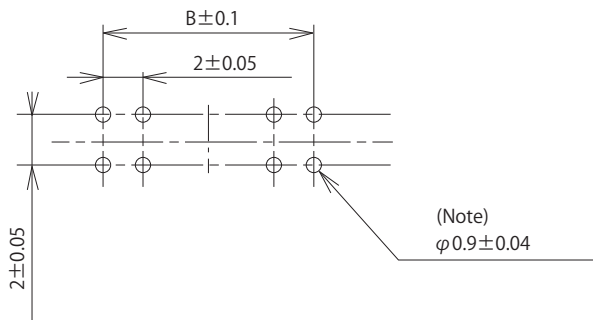
● A3B Right Angle Type (Dual-Row)



Unit : mm

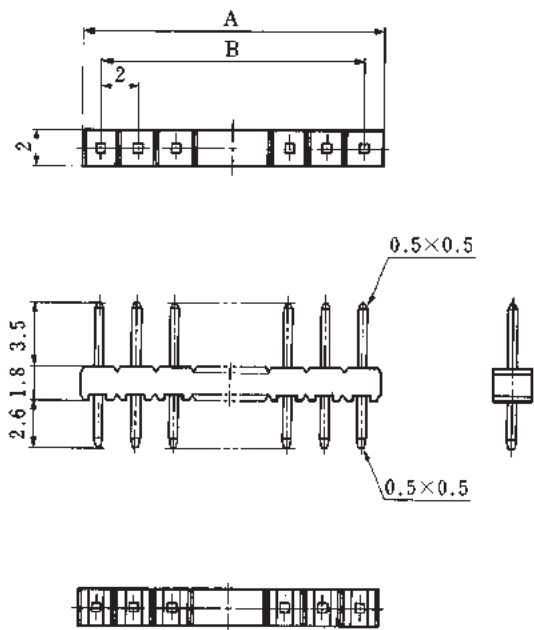
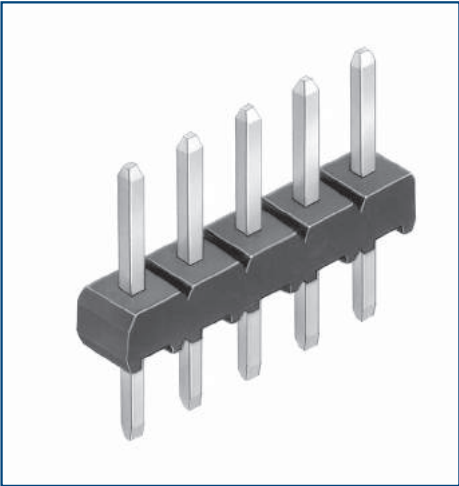
Part No.	HRS No.	No. of Pos.	A	B	Kink Positions	RoHS	Purchase Unit
A3B-4PA-2DS(51)	CL0621-0351-5-51	4	4	2	2	○	100pcs per tray
A3B-6PA-2DS(51)	CL0621-0352-8-51	6	6	4	1 or 2 alternately		
A3B-8PA-2DS(51)	CL0621-0353-0-51	8	8	6	2 alternately		
A3B-10PA-2DS(51)	CL0621-0354-3-51	10	10	8	2 or 3 alternately		
A3B-12PA-2DS(51)	CL0621-0355-6-51	12	12	10	3 alternately		
A3B-14PA-2DS(51)	CL0621-0356-9-51	14	14	12	3 or 4 alternately		
A3B-16PA-2DS(51)	CL0621-0357-1-51	16	16	14	4 alternately		
A3B-18PA-2DS(51)	CL0621-0358-4-51	18	18	16	4 or 5 alternately		
A3B-20PA-2DS(51)	CL0621-0359-7-51	20	20	18	5 alternately		50pcs per tray
A3B-22PA-2DS(51)	CL0621-0360-6-51	22	22	20	5 or 6 alternately		
A3B-24PA-2DS(51)	CL0621-0361-9-51	24	24	22	6 alternately		
A3B-26PA-2DS(51)	CL0621-0362-1-51	26	26	24	6 or 7 alternately		
A3B-28PA-2DS(51)	CL0621-0363-4-51	28	28	26	7 alternately		
A3B-30PA-2DS(51)	CL0621-0364-7-51	30	30	28	7 or 8 alternately		
A3B-32PA-2DS(51)	CL0621-0365-0-51	32	32	30	8 alternately		
A3B-44PA-2DS(51)	CL0621-0377-9-51	44	44	42	11 alternately		40pcs per tray
A3B-50PA-2DS(51)	CL0621-0383-1-51	50	50	48	12 or 13 alternately		

■ Recommended PCB Dimensions (t=1.6)



Note : Diameter of 28 or more contacts is φ 0.95 ± 0.04.

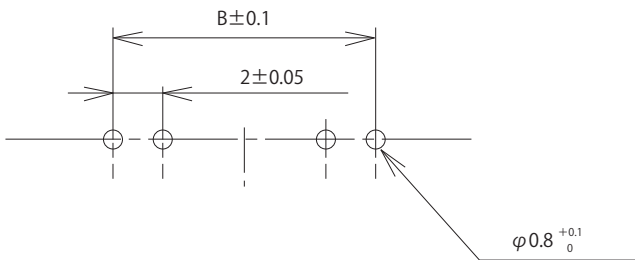
●A4B Straight Type (Single-Row)



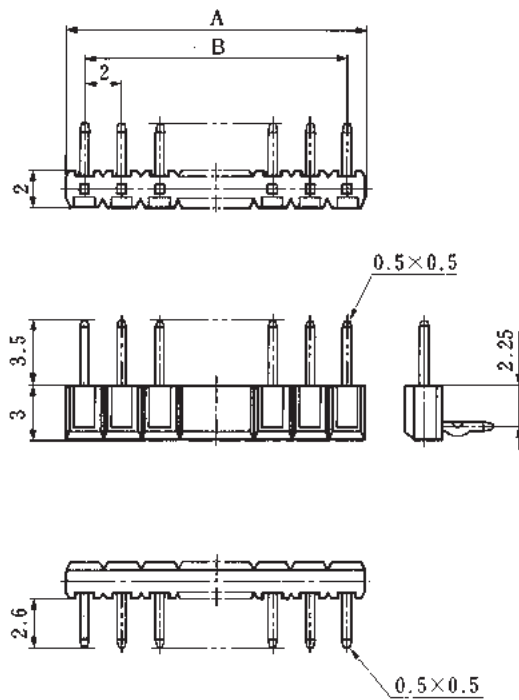
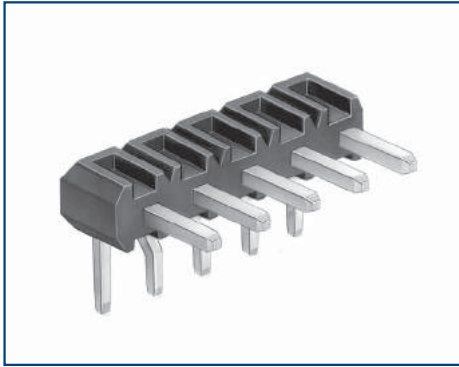
Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	RoHS	Purchase Unit
A4B-2PA-2DSA(51)	CL0622-0401-8-51	2	4	2	○	100pcs per bag
A4B-3PA-2DSA(51)	CL0622-0402-0-51	3	6	4		
A4B-4PA-2DSA(51)	CL0622-0403-3-51	4	8	6		
A4B-5PA-2DSA(51)	CL0622-0404-6-51	5	10	8		
A4B-6PA-2DSA(51)	CL0622-0405-9-51	6	12	10		
A4B-7PA-2DSA(51)	CL0622-0406-1-51	7	14	12		
A4B-8PA-2DSA(51)	CL0622-0407-4-51	8	16	14		
A4B-9PA-2DSA(51)	CL0622-0408-7-51	9	18	16		
A4B-10PA-2DSA(51)	CL0622-0409-0-51	10	20	18		
A4B-12PA-2DSA(51)	CL0622-0411-1-51	12	24	22		
A4B-13PA-2DSA(51)	CL0622-0412-4-51	13	26	24		
A4B-14PA-2DSA(51)	CL0622-0413-7-51	14	28	26		
A4B-15PA-2DSA(51)	CL0622-0414-0-51	15	30	28		
A4B-16PA-2DSA(51)	CL0622-0415-2-51	16	32	30		

■Recommended PCB Dimensions



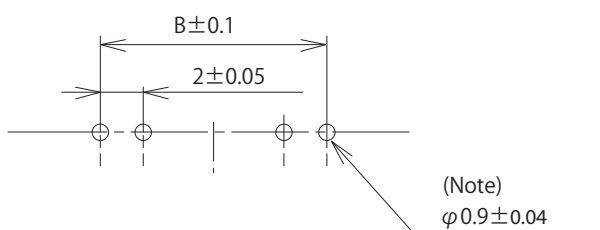
●A4B Right Angle Type (Single-Row)



Unit : mm

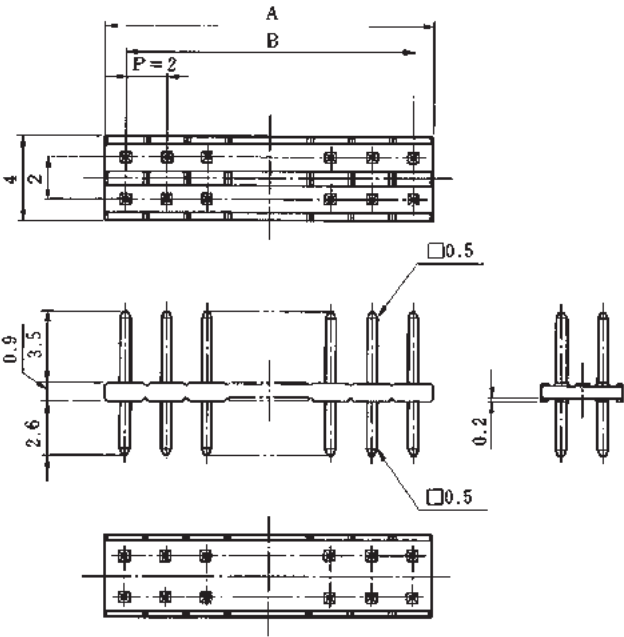
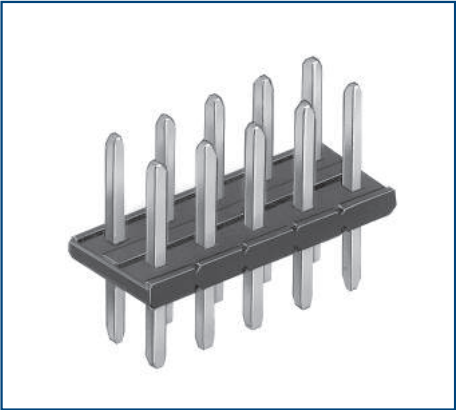
Part No.	HRS No.	No. of Pos.	A	B	Kink Positions	RoHS	Purchase Unit
A4B-2PA-2DS(51)	CL0622-0351-1-51	2	4	2	2	○	100pcs per bag
A4B-3PA-2DS(51)	CL0622-0352-4-51	3	6	4	1 or 2 alternately		
A4B-4PA-2DS(51)	CL0622-0353-7-51	4	8	6	2 alternately		
A4B-5PA-2DS(51)	CL0622-0354-0-51	5	10	8	2 or 3 alternately		
A4B-6PA-2DS(51)	CL0622-0355-2-51	6	12	10	3 alternately		
A4B-7PA-2DS(51)	CL0622-0356-5-51	7	14	12	3 or 4 alternately		
A4B-8PA-2DS(51)	CL0622-0357-8-51	8	16	14	4 alternately		
A4B-9PA-2DS(51)	CL0622-0358-0-51	9	18	16	4 or 5 alternately		
A4B-10PA-2DS(51)	CL0622-0359-3-51	10	20	18	5 alternately		
A4B-11PA-2DS(51)	CL0622-0360-2-51	11	22	20	5 or 6 alternately		
A4B-12PA-2DS(51)	CL0622-0361-5-51	12	24	22	6 alternately		
A4B-13PA-2DS(51)	CL0622-0362-8-51	13	26	24	6 or 7 alternately		
A4B-14PA-2DS(51)	CL0622-0363-0-51	14	28	26	7 alternately		
A4B-15PA-2DS(51)	CL0622-0364-3-51	15	30	28	7 or 8 alternately		
A4B-16PA-2DS(51)	CL0622-0365-6-51	16	32	30	8 alternately		

■Recommended PCB Dimensions (t=1.6)



Note : Diameter of 14 or more contacts is φ 0.95 ± 0.04.

●A3C Straight Type (Dual-Row for Low Profile Product)

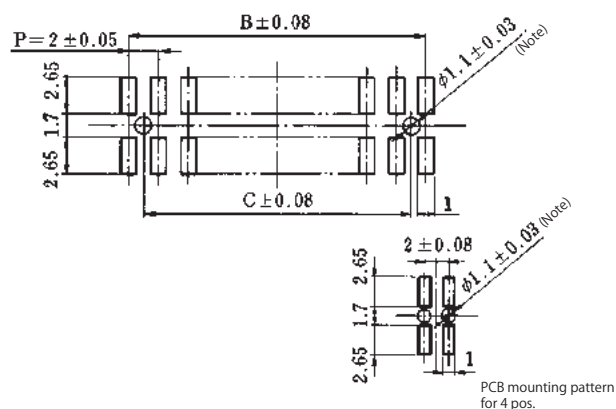


Unit : mm						
Part No.	HRS No.	No. of Pos.	A	B	RoHS	Purchase Unit
A3C-2P-2DSA(30)	CL0621-0601-0-30	2	2	-	○	100pcs per bag
A3C-4P-2DSA(30)	CL0621-0602-3-30	4	4	2		
A3C-6P-2DSA(30)	CL0621-0603-6-30	6	6	4		
A3C-8P-2DSA(30)	CL0621-0604-9-30	8	8	6		
A3C-10P-2DSA(30)	CL0621-0605-1-30	10	10	8		
A3C-12P-2DSA(30)	CL0621-0606-4-30	12	12	10		
A3C-14P-2DSA(30)	CL0621-0607-7-30	14	14	12		
A3C-16P-2DSA(30)	CL0621-0608-0-30	16	16	14		
A3C-18P-2DSA(30)	CL0621-0609-2-30	18	18	16		
A3C-20P-2DSA(30)	CL0621-0610-1-30	20	20	18		
A3C-24P-2DSA(30)	CL0621-0612-7-30	24	24	22		
A3C-26P-2DSA(30)	CL0621-0613-0-30	26	26	24		
A3C-28P-2DSA(30)	CL0621-0614-2-30	28	28	26		
A3C-32P-2DSA(30)	CL0621-0615-5-30	32	32	30		
A3C-44P-2DSA(30)	CL0621-0622-0-30	44	44	42		
A3C-48P-2DSA(30)	CL0621-0625-9-30	48	48	46		
A3C-50P-2DSA(30)	CL0621-0628-7-30	50	50	48		

Unit : mm

Part No.	HRS No.	No. of Pos.	A	B		RoHS	Purchase Unit
A3-4PA-2SV(71)	CL0621-1000-6-71	4	4	2	-	○	120pcs per tube
A3A-4PA-2SV(71)	CL0621-1040-0-71				2		
A3-6PA-2SV(71)	CL0621-1001-9-71	6	6	4	-		80pcs per tube
A3A-6PA-2SV(71)	CL0621-1041-3-71				2		
A3-8PA-2SV(71)	CL0621-1002-1-71	8	8	6	-		60pcs per tube
A3A-8PA-2SV(71)	CL0621-1042-6-71				4		
A3-10PA-2SV(71)	CL0621-1003-4-71	10	10	8	-		48pcs per tube
A3A-10PA-2SV(71)	CL0621-1043-9-71				6		
A3-12PA-2SV(71)	CL0621-1004-7-71	12	12	10	-		40pcs per tube
A3A-12PA-2SV(71)	CL0621-1044-1-71				8		
A3-14PA-2SV(71)	CL0621-1005-0-71	14	14	12	-		34pcs per tube
A3A-14PA-2SV(71)	CL0621-1045-4-71				10		
A3-16PA-2SV(71)	CL0621-1006-2-71	16	16	14	-		30pcs per tube
A3A-16PA-2SV(71)	CL0621-1046-7-71				12		
A3-20PA-2SV(71)	CL0621-1008-8-71	20	20	18	-		24pcs per tube
A3A-20PA-2SV(71)	CL0621-1048-2-71				16		
A3-24PA-2SV(71)	CL0621-1010-0-71	24	24	22	-		20pcs per tube
A3A-24PA-2SV(71)	CL0621-1050-4-71				20		
A3-28PA-2SV(71)	CL0621-1012-5-71	28	28	26	-		17pcs per tube
A3A-28PA-2SV(71)	CL0621-1052-0-71				24		
A3-32PA-2SV(71)	CL0621-1014-0-71	32	32	30	-		15pcs per tube
A3A-32PA-2SV(71)	CL0621-1054-5-71				28		
A3-44PA-2SV(71)	CL0621-1015-3-71	44	44	42	-		11pcs per tube
A3A-44PA-2SV(71)	CL0621-1055-8-71				40		
A3-50PA-2SV(71)	CL0621-1016-6-71	50	50	48	-		9pcs per tube
A3A-50PA-2SV(71)	CL0621-1056-0-71				46		

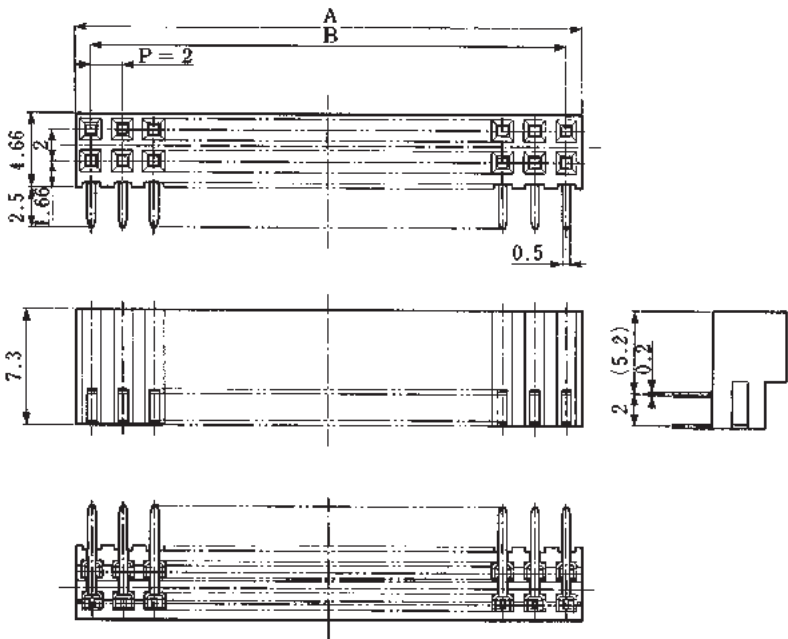
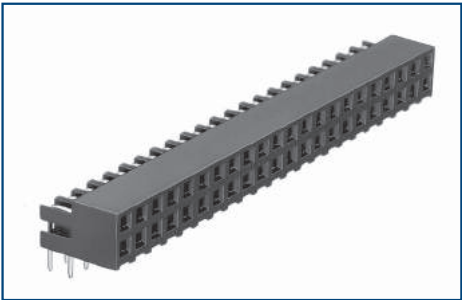
Recommended PCB Dimensions



Note : The connector positioning boss is a structure that is lightly press-fitted into the board hole. When mounting on the board, press the connector lightly from above to make sure that the positioning boss is inserted securely into the board hole and that the connector leads are not floating off the board. For automatic board placement, recommended boss dia. is $\phi 1.2 \pm 0.1$.

Receptacle

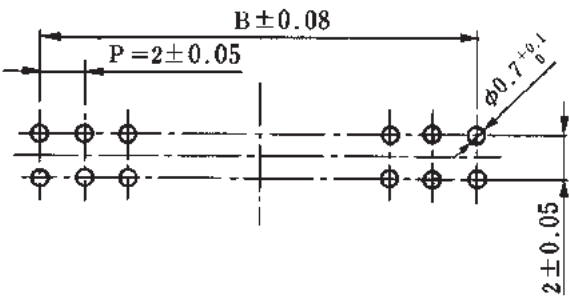
●A3 Right Angle Type (Dual-Row)



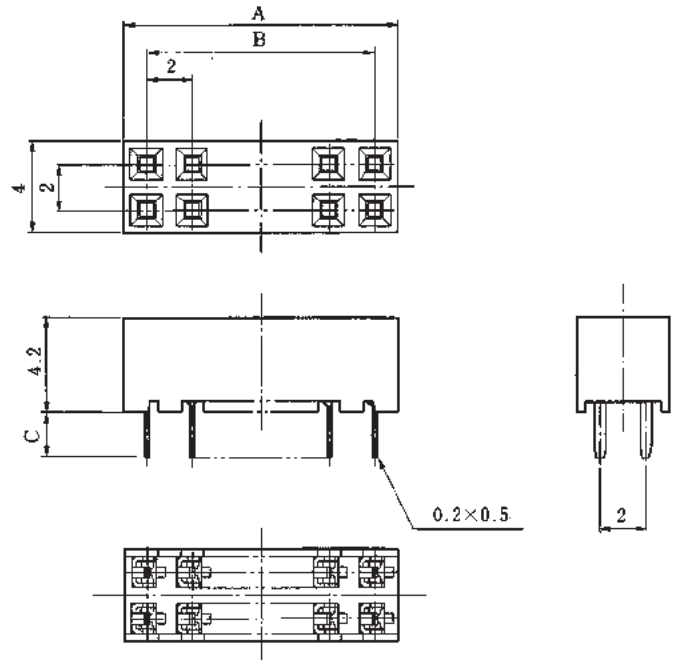
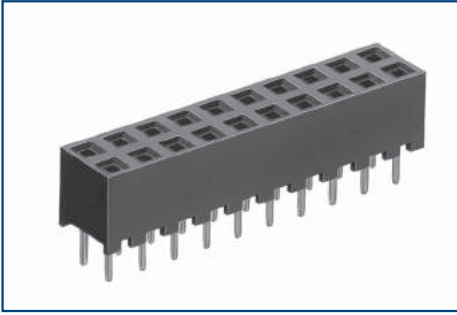
Unit : mm

Part No.	HRS No.	A	B	RoHS	Purchase Unit
A3-44DA-2DS(71)	CL0621-0711-9-71	44	42	○	40pcs per tray
A3-50DA-2DS(71)	CL0621-0714-7-71	50	48		

■Recommended PCB Dimensions



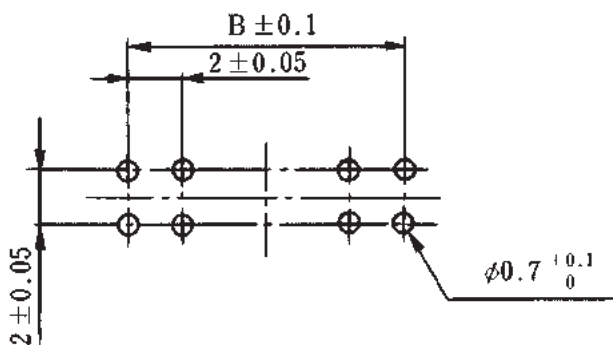
●A3C Straight Type (Dual-Row)



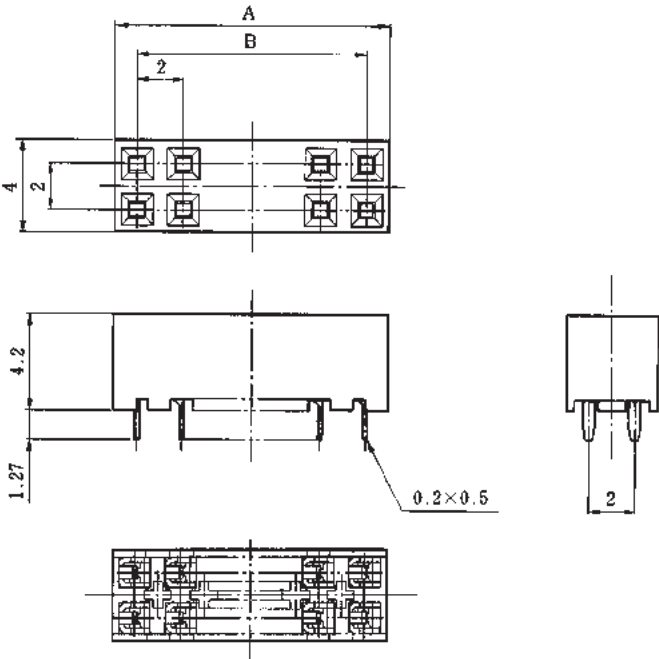
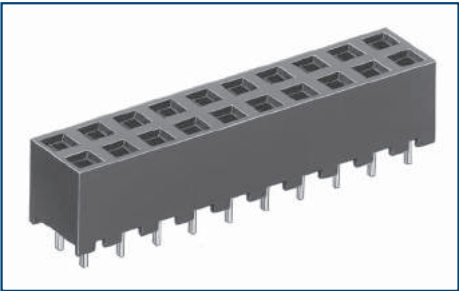
Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	RoHS	Purchase Unit
A3C-4DA-2DSA(71)	CL0621-0501-6-71	4	4	2	3	○	520pcs per tray
A3C-4DA-2DSC(71)	CL0621-0531-7-71				2		
A3C-6DA-2DSA(71)	CL0621-0502-9-71	6	6	4	3		350pcs per tray
A3C-6DA-2DSC(71)	CL0621-0532-0-71				2		
A3C-8DA-2DSA(71)	CL0621-0503-1-71	8	8	6	3		270pcs per tray
A3C-8DA-2DSC(71)	CL0621-0533-2-71				2		
A3C-10DA-2DSA(71)	CL0621-0504-4-71	10	10	8	3		220pcs per tray
A3C-10DA-2DSC(71)	CL0621-0534-5-71				2		
A3C-12DA-2DSA(71)	CL0621-0505-7-71	12	12	10	3		180pcs per tray
A3C-12DA-2DSC(71)	CL0621-0535-8-71				2		
A3C-14DA-2DSA(71)	CL0621-0506-0-71	14	14	12	3		150pcs per tray
A3C-14DA-2DSC(71)	CL0621-0536-0-71				2		
A3C-16DA-2DSA(71)	CL0621-0507-2-71	16	16	14	3		130pcs per tray
A3C-16DA-2DSC(71)	CL0621-0537-3-71				2		
A3C-18DA-2DSA(71)	CL0621-0508-5-71	18	18	16	3		120pcs per tray
A3C-18DA-2DSC(71)	CL0621-0538-6-71				2		
A3C-20DA-2DSA(71)	CL0621-0509-8-71	20	20	18	3		110pcs per tray
A3C-20DA-2DSC(71)	CL0621-0539-9-71				2		
A3C-24DA-2DSA(71)	CL0621-0511-0-71	24	24	22	3		90pcs per tray
A3C-24DA-2DSC(71)	CL0621-0541-0-71				2		
A3C-24DA-2DSE(71)	CL0621-0571-1-71				1.27		60pcs per tray
A3C-28DA-2DSA(71)	CL0621-0513-5-71	28	28	26	3		70pcs per tray
A3C-28DA-2DSC(71)	CL0621-0543-6-71				2		
A3C-32DA-2DSA(71)	CL0621-0515-0-71	32	32	30	3		60pcs per tray
A3C-32DA-2DSC(71)	CL0621-0545-1-71				2		
A3C-32DA-2DSE(71)	CL0621-0575-2-71				1.27		
A3C-50DA-2DSA(71)	CL0621-0524-1-71	50	50	48	3		40pcs per tray
A3C-50DA-2DSC(71)	CL0621-0554-2-71				2		
A3C-50DA-2DSE(71)	CL0621-0584-3-71				1.27		

Recommended PCB Dimensions

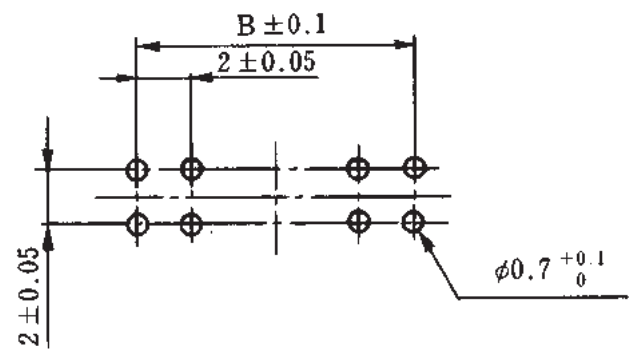


●A3D Straight Type (Dual-Row for FPC and FFC)

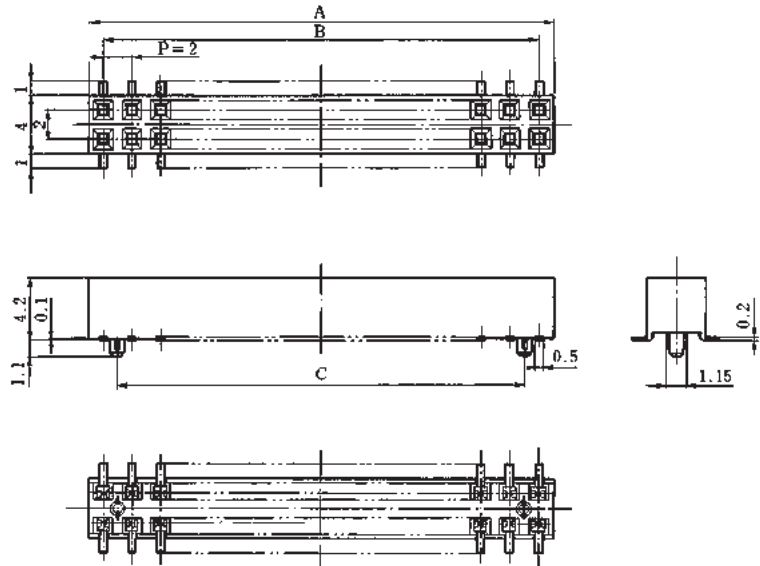
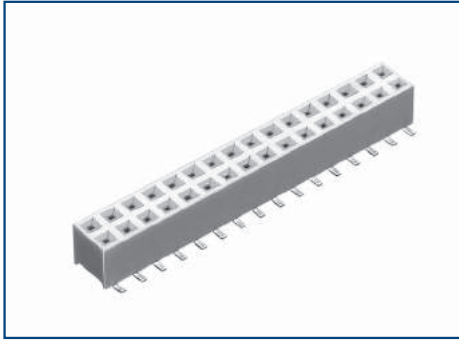


Unit : mm						
Part No.	HRS No.	No. of Pos.	A	B	RoHS	Purchase Unit
A3D-8DA-2DSE(71)	CL0621-0753-9-71	8	8	6	○	540pcs per tray
A3D-14DA-2DSE(71)	CL0621-0756-7-71	14	14	12		300pcs per tray
A3D-44DA-2DSE(71)	CL0621-0766-0-71	44	44	42		100pcs per tray

■Recommended PCB Dimensions



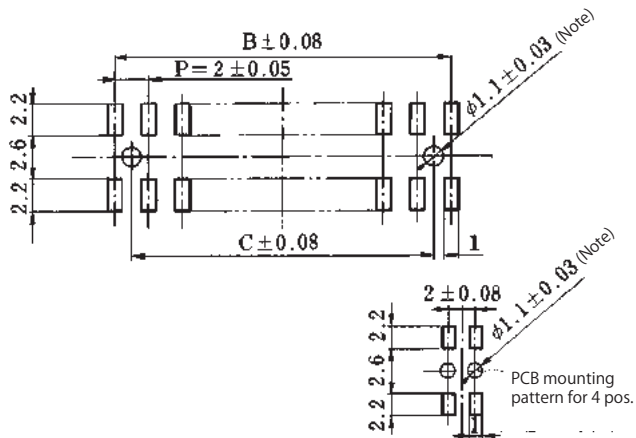
●SMT Type



Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	C	RoHS	Purchase Unit
A3-4DA-2SV(71)	CL0621-1100-0-71	4	4	2	-	○	120pcs per tube
A3A-4DA-2SV(71)	CL0621-1140-5-71				2		
A3-6DA-2SV(71)	CL0621-1101-3-71	6	6	4	-		80pcs per tube
A3A-6DA-2SV(71)	CL0621-1141-8-71				2		
A3-8DA-2SV(71)	CL0621-1102-6-71	8	8	6	-		60pcs per tube
A3A-8DA-2SV(71)	CL0621-1142-0-71				4		
A3-10DA-2SV(71)	CL0621-1103-9-71	10	10	8	-		48pcs per tube
A3A-10DA-2SV(71)	CL0621-1143-3-71				6		
A3-12DA-2SV(71)	CL0621-1104-1-71	12	12	10	-		40pcs per tube
A3A-12DA-2SV(71)	CL0621-1144-6-71				8		
A3-14DA-2SV(71)	CL0621-1105-4-71	14	14	12	-		34pcs per tube
A3A-14DA-2SV(71)	CL0621-1145-9-71				10		
A3-16DA-2SV(71)	CL0621-1106-7-71	16	16	14	-		30pcs per tube
A3A-16DA-2SV(71)	CL0621-1146-1-71				12		
A3-20DA-2SV(71)	CL0621-1108-2-71	20	20	18	-		24pcs per tube
A3A-20DA-2SV(71)	CL0621-1148-7-71				16		
A3-24DA-2SV(71)	CL0621-1110-4-71	24	24	22	-		20pcs per tube
A3A-24DA-2SV(71)	CL0621-1150-9-71				20		
A3-28DA-2SV(71)	CL0621-1112-0-71	28	28	26	-		17pcs per tube
A3A-28DA-2SV(71)	CL0621-1152-4-71				24		
A3-32DA-2SV(71)	CL0621-1114-5-71	32	32	30	-		15pcs per tube
A3A-32DA-2SV(71)	CL0621-1154-0-71				28		

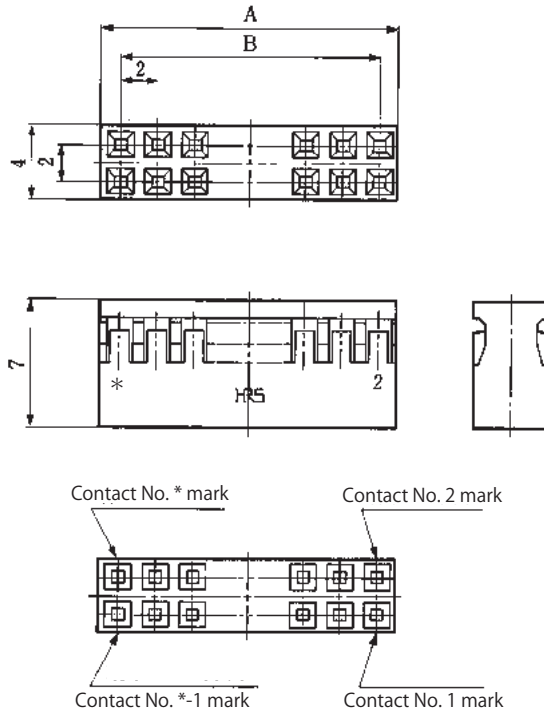
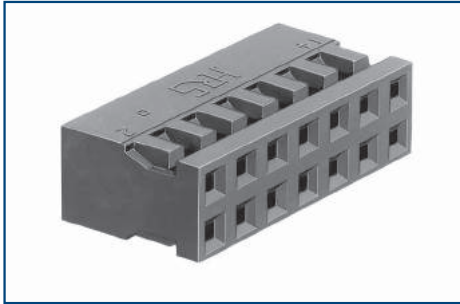
Recommended PCB Dimensions



Note : The connector positioning boss is a structure that is lightly press-fitted into the board hole. When mounting on the board, press the connector lightly from above to make sure that the positioning boss is inserted securely into the board hole and that the connector leads are not floating off the board. For automatic board placement, recommended boss dia. is $\phi 1.2 \pm_{-0}^{+0.1}$.

Crimp Socket

●A3B-#D-2C (Dual-Row)



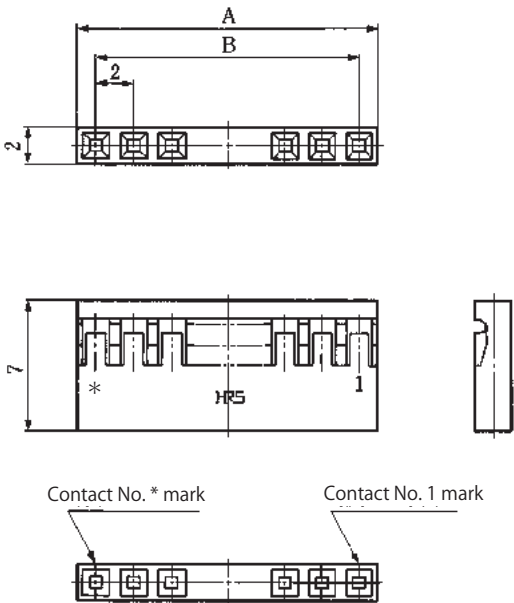
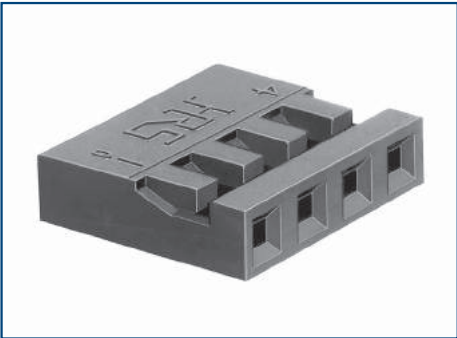
Note : * indicates the number of contacts.

Unit : mm

Part No.	HRS No.	No. of Pos.	A	B	RoHS	Purchase Unit
A3B-8D-2C	CL0621-0307-3-00	8	8	6	○	100pcs per bag
A3B-10D-2C	CL0621-0308-6-00	10	10	8		
A3B-12D-2C	CL0621-0309-9-00	12	12	10		
A3B-14D-2C	CL0621-0310-8-00	14	14	12		
A3B-18D-2C	CL0621-0311-0-00	18	18	16		
A3B-20D-2C	CL0621-0312-3-00	20	20	18		
A3B-24D-2C	CL0621-0313-6-00	24	24	22		
A3B-28D-2C	CL0621-0314-9-00	28	28	26		
A3B-44D-2C	CL0621-0330-5-00	44	44	42		

Note : Use other No. of Pos. in combination.
(Example : 50 No. of Pos. = 44 No. of Pos. + 6 No. of Pos.)

●A4B-#S-2C (Single-Row)

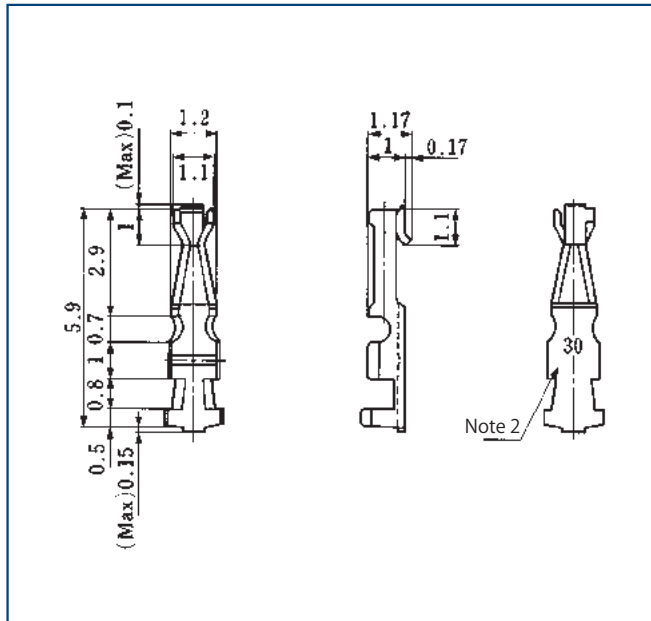


Note : * indicates the number of contacts.

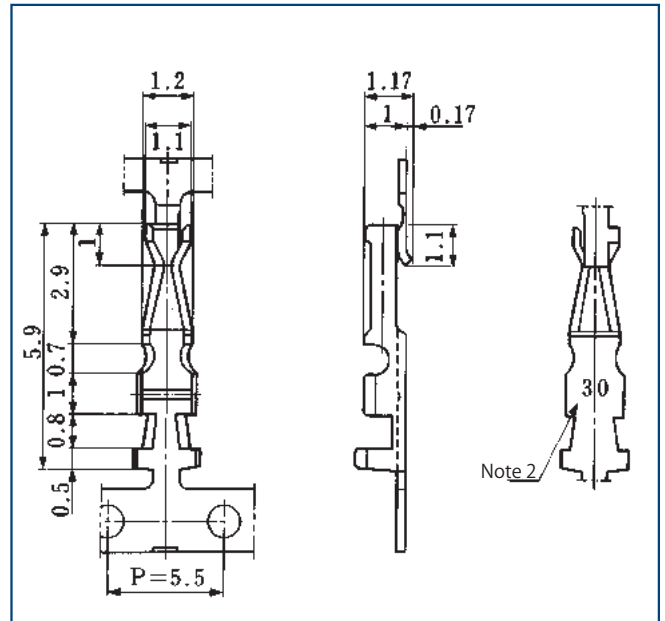
Unit : mm						
Part No.	HRS No.	No. of Pos.	A	B	RoHS	Purchase Unit
A4B-2S-2C	CL0622-0301-3-00	2	4	2	○	100pcs per bag
A4B-3S-2C	CL0622-0302-6-00	3	6	4		
A4B-4S-2C	CL0622-0303-9-00	4	8	6		
A4B-5S-2C	CL0622-0304-1-00	5	10	8		
A4B-6S-2C	CL0622-0305-4-00	6	12	10		
A4B-8S-2C	CL0622-0306-7-00	8	16	14		
A4B-10S-2C	CL0622-0307-0-00	10	20	18		
A4B-12S-2C	CL0622-0308-2-00	12	24	22		
A4B-15S-2C	CL0622-0311-7-00	15	30	28		
A4B-16S-2C	CL0622-0310-4-00	16	32	30		
A4B-18S-2C	CL0622-0309-5-00	18	36	34		

Crimp Contact

SCC Contact



SCFC Contact



Part No.	HRS No.	RoHS	Applicable Wire	Type	Crimping Tool	Purchase Unit
A3B-2630SCFC	CL0621-0301-7-00	○ (Note 3)	26 to 30 AWG	Reel Contact	Automatic crimper CM-105C + AP105-A3B-2630S	10,000pcs per reel
A3B-2630SCC	CL0621-0302-0-00		26 to 30 AWG	Loose Contact	A3B-TA2630HC	100pcs per bag

Note 1 : The plating specification is shown as follows:

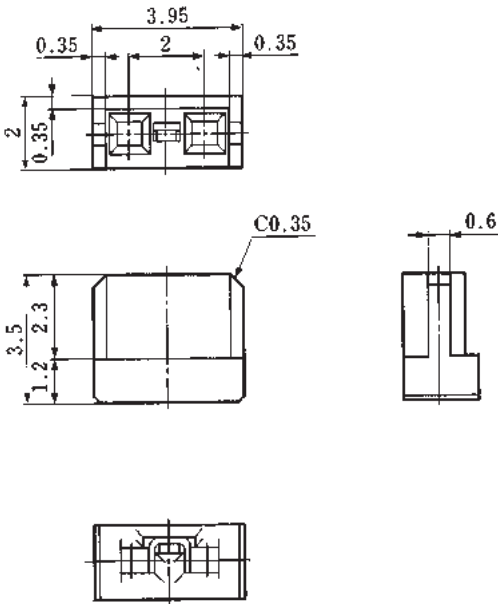
(Contact area) : Gold plating

(Others) : Nickel plating

Note 2 : "30" is stamped on A3B-2630SCFC(SCC).

Note 3 : Only crimp contacts are RoHS compliant.

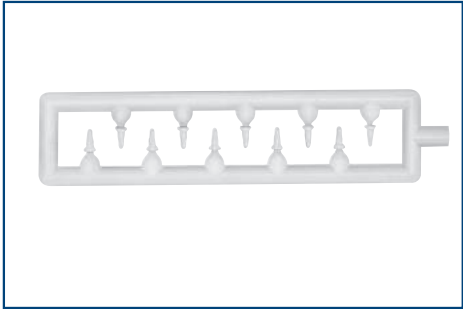
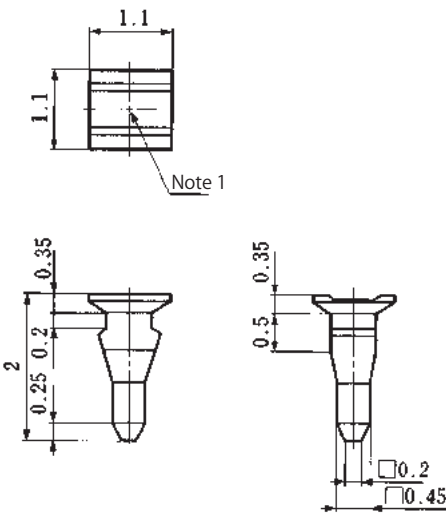
Short Pin



HRS No.	HRS No.	Component	Material	Color / Finish	Remarks	RoHS	Purchase Unit
A3-SP(A)	CL0621-0180-4-00	Case	PBT	Black	UL94V-0	○	1,000pcs per bag
		Contact	Phosphorous Bronze	Partially Gold Plating	-		

Polarizing Key

A3-GPIN(A)



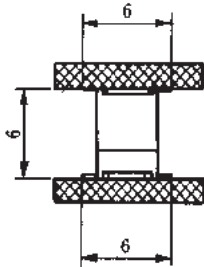
HRS No.	HRS No.	Material	RoHS	Purchase Unit
A3-GPIN(A)	CL0621-0178-2-00	Poly acetal (white)	○	100pcs per bag

Note 1 : This product is provided in a set of 10 pieces in conjunction with a runner.
Note 2 : This product cannot be used for A3E series.

Mated Dimensions

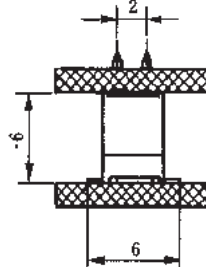
Note : When the connector is mounted on the board surface, the mounting height is a size designed in single connector. Solder paste used for installation will slightly change according to solder thickness.

A3(A)-#DA-2SV



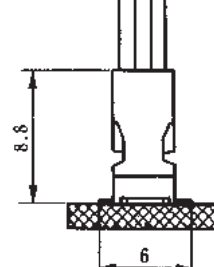
A3(A)-#PA-2SV

A3C-#DA-2DSA



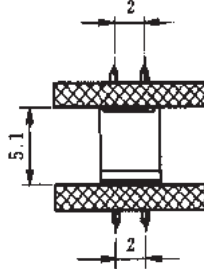
A3(A)-#PA-2SV

A3B-#D-2C



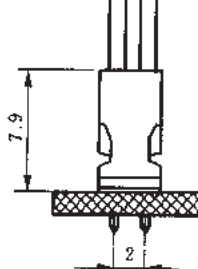
A3(A)-#PA-2SV

A3C-#DA-2DSA



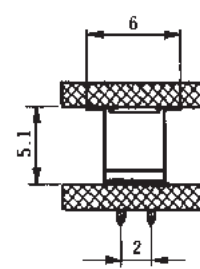
A3C-#P-2DSA

A3B-#D-2C



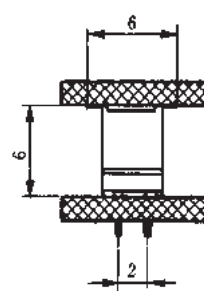
A3C-#P-2DSA

A3(A)-#DA-2SV



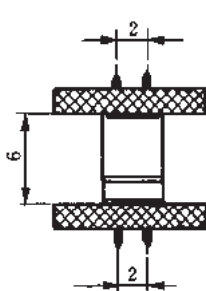
A3C-#P-2DSA

A3(A)-#DA-2SV



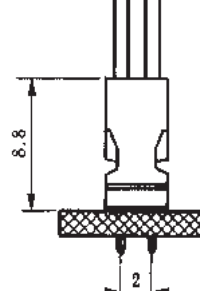
A3B-#PA-2DSA

A3C-#DA-2DSA



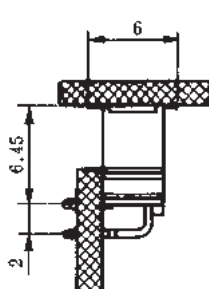
A3B-#PA-2DSA

A3B-#D-2C



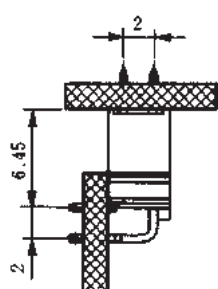
A3B-#PA-2DSA

A3(A)-#DA-2SV



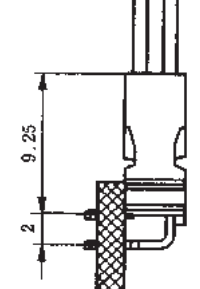
A3B-#PA-2DS

A3C-#DA-2DSA



A3B-#PA-2DS

A3B-#D-2C



A3B-#PA-2DS

Applicable Crimping Tool

Manual crimping tool

●A3B-TA2630HC



Automatic crimping machine

●CM-105C

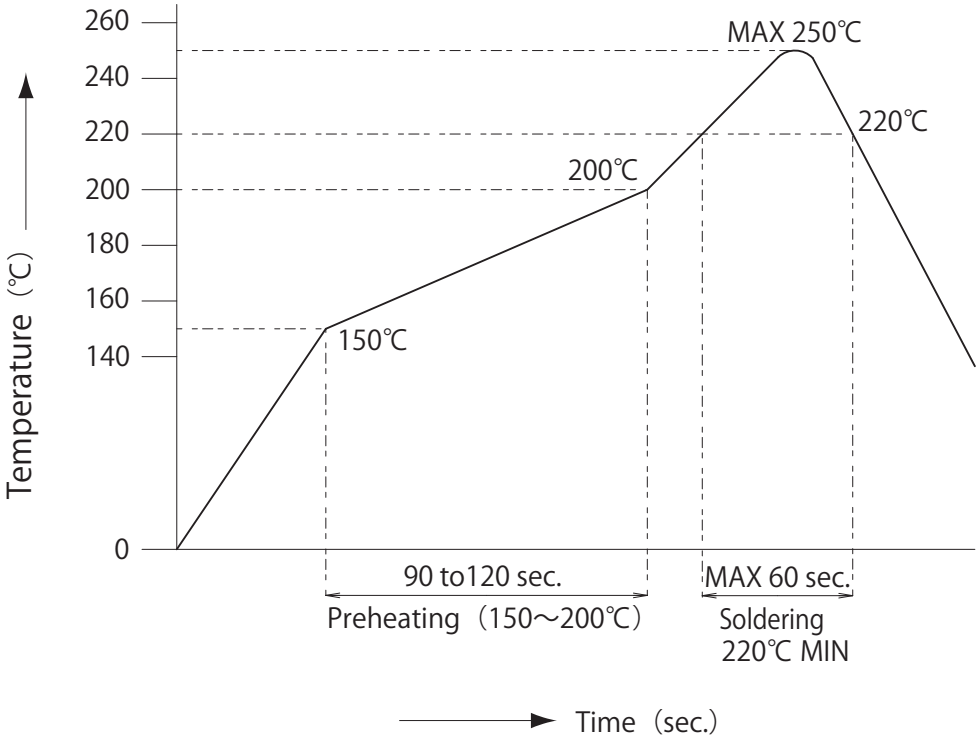
This machine is a new model in response to the demands of many users. It has been carefully designed to improve usability and expand the range of applications, including set-up adjustment and installation of various applicators. As an easy-to-use semi- Automatic Crimp Machine, it can be used for crimping and connecting various chain-shaped Contact.



Specification	
Power Supply	100V AC, single phase 200W
Gross Weight	75 kg
Machining Range	2000 to 4000 contacts/hour
Remarks	Crimping of various contacts by replacing the applicator

Item	Part No.	HRS No.	Applicable Contact	Applicable Cable
Manual Crimping Tool	A3B-TA2630HC	CL0550-0200-7-00	A3B-2630SCC	26 to 30 AWG
Automatic Crimping Machine	CM-105C	CL0901-0001-0-00	-	-
Applicator	AP105-A3B-2630S	CL0901-4016-2-00	A3B-2630SCFC	26 to 30 AWG

Precautions



Solder Method	Reflow, IR/hot air (SENSBEY NR-2)
	Room air
Solder	Paste (Flux content 11Wt%) (M705-221CM5-42-10.5)
Board	85 × 60 × 1.6mm
Metal Mask	0.2mm
	· This Temperature Profile is the recommended value. The temperature is measured at the top of the connector. · The reflow process should be performed no more than twice. · In individual applications the actual temperature may vary, depending on solder paste type, volume/thickness and board size/thickness, so please check the condition of mounting before use. Also, consult the recommended aperture ratio for metal mask 0.15 mm or smaller.

While taking in consideration

Specifications mentioned in this catalog are reference values.

When considering to order or use this product, please review the Drawing and Product Specifications sheets.

Use an appropriate cable when using the connector in combination with cables.

If considering usage of a non-specified cable, please contact your sales representative.

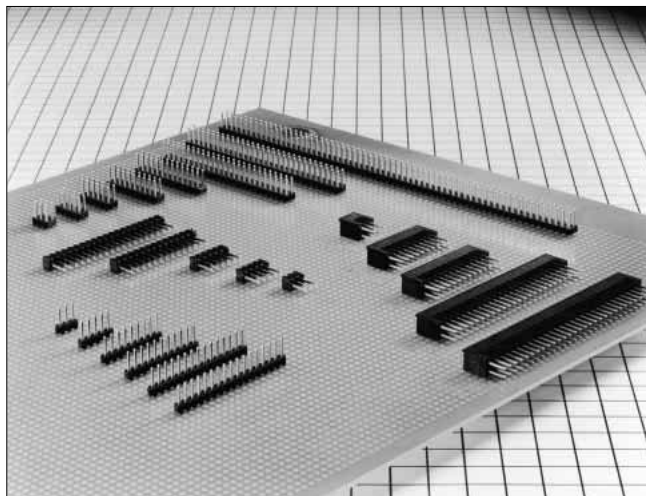
If assembly process is done by jigs & tools which are not identified by Hirose, the warranty of the product may be affected.

If considering usage for below mentioned applications, please contact your sales representative.

In cases where the application will demand a high level of reliability, such as automotive, medical instruments, public infrastructure, aerospace/defense etc. Hirose must review before assurance of reliability can be given.

2.54mm Pitch High Density Connector

A1 and A2 Series



■Features

1. High Density Mounting

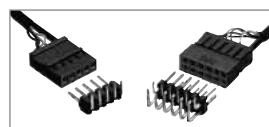
Connectors are aligned in the longitudinal direction on the 2.54 mm mesh board, so that no idle space can occur.

2. Variation in Number of Contacts

The A1 series contains 16 types of 6 to 64 contacts, while the A2 series contains 20 types of 1 to 20 contacts,

3. Compatibility

The A1 series is compatible with HIF3B series cable side and HIF3H receptacle for wide applications.



■Product Specifications

Rating	Current rating: 3A	Operating Temperature Range: -55 to +85°C (Note 1)	Storage Temperature Range: -10 to +60°C (Note 2)
	Voltage rating: 200V AC	Operating Moisture Range: 40 to 80%	Storage Humidity Range: 40 to 70% (Note 2)

Item	Specification	Condition
1. Insulation Resistance	1000M ohms min.	500V DC
2. Withstanding voltage	No flashover or insulation breakdown.	650V AC/1 minute
3. Contact Resistance	15m ohms max.	0.1A
4. Vibration	No electrical discontinuity of 1μs or more	Frequency: 10 to 55 Hz, single amplitude of 0.75 mm, 2 hours in each of the 3 directions.
5. Humidity (Steady state)	Insulation resistance 1000M ohms min.	96 hours at temperature of 40°C and humidity of 90% to 95%
6. Temperature Cycle	No damage, cracks, or parts looseness.	(-65°C: 30 minutes → 15 to 35°C: 5 minutes max. → 125°C: 30 minutes → 15 to 35°C: 5 minutes max.) 5 cycles
7. Operating Life	Contact resistance: 15m ohms max.	500 cycles
8. Resistance to Soldering heat	No deformation of components affecting performance.	Solder bath: 260°C for 10 seconds
		Manual soldering: 350°C for 3 seconds

Note 1: Includes temperature rise caused by current flow.

Note 2: The term "storage" refers to products stored for long period of time prior to mounting and use. Operating Temperature Range and Humidity range covers non conducting condition of installed connectors in storage, shipment or during transportation.

Note 3: Information contained in this catalog represents general requirements for this Series. Contact us for the drawings and specifications for a specific part number shown.

■Applications

Computers, VTR, and other various kinds of electronic equipment

■Material

Part		Material	Finish	Remarks
Pin header	Insulator	PBT	Black	UL94V-0
	Contact	Brass	Contact area: gold plated DIP area : tin plated	————
Crimping socket		Polyamid	Black	UL94V-0
Crimping contact		Phosphor bronze	Contact area : gold plated Termination area: nickel plated	————

■ Ordering Information

● Pin Header

A 1 - 6 P A - 2.54 DS
① ② ③ ④ ⑤ ⑥ ⑦

①	Series Name: A
②	Series No.:1 (double row) 2 (single row)
③	Number of contacts: A1...6, 8, 10, 12, 14, 16, 20, 24, 26, 34, 40, 50, 60, 64 A2...1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20
④	P: Pin header
⑤	A: Selective gold plated
⑥	Contact pitch : 2.54mm
⑦	Contact type: DS : Right angle type DSA : Straight type

● Crimping Socket

A 1 - 12 D - 2.54 C
① ② ③ ④ ⑤ ⑥

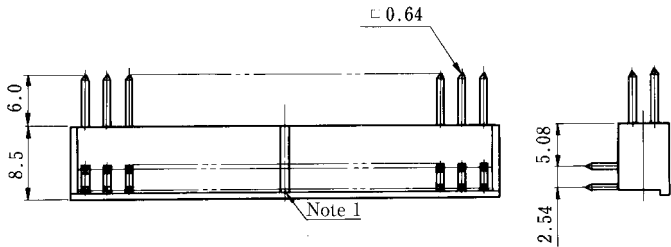
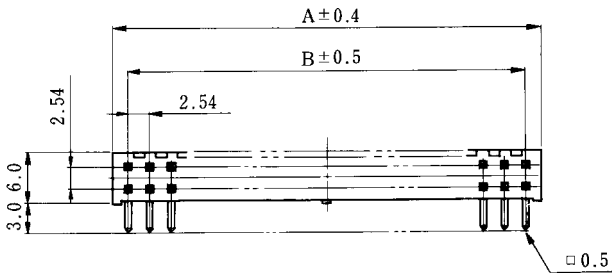
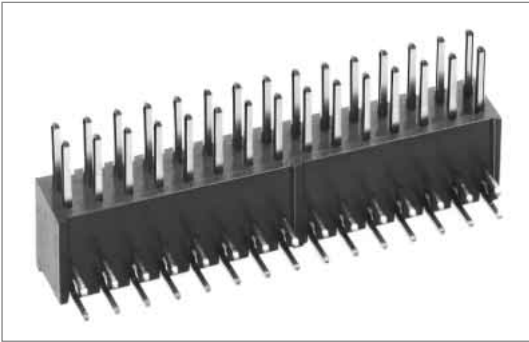
①	Series Name : A
②	Series No. : 1 (double row) 2 (single row)
③	Number of contacts: A1 : 8, 10, 12 A2 : 5, 6
④	Contact alignment : A1 : D (double row) A2 : S (single row)
⑤	Contact pitch : 2.54mm
⑥	Connection type: C : crimping

● Crimping Contact

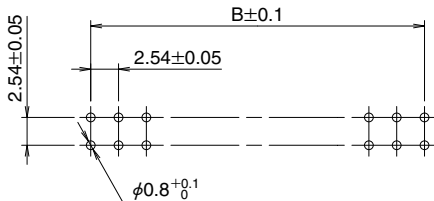
A 1 - 2630 - SCFC
① ② ③ ④

①	Series Name : A
②	Series No. : 1
③	Applicable cable size 2226: AWG#22~ AWG#26 2630: AWG#26~ AWG#30
④	Packaging type SCFC : Reel SCC : Bag

■ A1 (Double Row)- Right Angle Type



◆ PCB mounting pattern



Unit: mm

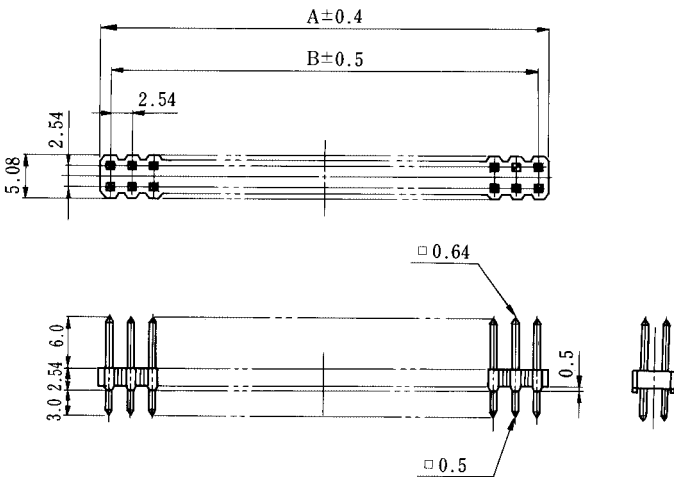
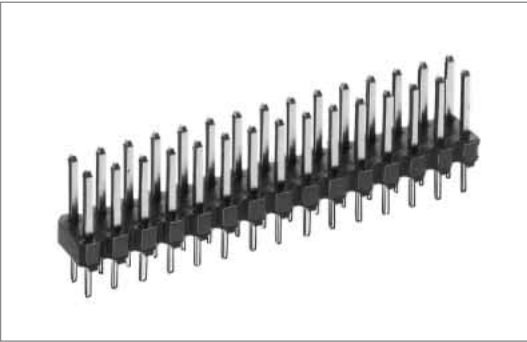
Part Number	CL No.	Number of Contacts	A	B	RoHS
A1- 6PA-2.54DS(71)	619-0001-7-71	6	7.62	5.08	YES
A1- 8PA-2.54DS(71)	619-0016-4-71	8	10.16	7.62	
A1-10PA-2.54DS(71)	619-0002-0-71	10	12.70	10.16	
A1-12PA-2.54DS(71)	619-0003-2-71	12	15.24	12.70	
A1-14PA-2.54DS(71)	619-0004-5-71	14	17.78	15.24	
A1-16PA-2.54DS(71)	619-0005-8-71	16	20.32	17.78	
A1-18PA-2.54DS(71)	619-0006-0-71	18	22.86	20.32	
A1-20PA-2.54DS(71)	619-0007-3-71	20	25.40	22.86	

Unit: mm

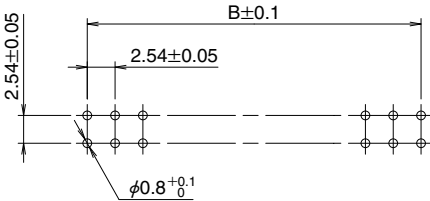
Part Number	CL No.	Number of Contacts	A	B	RoHS
A1-26PA-2.54DS(71)	619-0009-9-71	26	33.02	30.48	YES
A1-30PA-2.54DS(71)	619-0010-8-71	30	38.10	35.56	
A1-34PA-2.54DS(71)	619-0011-0-71	34	43.18	40.64	
A1-40PA-2.54DS(71)	619-0012-3-71	40	50.80	48.26	
A1-50PA-2.54DS(71)	619-0013-6-71	50	63.50	60.96	
A1-60PA-2.54DS(71)	619-0014-9-71	60	76.20	73.66	
A1-64PA-2.54DS(71)	619-0015-1-71	64	81.28	78.74	

Note: Right side and left side rib is added for 34pos, or more.

■ A1 (Double Row)- Straight Type



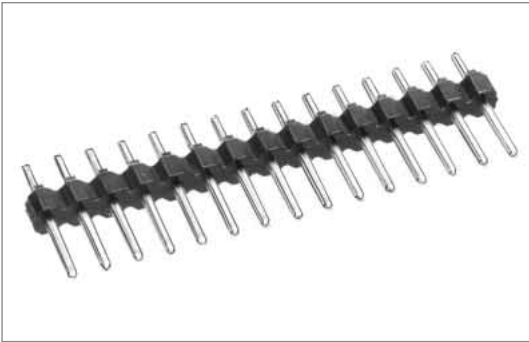
◆ PCB mounting pattern



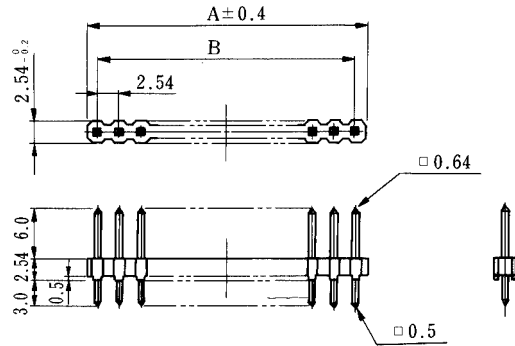
Unit: mm

Part Number	CL No.	Number of Contacts	A	B	RoHS
A1- 6PA-2.54DSA(71)	619-0021-4-71	6	7.32	5.08	YES
A1- 8PA-2.54DSA(71)	619-0037-4-71	8	9.86	7.62	
A1-10PA-2.54DSA(71)	619-0022-7-71	10	12.40	10.16	
A1-12PA-2.54DSA(71)	619-0023-0-71	12	14.94	12.70	
A1-14PA-2.54DSA(71)	619-0024-2-71	14	17.48	15.24	
A1-16PA-2.54DSA(71)	619-0025-5-71	16	20.02	17.78	
A1-18PA-2.54DSA(71)	619-0026-8-71	18	22.56	20.32	
A1-20PA-2.54DSA(71)	619-0027-0-71	20	25.10	22.86	
A1-24PA-2.54DSA(71)	619-0028-3-71	24	30.18	27.94	
A1-26PA-2.54DSA(71)	619-0029-6-71	26	32.72	30.48	
A1-30PA-2.54DSA(71)	619-0030-5-71	30	37.80	35.56	
A1-34PA-2.54DSA(71)	619-0031-8-71	34	42.88	40.64	
A1-40PA-2.54DSA(71)	619-0032-0-71	40	50.50	48.26	
A1-50PA-2.54DSA(71)	619-0033-3-71	50	63.20	60.96	
A1-60PA-2.54DSA(71)	619-0034-6-71	60	75.9	73.66	
A1-64PA-2.54DSA(71)	619-0035-9-71	64	80.98	78.74	

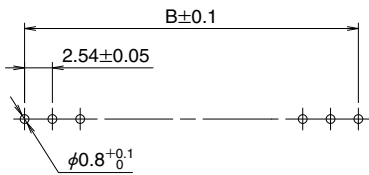
■ A2 (Single Row)-DIP Type



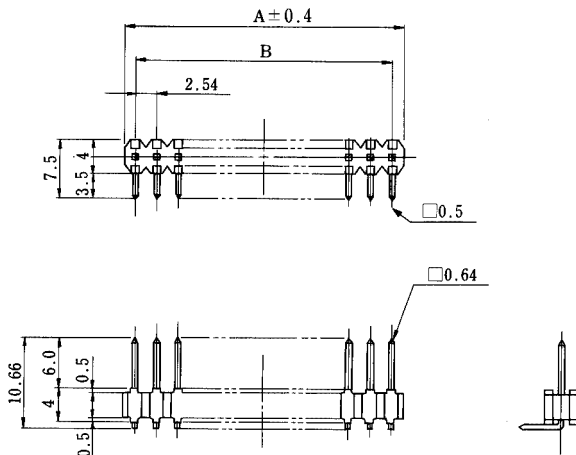
● Straight type



◆ PCB mounting pattern



● Right angle type



● Straight type

Unit: mm

Part Number	CL No.	Number of Contacts	A	B	RoHS
A2- 1PA-2.54DSA(71)	620-0051-5-71	1	2.24	—	YES
A2- 2PA-2.54DSA(71)	620-0052-8-71	2	4.78	2.54	
A2- 3PA-2.54DSA(71)	620-0053-0-71	3	7.32	5.08	
A2- 4PA-2.54DSA(71)	620-0054-3-71	4	9.86	7.62	
A2- 5PA-2.54DSA(71)	620-0055-6-71	5	12.40	10.16	
A2- 6PA-2.54DSA(71)	620-0056-9-71	6	14.94	12.70	
A2- 7PA-2.54DSA(71)	620-0057-1-71	7	17.48	15.24	
A2- 8PA-2.54DSA(71)	620-0058-4-71	8	20.02	17.78	
A2- 9PA-2.54DSA(71)	620-0059-7-71	9	22.56	20.30	
A2-10PA-2.54DSA(71)	620-0060-6-71	10	25.10	22.86	
A2-11PA-2.54DSA(71)	620-0061-9-71	11	27.64	25.40	
A2-12PA-2.54DSA(71)	620-0062-1-71	12	30.18	27.94	
A2-13PA-2.54DSA(71)	620-0063-4-71	13	32.72	30.48	
A2-14PA-2.54DSA(71)	620-0064-7-71	14	35.26	33.02	
A2-15PA-2.54DSA(71)	620-0065-0-71	15	37.80	35.56	
A2-16PA-2.54DSA(71)	620-0066-2-71	16	40.34	38.10	
A2-17PA-2.54DSA(71)	620-0067-5-71	17	42.88	40.64	
A2-18PA-2.54DSA(71)	620-0068-8-71	18	45.42	43.18	
A2-19PA-2.54DSA(71)	620-0069-0-71	19	47.96	45.72	
A2-20PA-2.54DSA(71)	620-0070-0-71	20	50.50	48.26	

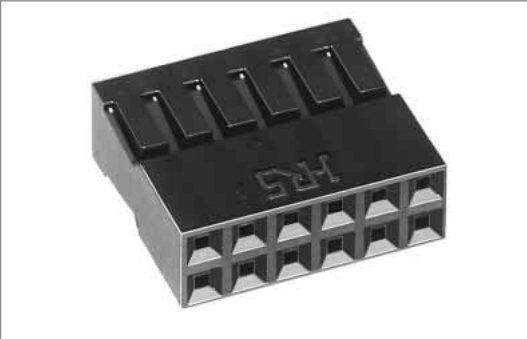
● Right angle type

Unit: mm

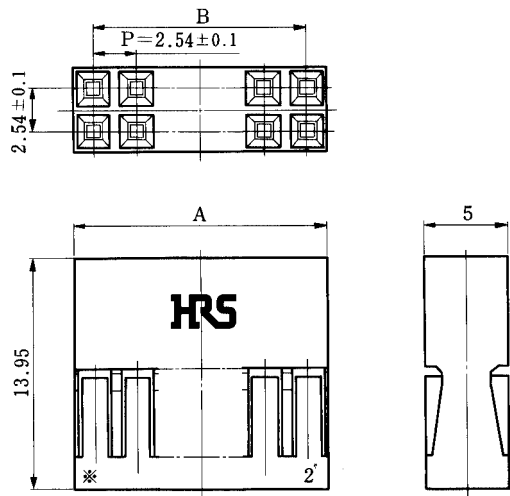
Part Number	CL No.	Number of Contacts	A	B	RoHS
A2- 1PA-2.54DS(71)	620-0001-7-71	1	2.24	—	YES
A2- 2PA-2.54DS(71)	620-0002-0-71	2	4.78	2.54	
A2- 3PA-2.54DS(71)	620-0003-2-71	3	7.32	5.08	
A2- 4PA-2.54DS(71)	620-0004-5-71	4	9.86	7.62	
A2- 5PA-2.54DS(71)	620-0005-8-71	5	12.40	10.16	
A2- 6PA-2.54DS(71)	620-0006-0-71	6	14.94	12.70	
A2- 7PA-2.54DS(71)	620-0007-3-71	7	17.48	15.24	
A2- 8PA-2.54DS(71)	620-0008-6-71	8	20.02	17.78	
A2- 9PA-2.54DS(71)	620-0009-9-71	9	22.56	20.30	
A2-10PA-2.54DS(71)	620-0010-8-71	10	25.10	22.86	
A2-11PA-2.54DS(71)	620-0011-0-71	11	27.64	25.40	
A2-12PA-2.54DS(71)	620-0012-3-71	12	30.18	27.94	
A2-13PA-2.54DS(71)	620-0013-6-71	13	32.72	30.48	
A2-14PA-2.54DS(71)	620-0014-9-71	14	35.26	33.02	
A2-15PA-2.54DS(71)	620-0015-1-71	15	37.80	35.56	
A2-16PA-2.54DS(71)	620-0016-4-71	16	40.34	38.10	
A2-17PA-2.54DS(71)	620-0017-7-71	17	42.88	40.64	
A2-18PA-2.54DS(71)	620-0018-0-71	18	45.42	43.18	
A2-19PA-2.54DS(71)	620-0019-2-71	19	47.96	45.72	
A2-20PA-2.54DS(71)	620-0020-1-71	20	50.50	48.26	

■ Crimping Socket

● Double Row Type



A1-*D-2.54C

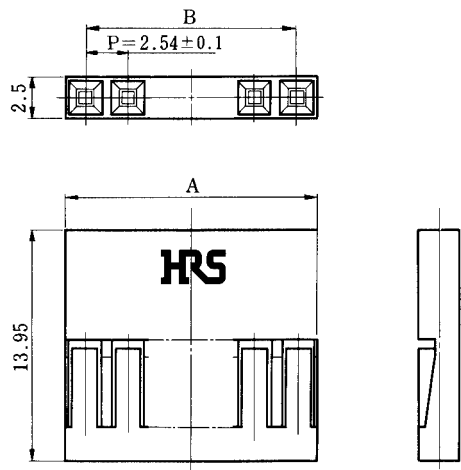


Part Number	CL No.	A	B	RoHS
A1- 8D-2.54C	619-0093-5	10.16	7.62	YES
A1-10D-2.54C	619-0091-0	12.70	10.16	
A1-12D-2.54C	619-0092-2	15.24	12.70	

● Single Row Type



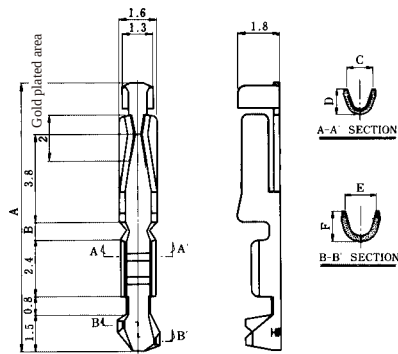
A2-*S-2.54C



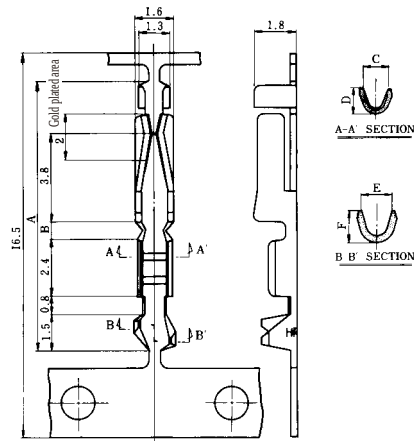
Part Number	CL No.	A	B	RoHS
A2-5S-2.54C	620-0101-1	12.70	10.16	YES
A2-6S-2.54C	620-0102-4	15.24	12.70	

■ Crimping Contact

SCC contact



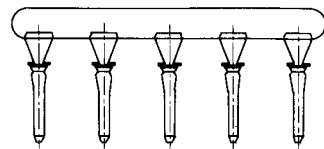
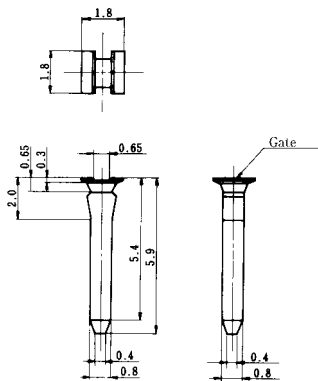
SCFC contact



Part Number	CL No.	Applicable Cable	Packaging Type	Quantity	A	B	C	D	E	F	RoHS
A1-2226SCFC	619-0211-0	AWG#22 to #26	Reel	10,000	11.5	0.8	1.8	1.80	2.3	2.6	YES
A1-2226SCC	619-0214-8		Bag	100	11.5	0.8	1.8	1.80	2.3	2.6	
A1-2630SCFC	619-0212-2	AWG#26 to #30	Reel	10,000	11.5	0.8	1.4	1.35	2.0	2.1	
A1-2630SCC	619-0215-0		Bag	100	11.5	0.8	1.4	1.35	2.0	2.1	

■ Polarizing Key

HIF3-GPIN(A)



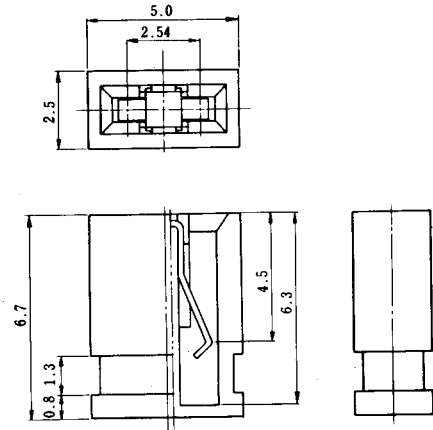
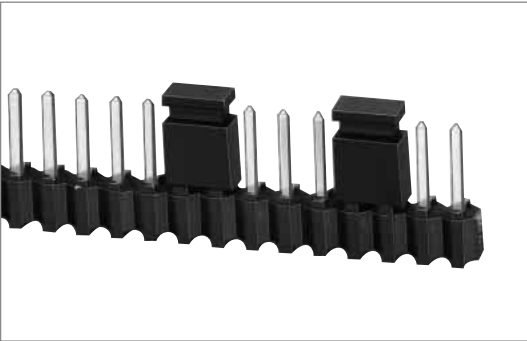
Part Number	CL No.	Material	Remarks	Packaging	RoHS
HIF3-GPIN(A)	562-0126-6	Poly acetal (white)	5 pieces set	4 sets	YES

■ Crimping Tools



	Part Number	CL No.	Applicable Contact	Applicable Cable
Manual crimping tool	HIF3-TB2226HC	550-0154-1	A1-2226SCC	AWG#22 to #26
	HIF3-TB2630HC	550-0155-4	A1-2630SCC	AWG#26 to #30
Crimper unit	CM-105	901-0005-4	_____	_____
Applicator	AP105-A1-2226S	901-4008-4	A1-2226SCFC	_____
	AP105-A1-2630S	901-4009-7	A1-2630SCFC	_____

Short Pin



Performance

Item	Rating Value
Contact Resistance	30m ohms max. at 0.1A DC
Insulation Resistance	1000M ohms min. at 500V DC
Current rating	3A

Part Number	CL No.	RoHS
HIF3GA-2.54SP	562-0403-4	YES

Алматы (7273)495-231
Ангарск (3955)60-70-56
Архангельск (8182)63-90-72
Астрахань (8512)99-46-04
Барнаул (3852)73-04-60
Белгород (4722)40-23-64
Благовещенск (4162)22-76-07
Брянск (4832)59-03-52
Владивосток (423)249-28-31
Владикавказ (8672)28-90-48
Владимир (4922)49-43-18
Волгоград (844)278-03-48
Вологда (8172)26-41-59
Воронеж (473)204-51-73
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06
Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
Калуга (4842)92-23-67
Кемерово (3842)65-04-62
Киров (8332)68-02-04
Коломна (4966)23-41-49
Кострома (4942)77-07-48
Краснодар (861)203-40-90
Красноярск (391)204-63-61
Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13
Москва (495)268-04-70
Мурманск (8152)59-64-93
Набережные Челны (8552)20-53-41
Нижний Новгород (831)429-08-12
Новокузнецк (3843)20-46-81
Ноябрьск (3496)41-32-12
Новосибирск (383)227-86-73
Омск (3812)21-46-40
Орел (4862)44-53-42
Оренбург (3532)37-68-04
Пенза (8412)22-31-16
Петрозаводск (8142)55-98-37
Псков (8112)59-10-37
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15
Рязань (4912)46-61-64
Самара (846)206-03-16
Санкт-Петербург (812)309-46-40
Саратов (845)249-38-78
Севастополь (8692)22-31-93
Саранск (8342)22-96-24
Симферополь (3652)67-13-56
Смоленск (4812)29-41-54
Сочи (862)225-72-31
Ставрополь (8652)20-65-13
Сургут (3462)77-98-35
Сыктывкар (8212)25-95-17
Тамбов (4752)50-40-97
Тверь (4822)63-31-35

Тольятти (8482)63-91-07
Томск (3822)98-41-53
Тула (4872)33-79-87
Тюмень (3452)66-21-18
Ульяновск (8422)24-23-59
Улан-Удэ (3012)59-97-51
Уфа (347)229-48-12
Хабаровск (4212)92-98-04
Чебоксары (8352)28-53-07
Челябинск (351)202-03-61
Череповец (8202)49-02-64
Чита (3022)38-34-83
Якутск (4112)23-90-97
Ярославль (4852)69-52-93

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