

PS4 Series

High Current Connector for Busbar Applications



High-Current



Floating



Busbar



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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Overview

High Current Connector for Busbar applications. The pluggable busbar connector reduces man-hours required for construction and maintenance while improving safety.

Features

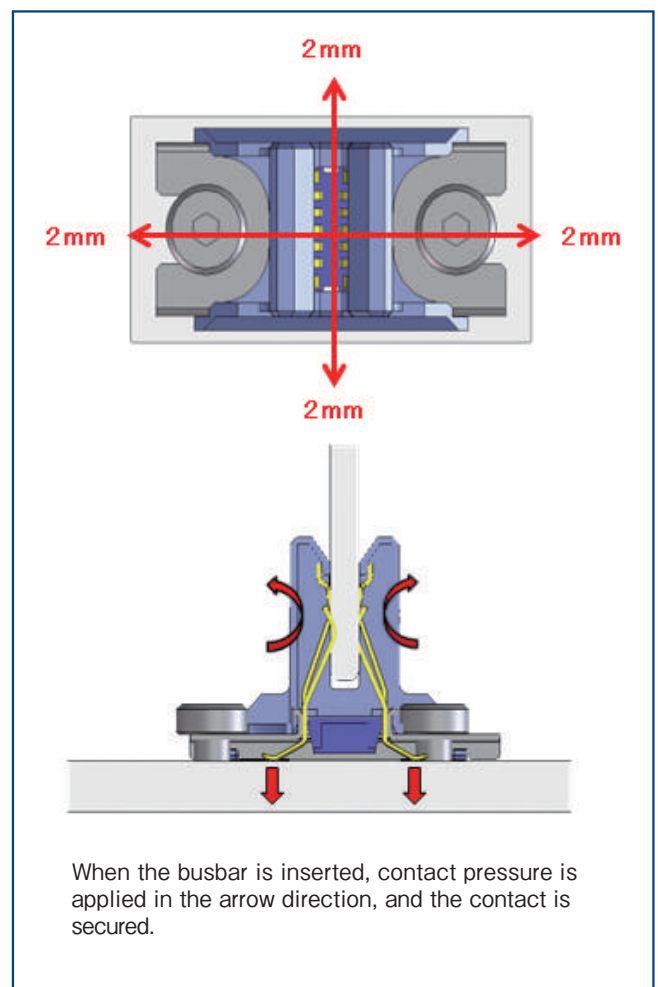
1. Supports High Current

Supports 150A (Derating curve, ambient temp 25°C : 400A) and 300A (Derating curve, ambient temp 25°C : 430A).

The current value varies based on the busbar's thickness.

2. Floating Structure (Patent pending)

Floating design with $\pm 2\text{mm}$ allows for easy mating in blind mating situations where visual inspection isn't clear-cut. While the connector floats and moves within $\pm 2\text{mm}$ when unmated, once the busbar is inserted, the contact pressure ensures stability.



3. Pluggable Busbar Connector

The pluggable busbar connector reduces man-hours required for construction and maintenance while improving safety.

4. Compact Design

Suitable for compact designs. Supports 1U rack size.

Product Specifications

Rated Current (Note)	Busbar thickness : 3.175T	Busbar thickness : 6.35T	Operating Temperature	-40 to +105°C
	150A (Derating curve, Ambient temp 25°C , 400A)	300A (Derating curve, Ambient temp 25°C , 430A)	Storage Temperature Range	-40 to +60°C
Rated Voltage	600V AC/DC			

Note: UL, C-UL certifications have been obtained while changing conditions such as rated current and voltage multiple times.
For details, see the "Conditions on Safety Standards (UL, C-UL)".

Items	Specifications	Conditions
Contact Resistance	0.5m Ω Max.	Measured at 1A DC
Mating Durability	0.7m Ω Max.	50 times
Shock Resistance	No electrical discontinuity of 10 μ s or more	Acceleration : 490m/s ² , Duration : 11ms, 3-axis half-sine wave in both directions, 3 cycles for each
Vibration Resistance	No electrical discontinuity of 10 μ s or more	10 to 55Hz, Half Amplitude 0.75mm, 3-axis in both directions, 3 cycles for each
Temperature Cycles	0.7m Ω Max.	Temperature : -40 → +105°C Time : 30 → 30 minutes
Salt Water Spray	0.7m Ω Max.	Exposed to an environment of 5% brine water at 35°C for 48 hours.

Materials / Finish

Component	Materials	Color/Finish	Remarks
Insulation Case	Synthetic Resin	Black	UL94V-0
Contact	Copper Alloy	Silver Plating	—
Bracket	Stainless Steel	—	—
Pressor Plate	Synthetic Resin	Black	UL94V-0
Floating Screw	Steel	Nickel Plating	—

Product Number Structure

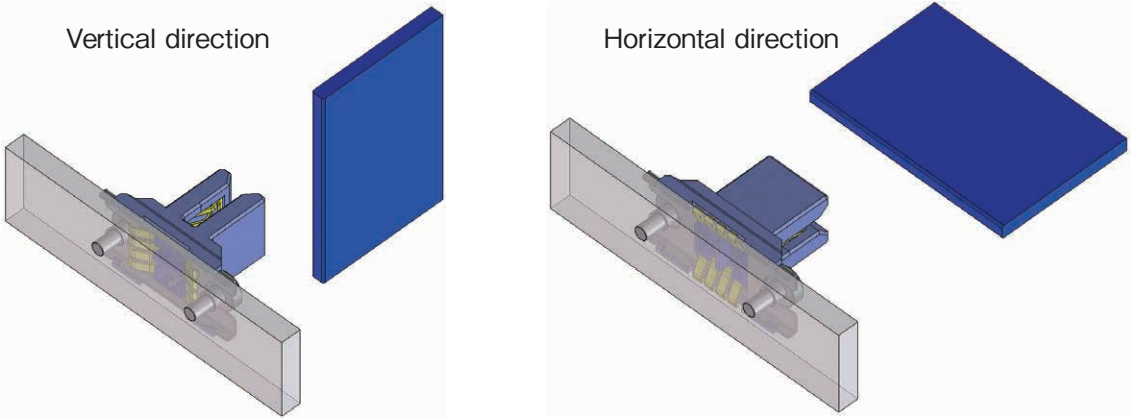
Refer to the chart below when determining the product specifications from the product number.
Please select from the product numbers listed in this catalog when placing orders.

PS4 A - 6.35T - F19

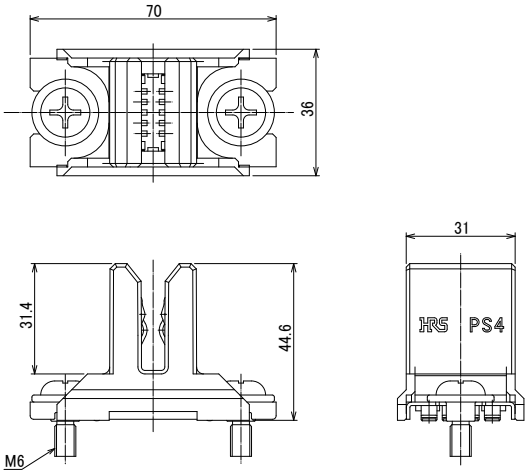
① ② ③ ④

① Series Name	PS4	③ Busbar Thickness	6.35T : 6 or 6.35 3.175T : 3 or 3.175
② Busbar Insertion Direction	None : Vertical Direction A : Horizontal Direction	④ Identification No.	F19

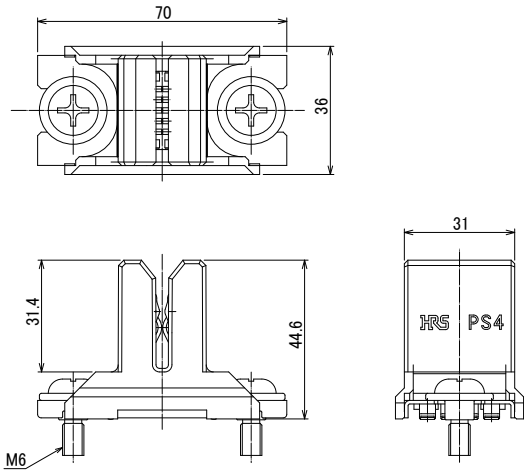
Functional Diagram



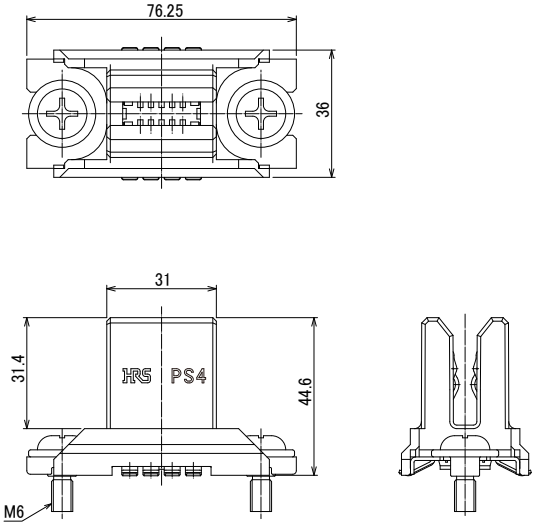
Connector



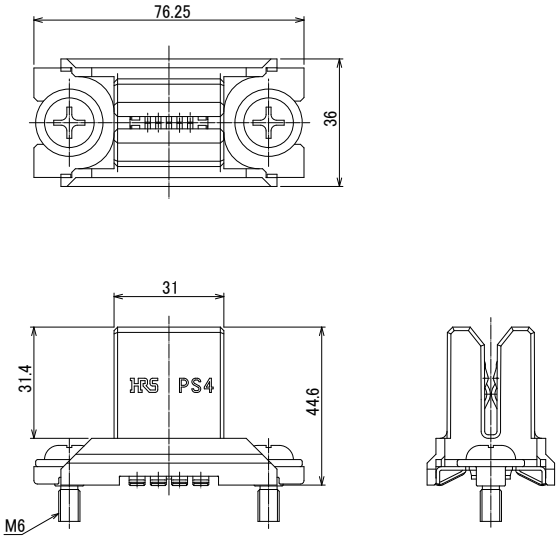
Part No.	HRS No.	A	Purchase Unit
PS4-6.35T-F19	CL0236-1087-0-00	M6	16pc per tray



Part No.	HRS No.	A	Purchase Unit
PS4-3.175T-F19	CL0236-1088-0-00	M6	16pc per tray

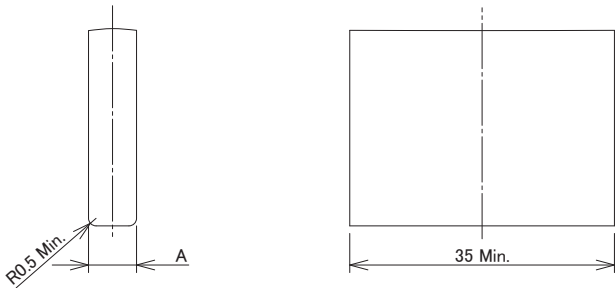


Part No.	HRS No.	A	Purchase Unit
PS4A-6.35T-F19	CL0236-1089-0-00	M6	16pc per tray



Part No.	HRS No.	A	Purchase Unit
PS4A-3.175T-F19	CL0236-1090-0-00	M6	16pc per tray

Busbar Dimensions

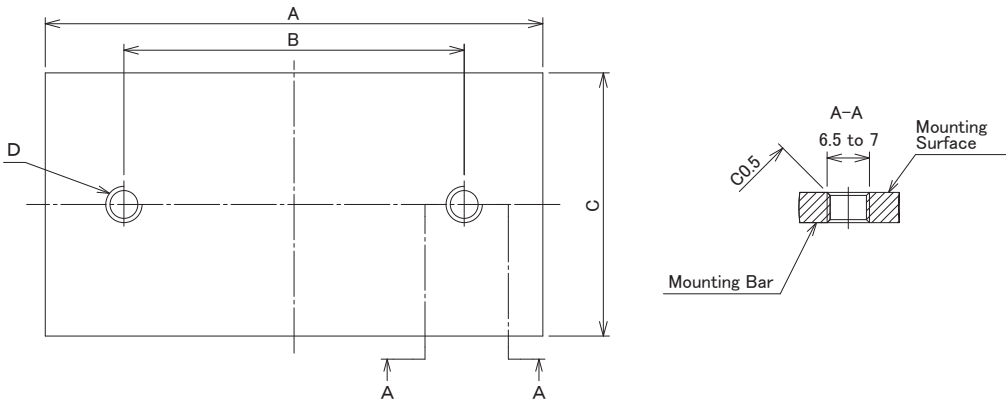


Unit : mm

Part No.	HRS No.	A
PS4-6.35T-F19	CL0236-1087-0-00	5.88 to 6.45
PS4A-6.35T-F19	CL0236-1089-0-00	
PS4-3.175T-F19	CL0236-1088-0-00	2.92 to 3.275
PS4A-3.175T-F19	CL0236-1090-0-00	

Note : Please use silver plating busbars.

■ Mounting Bar Dimensions



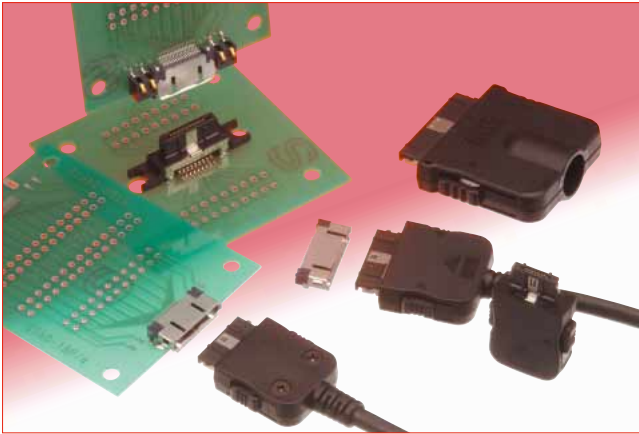
Unit : mm

Part No.	HRS No.	A	B	C	D
PS4-6.35T-F19	CL0236-1087-0-00	76 Min.	50	42 Min.	M6
PS4-3.175T-F19	CL0236-1088-0-00				
PS4A-6.35T-F19	CL0236-1089-0-00	82.25 Min.	56.25	43.5 Min.	
PS4A-3.175T-F19	CL0236-1090-0-00				

Note : Please use pure copper silver plating mounting bar.

Interface Connectors for Portable Terminal Devices

ST Series



Overview

The ST Series interface connectors are specifically designed for use as Input/Output (I/O) connectors on portable information devices. They feature a unique structure with high strength which resists deformation and helps to prevent improper mating.

3.0 mm height and 0.5 mm contact pitch connector prevents EMI as well.

The ST Series can be used in wide range of applications such as DSC, PDA, laptop PCs, cellular phones, etc.

Features

1. Strong locking mechanism

To assure continuous reliability of the connection in an unpredictable consumer environment, mated connectors will withstand pull force of 49N max. applied in any direction. (Fig.1)

2. Prevention against reversed or angle insertion

Multiple polarization keys will not allow incorrect insertion of the mating plug.

In addition, contacts will not be damaged when the user attempts to insert only the corner of the mating plug. (Fig.2)

3. Optimal I/F for Small Devices

Plugs are 8 mm in height and 20 mm long (including covers), which is appropriate for small devices.

Receptacles feature the low height of 3 mm and the contact pitch of 0.5 mm. Their small size saves valuable space and contributes to a smaller device set.

4. Multiple Variations

A wide variations is available for supporting different types of peripheral devices. Examples include shielded plugs for data communication, non-shielded plugs for power charge, reversed plug types as shown in Fig.3 and cradle type connectors.

5. Cable Options

This connector uses a solder type termination, which allows you to apply flexible cable types.

Applications

Digital Still Cameras, Personal Digital Assistance, Notebook computers, Cellular phones, Smart phones and other portable devices requiring high reliability small size input/output connection.

Strong locking mechanism

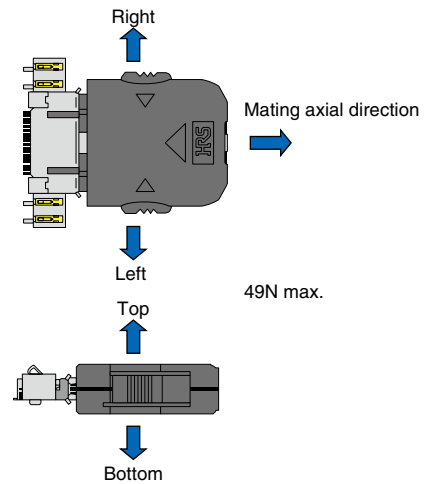


Fig.1

Prevention against reversed or angle insertion

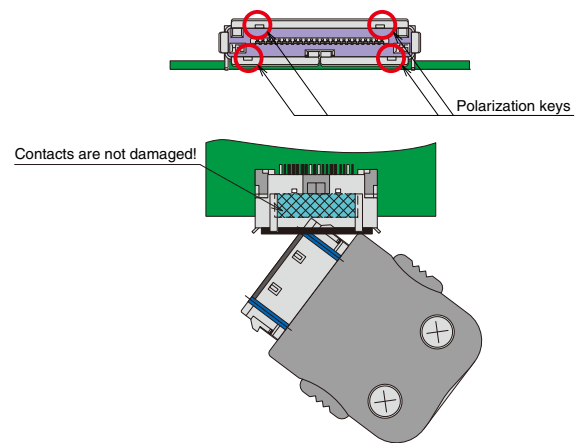


Fig.2

Plug variations

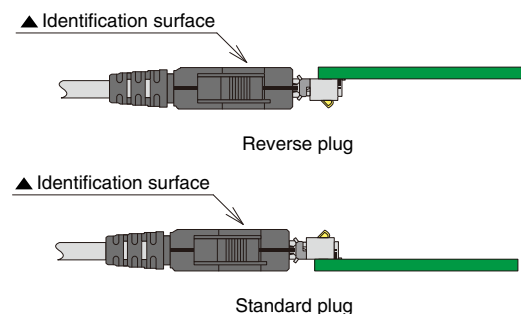


Fig.3

■Product Specifications

Rating	Current rating 0.5A (1 A max. can be carried via 4 random contacts)	Operating temperature range : -30℃ to +80℃
	Voltage rating 100V AC	Storage temperature range : -40℃ to +85℃ (Note)

Characteristic	Specification	Conditions
1. Contact resistance	60mΩ max.	100mA DC
2. Insulation resistance	1,000MΩ min.	250V DC
3. Dielectric withstanding voltage	No flashover or insulation breakdown.	350V AC/ 1 minute
4. Mating/un-mating forces	Mating : 29.4N max.	With corresponding connector.
5. Durability (mating/un-mating)	Contact resistance : 100mΩ max.	10,000 cycles
6. Shock	No electrical discontinuity of 10μ sec. max.	Acceleration of 490 m/s², 11 ms duration, sine half-wave waveform, 3 cycles in each of the 3 axis.
7. Temperature cycle	Contact resistance : 100mΩ max. Insulation resistance : 1,000MΩ min.	Temperature : -55℃ → +5℃ to +35℃ → +85℃ → +5℃ to +35℃ Time (Minutes): 30 → 5 → 30 → 5 5 cycles
8. Salt spray	No corrosions	5±1% salt water solution at 35±3℃ for 48 hours, after washing without salt, leave for 24 hours at room temperature
9. Lock strength	Fully inserted and locked corresponding connector. No physical damage or electrical failure.	Pull force : 49N max. applied in each of the 4 axis.
10. Vibration	No electrical discontinuity of 10μ sec. max.	Frequency : 10 to 55 Hz, single amplitude of 0.75mm, 2 hours, 3 axis.

Note: Includes temperature rise caused by current flow.

■Materials / Finish

● Receptacles and cradles

Component	Material	Finish	Remarks
Insulator	Thermoplastic compound, glass reinforced	Color: Black	UL94V-0
Contacts	Copper alloy	Contact area: Gold plated	_____
Shield	Stainless steel	Tin alloy plating	_____

● Plugs

Component	Material	Finish	Remarks
Insulator	Thermoplastic compound, glass reinforced	Color: Black	UL94V-0
Contacts	Copper alloy	Contact area: Gold plated	_____
Shield	Stainless steel	_____	_____
Cover	Thermoplastic compound, glass reinforced	_____	UL94V-0

■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.

● Receptacles

ST 60 - 18 P (30)
① ② ④ ⑤ ⑦

● Plugs

ST 40 X - 18 S - CVR (30)
① ② ③ ④ ⑤ ⑥ ⑦

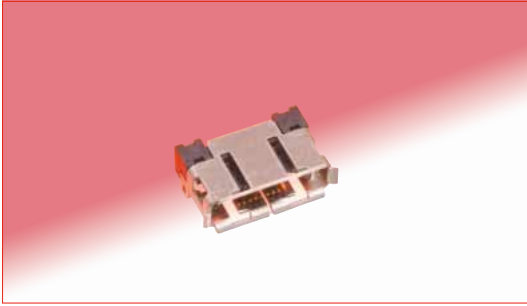
● Plug - Cradle type

ST 80 X - 18 S (30)
① ② ③ ④ ⑤ ⑦

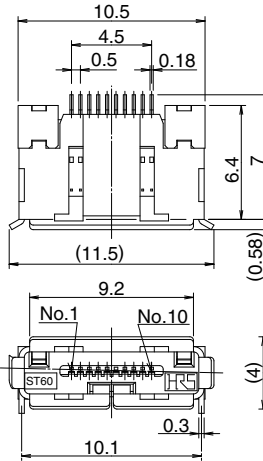
① Series name	: ST
② Termination type	60 : Right angle SMT 40 : Solder type 80 : Cradle, vertical, SMT
③ Shield	X : With shield Blank : Without shield
④ Number of contacts	
⑤ Contact type	P : Male contact (Receptacle) S : Female contact (Plug)
⑥ Plug type	CV : Standard type, for top PCB mount CVR : Reverse type, for bottom PCB mount CV1 : For larger diameter cables
⑦ RoHS compliant	: (30)

Receptacle

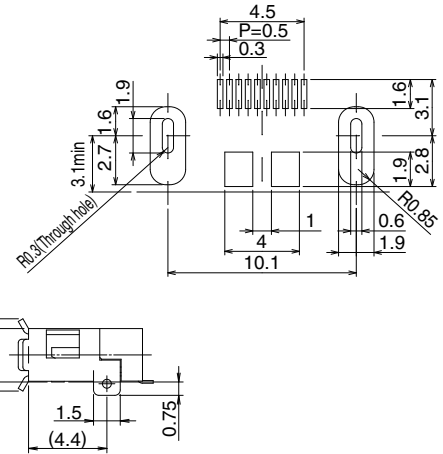
● 10 pos.



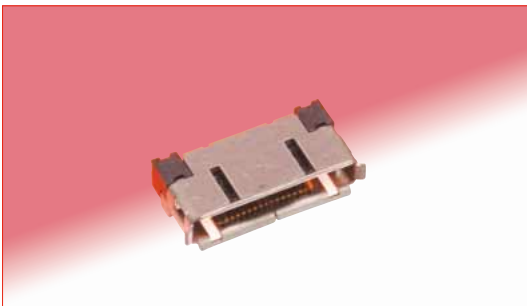
Part No.	HRS No.	Packaging	RoHS
ST60-10P(30)	241-0022-5 30	1,500pcs/reel	○



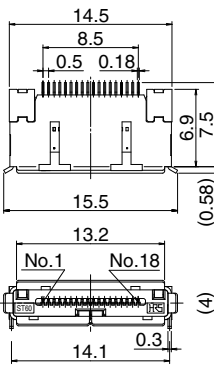
Recommended PCB mounting pattern



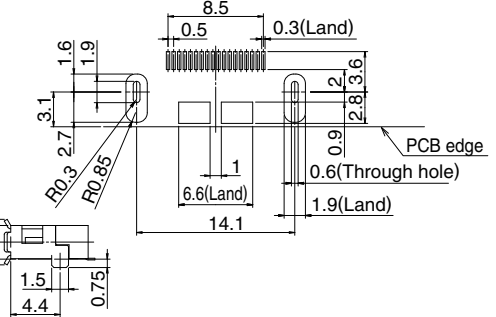
● 18 pos.



Part No.	HRS No.	Packaging	RoHS
ST60-18P(30)	241-0011-9 30	1,500pcs/reel	○



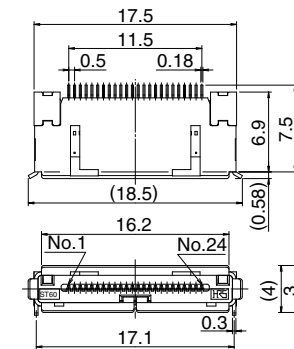
Recommended PCB mounting pattern



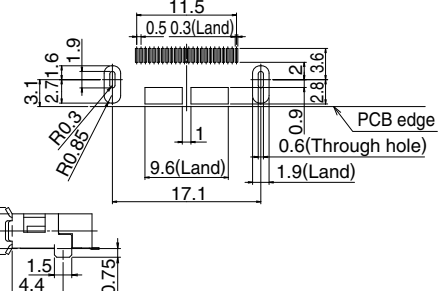
● 24 pos.



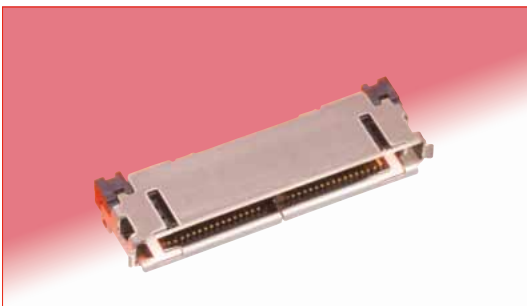
Part No.	HRS No.	Packaging	RoHS
ST60-24P(30)	241-0003-0 30	1,500pcs/reel	○



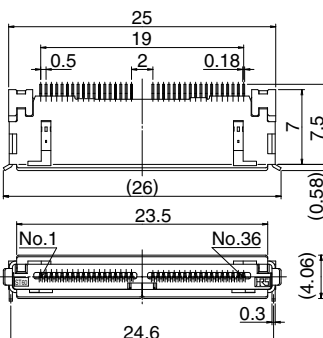
Recommended PCB mounting pattern



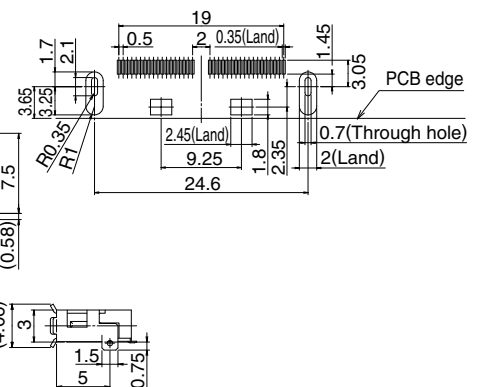
● 36 pos.



Part No.	HRS No.	Packaging	RoHS
ST60-36P(30)	241-0033-1 30	1,500pcs/reel	○

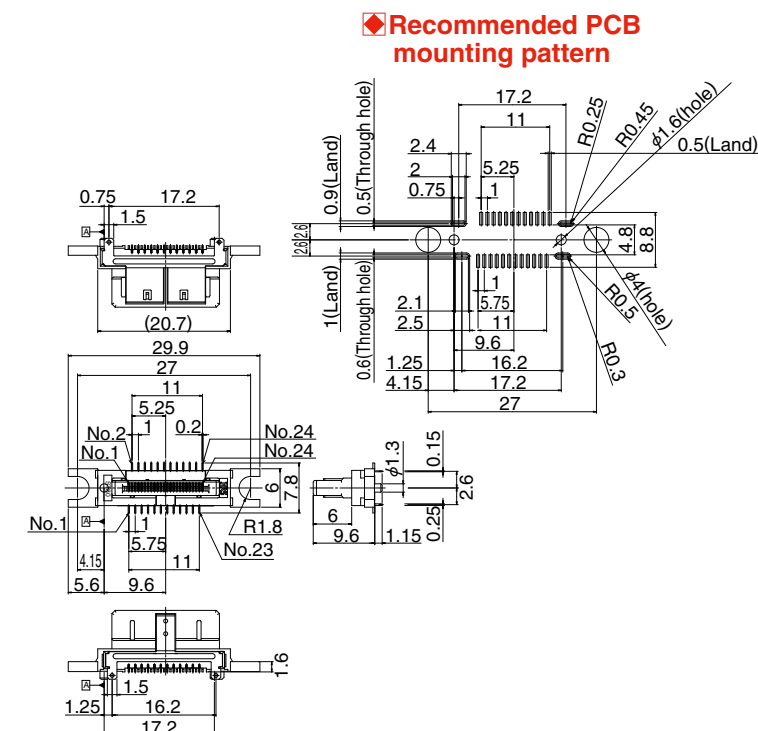
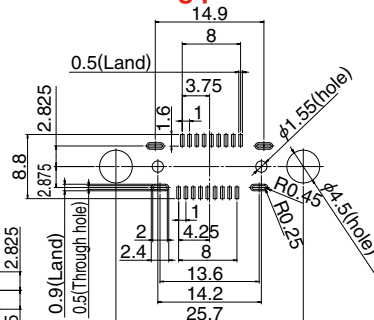
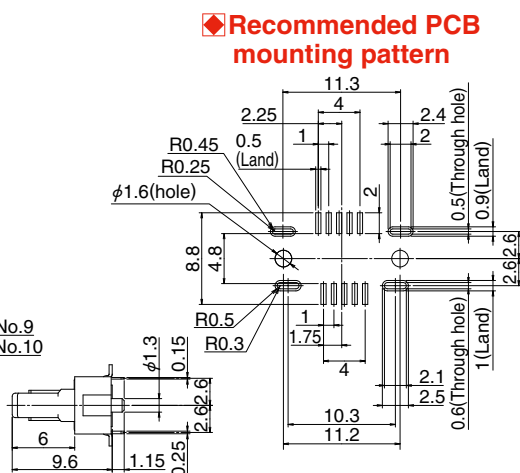
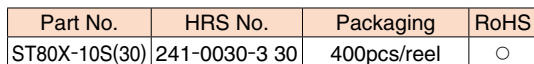


Recommended PCB mounting pattern



Technical drawings of the PCB mounting pattern for the No.36 connector. The drawings include a top view, a side view, and a detailed view of the connector pins. The top view shows a rectangular footprint with dimensions 24.25 x 27.5. The side view shows the connector height and pin dimensions. The detailed view shows the pin pitch and dimensions for the PCB edge and through holes.

- 10 pos.

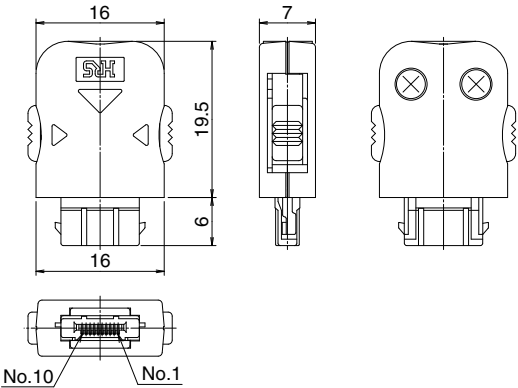


■Plug

● 10 pos. (Non-shielded type)



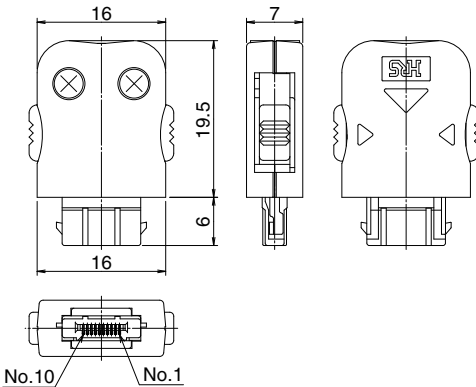
Part No.	HRS No.	Packaging	RoHS
ST40-10S-CV(30)	241-0021-2 30	1	○



● 10 pos. (Reverse, non-shielded type)



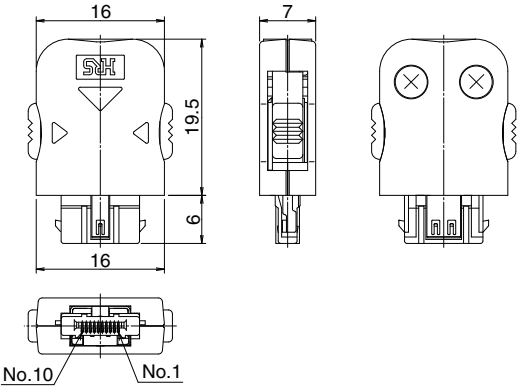
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ST40-10S-CVR(30)	241-0040-7 30	1	○



● 10 pos. (Shielded type)



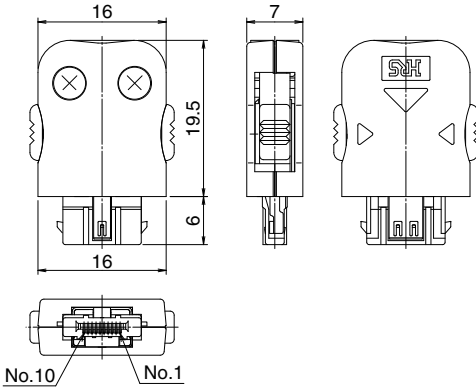
Part No.	HRS No.	Packaging	RoHS
ST40X-10S-CV(30)	241-0041-0 30	1	○



● 10 pos. (Reverse, shielded type)



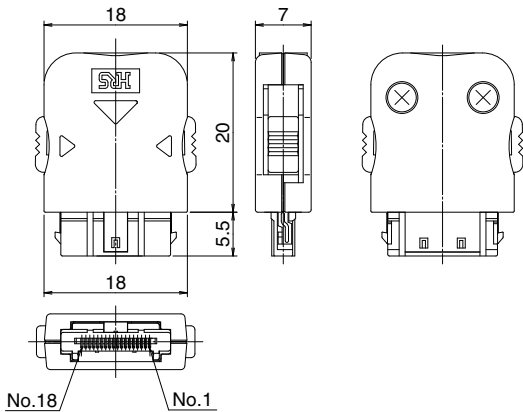
Part No.	HRS No.	Packaging	RoHS
ST40X-10S-CVR(30)	241-0029-4 30	1	○



● 18 pos. (Shielded type)



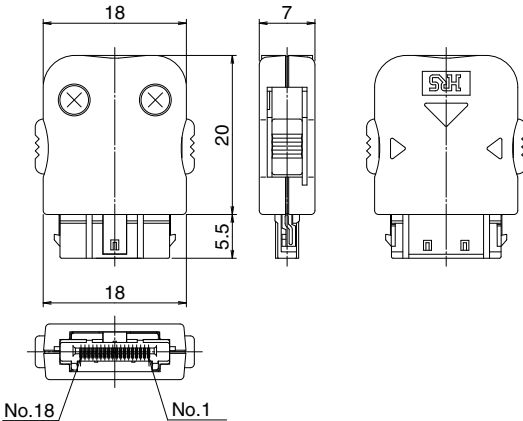
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ST40X-18S-CV(30)	241-0012-1 30	1	○



● 18 pos. (Reverse, shielded type)



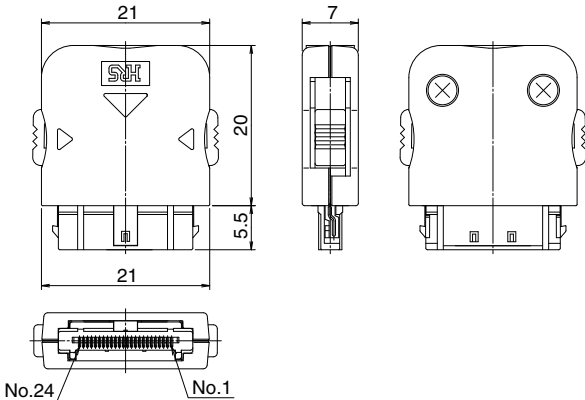
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ST40X-18S-CVR(30)	241-0016-2 30	1	○



● 24 pos. (Shielded type)



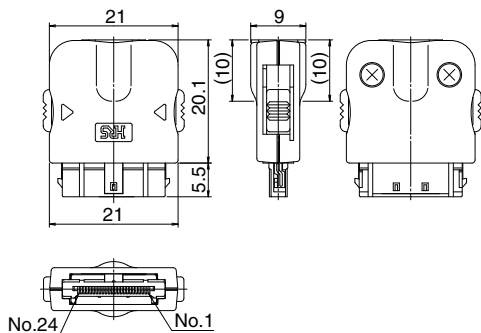
Part No.	HRS No.	Packaging	RoHS
ST40X-24S-CV(30)	241-0004-3 30	1	○



● 24 pos. (Shielded type)



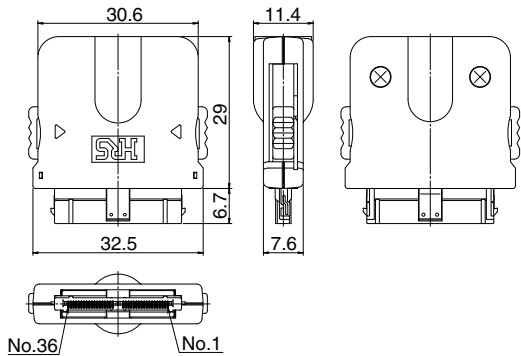
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ST40X-24S-CV1(30)	241-0023-8 30	1	○



● 36 pos. (Shielded type)



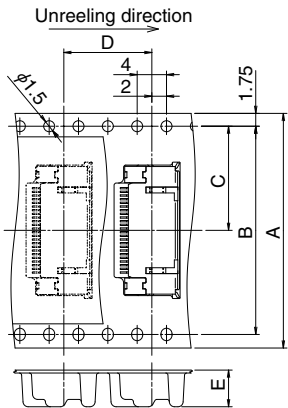
Part No.	HRS No.	Packaging	RoHS
ST40X-36S-CV(30)	241-0034-4 30	1	○



Note: Plug assemblies will require additional components. Contact Hirose Electric representative for detailed descriptions and installation instructions.

◆ Packaging Specification

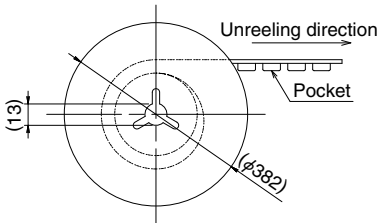
● Embossed Carrier Tape Dimensions



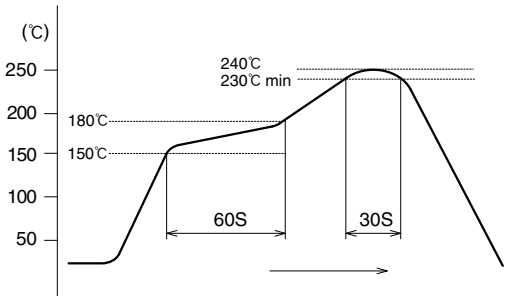
● Reel Dimensions

Part No.	A	B	C	D	E	pcs. / reel
ST60-10P(30)	24	—	11.5	12	5	1,500
ST60-18P(30)	24	—	11.5	12	5	1,500
ST60-24P(30)	32	28.4	14.2	12	5	1,500
ST60-36P(30)	44	40.4	20.2	12	5	1,500
ST60-36PR(30)	44	40.4	20.2	12	5	1,500
ST80X-10S(30)	24	—	11.5	16	12.2	400
ST80X-18S(30)	44	40.4	20.2	16	12.7	400
ST80X-24S(30)	44	40.4	20.2	16	12.7	400
ST60X-18S(30)	32	28.4	14.2	20	4.95	900
ST60X-36S(30)	44	40.4	20.2	20	4.85	900

● Reel Dimensions



◆ Recommended Temperature Profile (Lead-free soldering compound)



This measurement is performed on the contact lead section.

The temperature profile may vary due to external conditions such as the type of cream solder, manufacturer, and board size.

Please contact the solder manufacturer for their specifications.

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

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Ижевск (3412)26-03-58
Иркутск (395)279-98-46
Казань (843)206-01-48
Калининград (4012)72-03-81
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Киров (8332)68-02-04
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Кострома (4942)77-07-48
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Курск (4712)77-13-04
Курган (3522)50-90-47
Липецк (4742)52-20-81

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Москва (495)268-04-70
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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

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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

Киргизия +996(312)96-26-47

Тольятти (8482)63-91-07
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Череповец (8202)49-02-64
Чита (3022)38-34-83
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Ярославль (4852)69-52-93