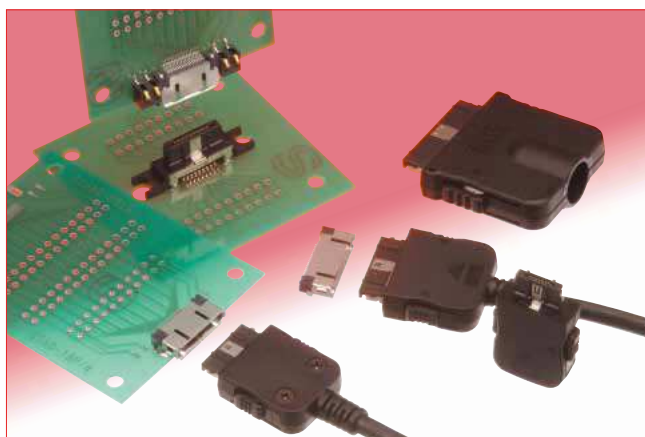


Interface Connectors for Portable Terminal Devices

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

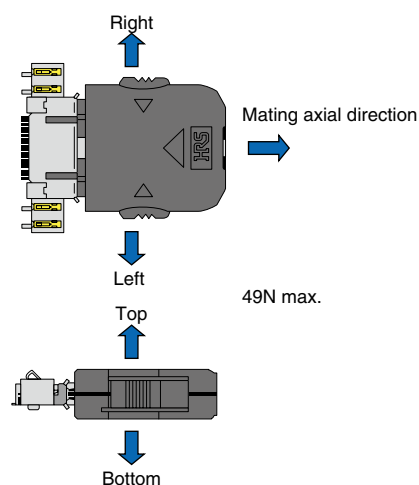


Fig.1

Prevention against reversed or angle insertion

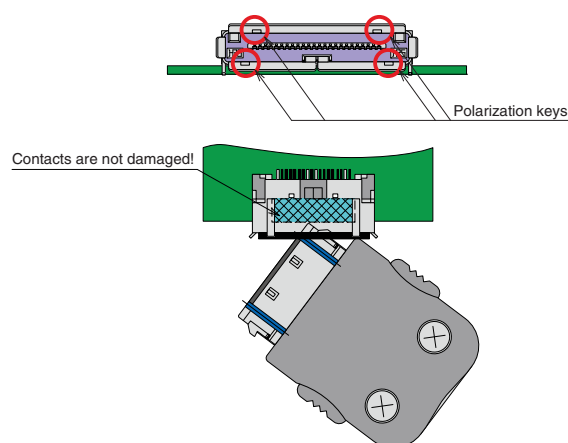


Fig.2

Plug variations

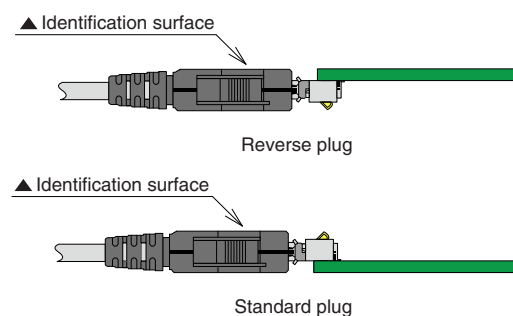


Fig.3

■Product Specifications

Rating	Current rating 0.5A (1 A max. can be carried via 4 random contacts)	Operating temperature range : -30°C to +80°C
	Voltage rating 100V AC	Storage temperature range : -40°C to +85°C (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/s ² , 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°C → +5°C to +35°C → +85°C → +5°C to +35°C Time (Minutes): 30 → 5 → 30 → 5 5 cycles
8. Salt spray	No corrosions	5±1% salt water solution at 35±3°C 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

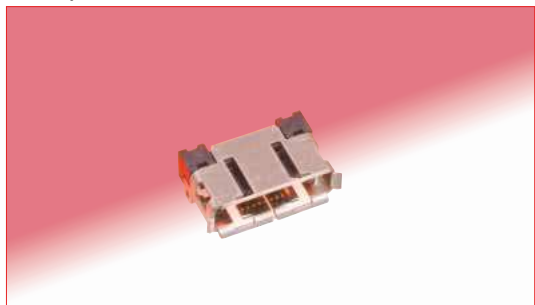
● Plug - Cradle type

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)

● 10 pos.



Technical drawing of the ST60 connector showing top and side views with dimensions.

Top View Dimensions:

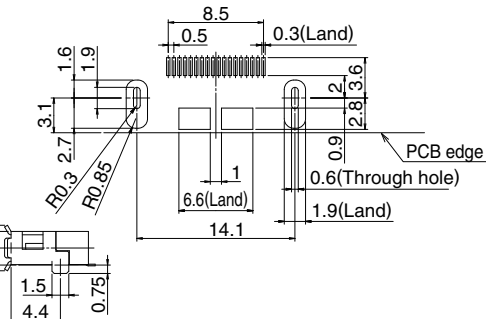
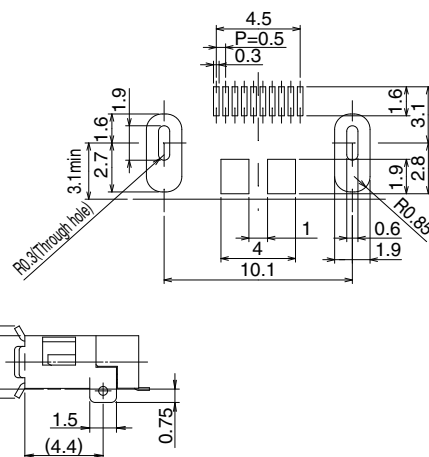
- Overall width: 10.5
- Distance between contact pins: 4.5
- Pin diameter: 0.5
- Pin spacing from center: 0.18
- Overall length: 9.2
- Distance from front edge to contact pins: 10.1
- Distance from front edge to rear edge: 0.3

Side View Dimensions:

- Overall height: 7
- Height of the main body: 6.4
- Height of the rear flange: (0.58)
- Height of the rear flange (alternative): (4)

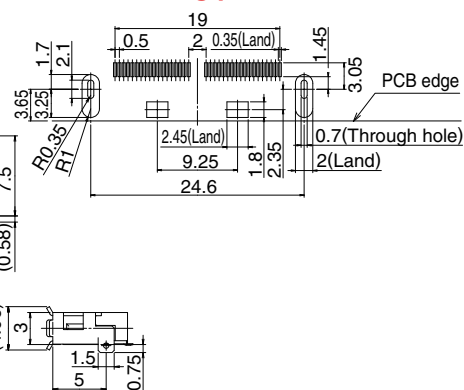
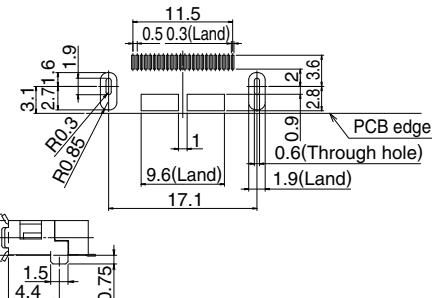
Labels:

- No.1 (Pin 1)
- No.10 (Pin 10)
- ST60 (Connector Model)
- RS (Receptacle)



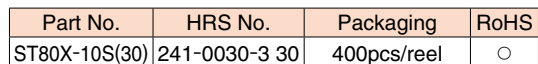
The technical drawing shows two views of the No. 24 connector:

- Top View:** Shows a rectangular component with overall dimensions of 17.5 mm by 7.5 mm. The central contact area has a width of 11.5 mm. Individual contact pins are spaced at 0.5 mm and 0.18 mm intervals. Mounting tabs have a height of 6.9 mm.
- Side View:** Shows the profile of the connector with a total length of 17.1 mm and a thickness of 3 mm. It features a central contact strip labeled "No. 24" and end terminals labeled "ST50" and "HR". A dimension of 16.2 mm is shown across the main body, and a small offset of 0.3 mm is indicated at the bottom right.



[illegible][illegible]

- 10 pos.



Part No.	HRS No.	Packaging	RoHS
ST80X-18S(30)	241-0020-0 30	400 pcs/reel	○



Part No.	HRS No.	Packaging	RoHS
ST80X-24S(30)	241-0037-2 30	400 pcs/reel	○

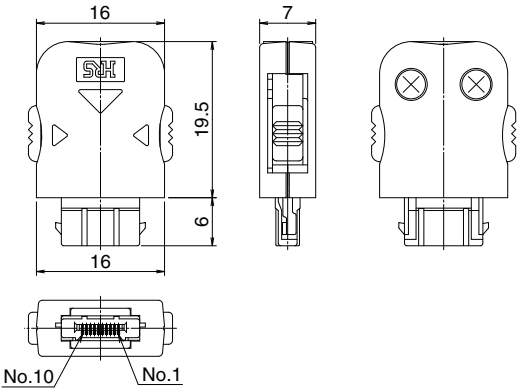


■Plug

● 10 pos. (Non-shielded type)



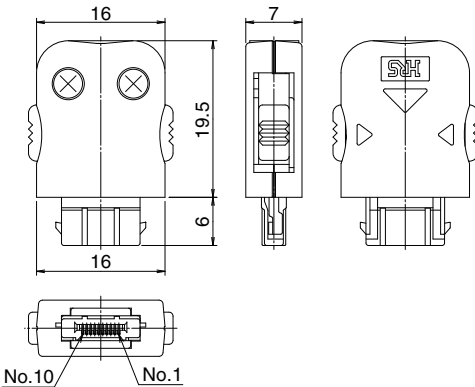
Part No.	HRS No.	Packaging	RoHS
ST40-10S-CV(30)	241-0021-2 30	1	○



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



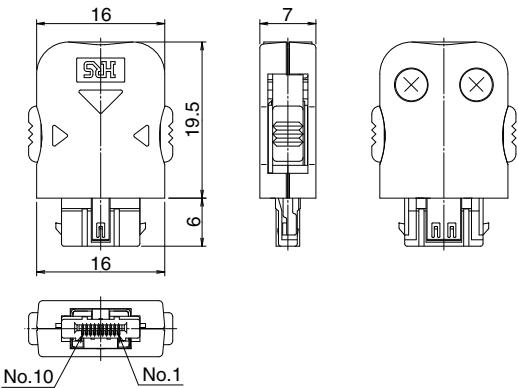
Part No.	HRS No.	Packaging	RoHS
ST40-10S-CVR(30)	241-0040-7 30	1	○



● 10 pos. (Shielded type)



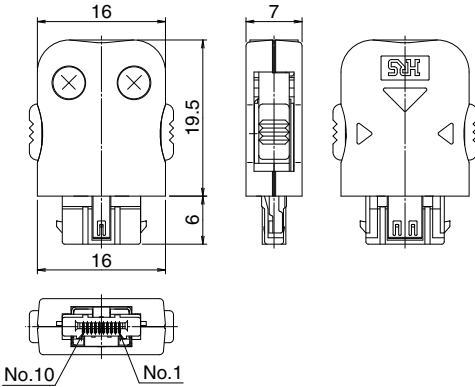
Part No.	HRS No.	Packaging	RoHS
ST40X-10S-CV(30)	241-0041-0 30	1	○



● 10 pos. (Reverse, shielded type)



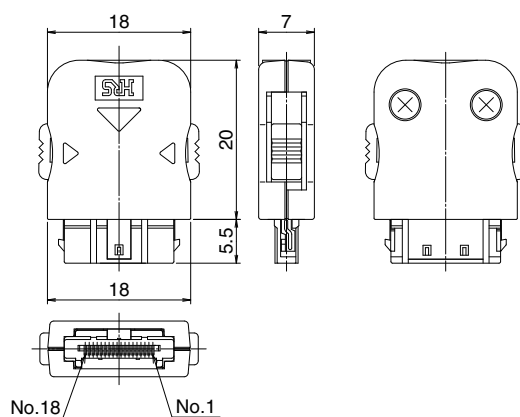
Part No.	HRS No.	Packaging	RoHS
ST40X-10S-CVR(30)	241-0029-4 30	1	○



● 18 pos. (Shielded type)



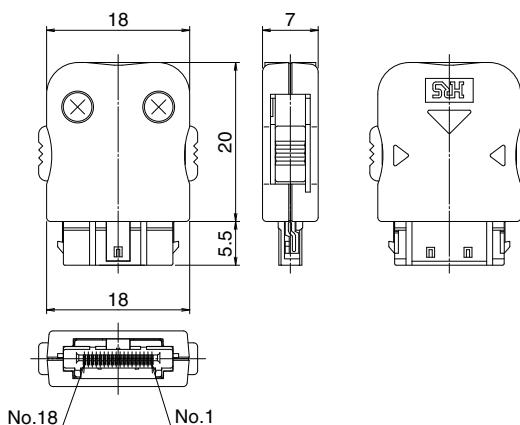
Part No.	HRS No.	Packaging	RoHS
ST40X-18S-CV(30)	241-0012-1 30	1	○



● 18 pos. (Reverse, shielded type)



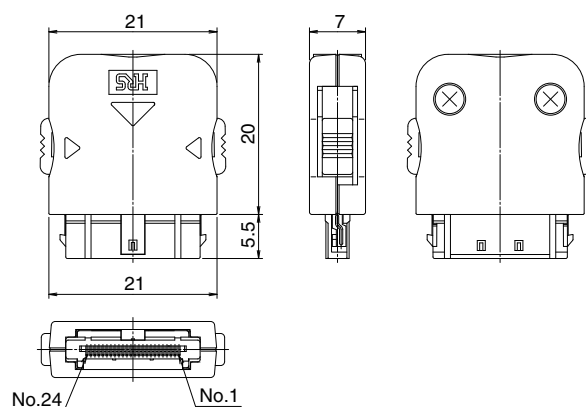
Part No.	HRS No.	Packaging	RoHS
ST40X-18S-CVR(30)	241-0016-2 30	1	○



● 24 pos. (Shielded type)



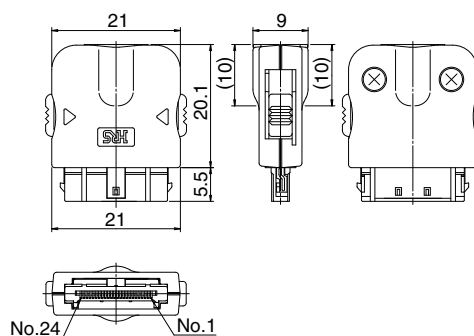
Part No.	HRS No.	Packaging	RoHS
ST40X-24S-CV(30)	241-0004-3 30	1	○



● 24 pos. (Shielded type)



Part No.	HRS No.	Packaging	RoHS
ST40X-24S-CV1(30)	241-0023-8 30	1	○



Packaging Specification

Technical drawing of a cable reel. The drawing shows a side view of the reel with dimensions and labels. The dimensions are: D (total width), 4 (width of the central hub), 2 (width of the central hub), 1.75 (width of the flange), C (height of the reel body), B (height of the reel body), A (total height), and E (height of the flange). The drawing also shows a cross-section of the reel with a diameter of $\phi 1.5$. The unreeled direction is indicated by an arrow pointing to the right.

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

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.



2-6-3, Nakagawa Chuoh, Tsuzuki-Ku, Yokohama-Shi 224-8540, JAPAN
TEL: +81-45-620-3526 Fax: +81-45-591-3726
<http://www.hirose.com>
<http://www.hirose-connectors.com>