

AN-027 → AN-090

# SR 30 SERIES SHELL SIZE 10mm MINIATURE MICROPHONE CONNECTORS

## Introduction

SR30 series circular connectors are developed for the use in the microphone circuitry of compact size wireless communication equipments. Its size is remarkably miniaturized than general conventional connectors, offering an attractive contemporary design. Not only size and design, but also HIROSE realized the development of most reliable pipe shaped female contact for such a limited space on the basis of the advanced press technology.

This fact indicates that SR30 series connectors feature reliable performance and low cost characteristics. It also assures long life operation such as max. 15 mΩ contact resistance at DC1A after 1000 time coupling. SR30 series 6 pin type connector has two types of plug, which are for the application of different size of cable between the outer diameter of 4.2 and 6.2 m/m.



## Features

- Both 4 and 6-pin multi-contact are installed in the shell size of 12 m/m miniature connector housing.
- Five key mechanism assures error-free polarization in coupling.
- Unique cable clamp mechanism by metal clamper is equipped inside of connector housing so as to maintain a good looking streamlined appearance.
- The use of glass-filled polyacetal for molding material helps to offer competitive products.
- Unique assembling tool, SR30-10P-T03 and -T04, is prepared for your operation of soldering termination and fastening of the metal cover.
- Another tool, SR30-10PE-T, is also available for cable clamp procedure with metal clamper, SR30-P. But this tool can not be used for SR30-10PM-6P due to cable size difference.
- Standard applicable cable size is the outer diameter 4.2 – 4.8 m/m. For thicker cable 5.5 – 6.2 m/m, SR30-10PM-6P, 6 pin type only, is available.
- Jack is available in three types for cable extention program.

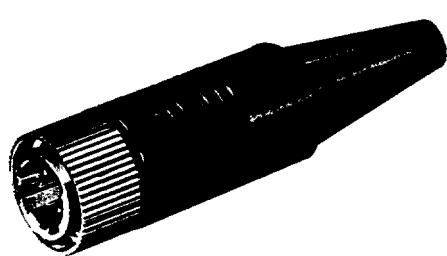
## Material and Finish

Male pin:	Brass + gold plated or silver plated
Female pin:	Copper alloy + gold plated or silver plated
Shell:	Brass and Zinc alloy + chromium plated and nickel plated
Metal cover:	Brass, nickel plated
Molding Hood:	Glass-filled polyacetal, white
Metal clamper:	Rubber, black
	Brass

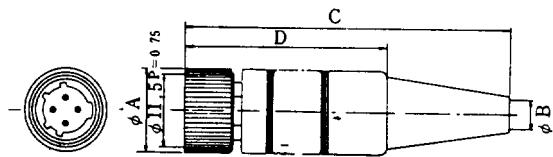
## Electrical & Environmental

Rated voltage:	AC100V, DC140V
Current rating:	1A
Insulation resistance:	200MΩ MIN. at DC100V
Contact resistance:	10mΩ MAX. at DC1A
Withstand voltage:	AC300V MIN. for a minute
Humidity:	20MΩ MIN. at 40°C, 90%, 96 hour
Vibration:	10–55 cycle/sec. at 1.5m/m amplitude
Temperature cycling:	-30 to +85°C
Durability:	15mΩ MAX. at DC1A after 1000 time coupling
Salt spray:	48 hour MIN. in 5% salt spray
Insertion force:	3 kgs MAX. at a connector unit

## Plug



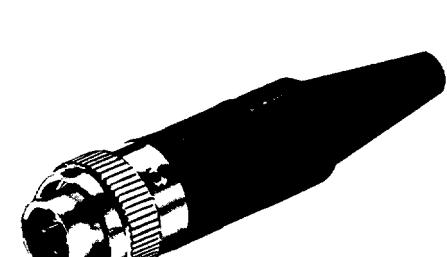
SR30-10PE-6P



Note 1. Please order SR30-P for SR30-10PE-6P,  
SR30-10PX-6P.

2. Solder cup dia. of male pin is  $\phi 0.8$ .

3. SR30-P1 is used with SR30-10PM-6P.



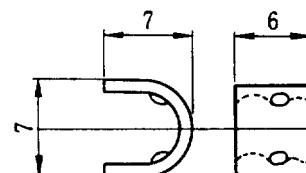
SR30-10PQ-4P

No. of pin	Part No.	$\phi A$	$\phi B$	C	D	Remarks
4	SR30-10PE-4P	13	4.3	51.5	.32	
6	SR30-10PE-6P	13	4.3	51.5	32	Note 1
6	SR30-10PG-6P	13	5.2	49.0	31	
6	SR30-10PX-6P	13	5.7	49.0	—	Note 1
6	SR30-10PB-6P	15	4.3	51.5	32	
6	SR30-10PF-6P	15	5.5	55.0	—	
7	SR30-10PF-7P	15	5.5	55.0	—	Silver plated
4	SR30-10PM-4P	15	5.7	49.0	—	
6	SR30-10PM-6P	15	5.7	49.0	—	Note 3
4	SR30-10PQ-4P	15	4.3	57.5	38	Screw attached
6	SR30-10PQ-6P	15	4.3	57.5	38	Screw attached

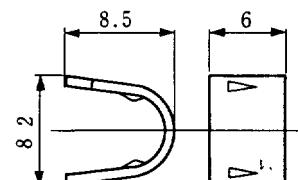
## Cable Clamper



SR30-P



SR30-P



SR30-P1

Part No.	Function
SR30-P	
SR30-P1	Cable clamper

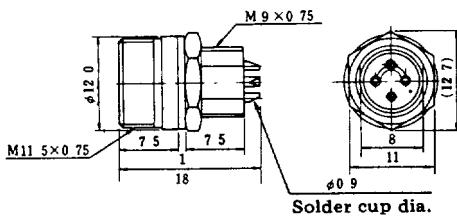
Note: SR30-P is attached with SR30 Plug and Jack except SR30-10PE-6P, SR30-10PX-6P and SR30-10JL-6S.

## Receptacle

### Solder Type



SR30-10R-6S

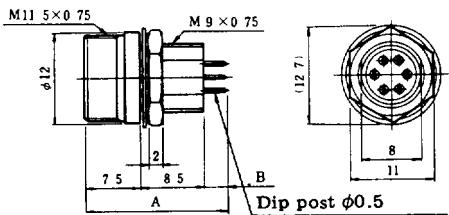


No. of pin	Part No.	Remarks
4	SR30-10R-4S	
6	SR30-10R-6S	
7	SR30-10R-7S	Silver plated

### P.C. Mount Type

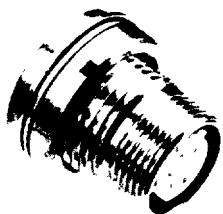


SR30-10RA-6SE

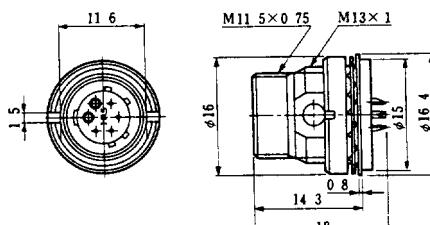


No. of pin	Part No.	A	B	Remarks
6	SR30-10RA-6SE(02)	19	3	
7	SR30-10RA-7SE	19	3	Silver plated
6	SR30-10RA-6SF(01)	24	8	Dip post φ0.8

### Receptacle (Jam Nut to be fastened from front panel)



SR30-10RD-6S

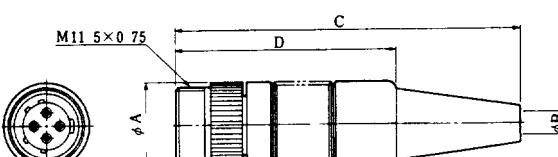


No. of pin	Part No.
6	SR30-10RD-6S

### Jack



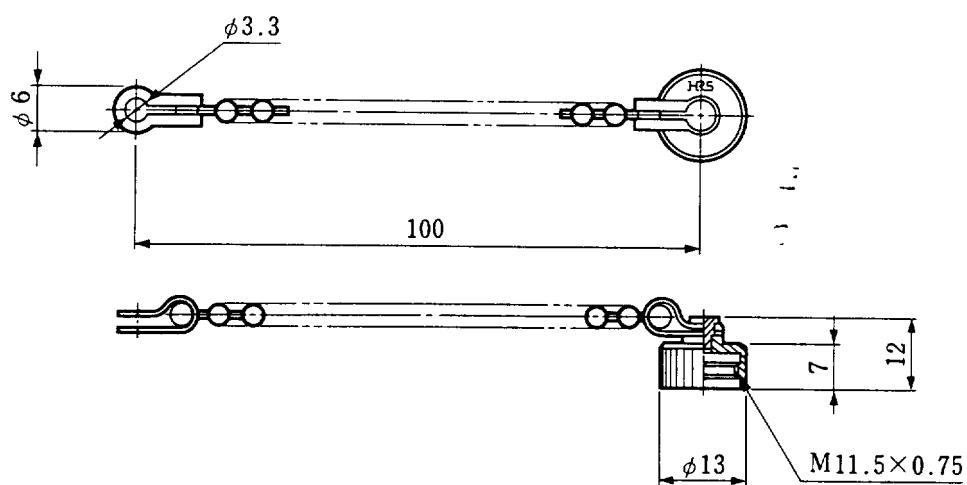
SR30-10JE-6S



Note 1. Please order SR30-P for SR30-10JE-6S.  
 2. Solder cup dia. of female pin is φ0.9  
 3. SR30-P1 is used with SR30-10JM-6S.

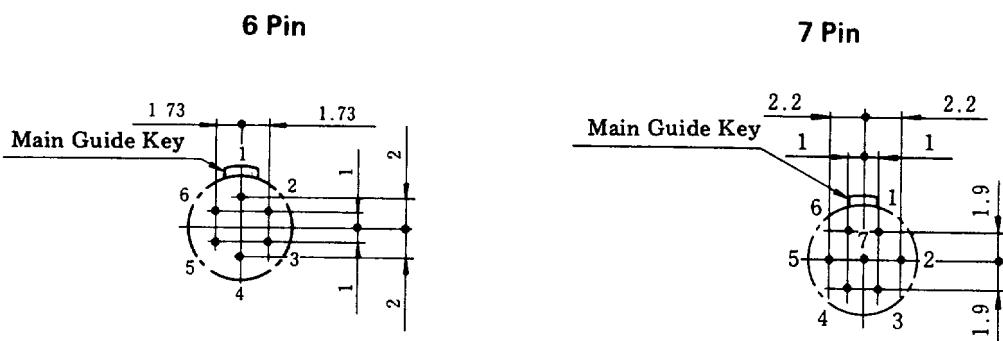
No. of pin	Part No.	A	B	C	D	Remarks
4	SR30-10JE-4S	13	4.3	53.5	34	
6	SR30-10JE-6S	13	4.3	53.5	34	Note 1
6	SR30-10JM-6S	13	5.7	51	—	Note 3
7	SR30-10JF-7S	13	5.5	57	—	Silver plated

## Cap

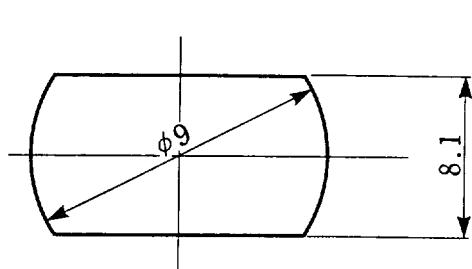


Part No.  
SR30-10RC1

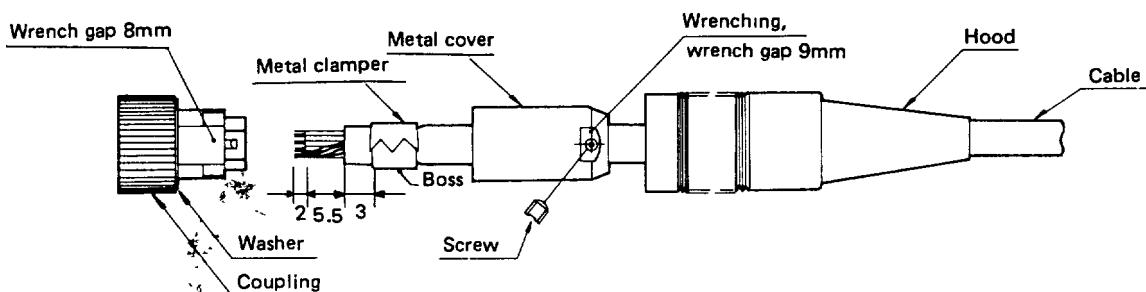
## PCB Layout



## Panel Cutout



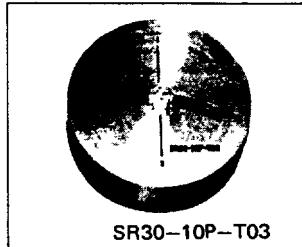
## Assembling Procedure



1. Use a cable of 4.2 – 4.8 m/m, for SR30-10PE-4P and SR30-10PE-6P, or 5.5 – 6.2 m/m, for SR30-10PM-6P, in the outer diameter and 0.3 m/m<sup>2</sup> in nominal conductor cross-sectional area.
2. Pass the cable through a hood and a metal cover. Cut off the end of the cable with dimensions as shown.
3. Insert an assembling tool into the block and terminate the cable by soldering.
4. Stake a metal clumper, SR30-P, to the cable several times by means of a crimping tool, SR30-10PE-T, in such a way that the outer diameter becomes about 5.2 m/m.
5. And then, fasten the metal cover into the thread section of plug shell by means of a single-acting torque wrench.
6. Thrust a screw into one of two bosses of the metal clumper in such a way that the tip of screw sinks.
7. Put a hood on the metal cover.

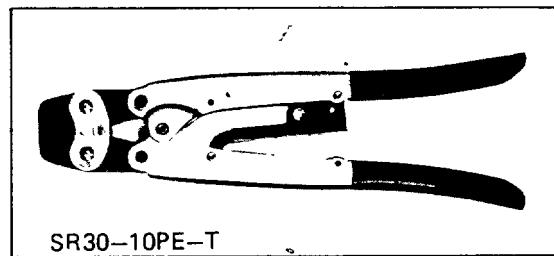
## Tools

### Soldering and Fastening Tool

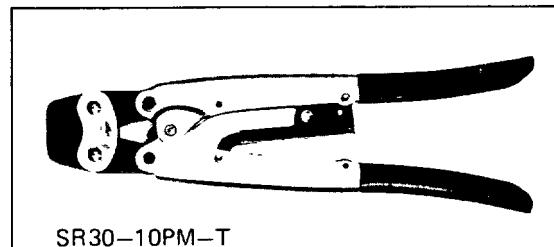


Part No.	Applicable connector
SR30-10P-T03	SR30-10PE-4P
SR30-10P-T04	SR30-10PE-6P SR30-10PM-6P

### Clamping Tool



Applicable Cable dia. φ4.2 ~ φ4.8



Applicable Cable dia. φ6