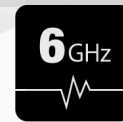


## POK22 Series

# High Frequency Floating RF Connector (0 to 6GHz) with 16.45mm Mated Height for Automotive Camera Interfaces



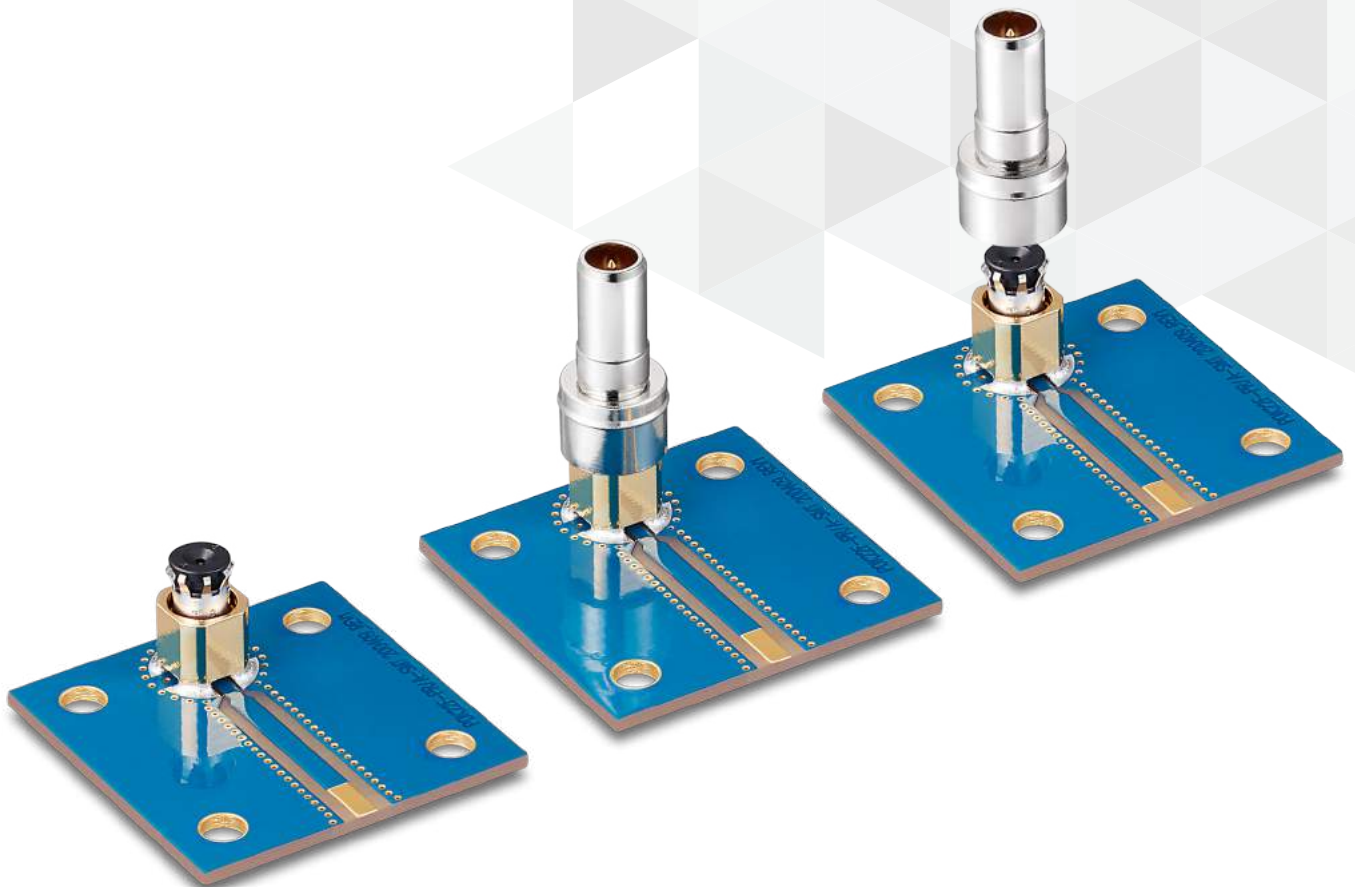
6 GHz



Floating



Automotive

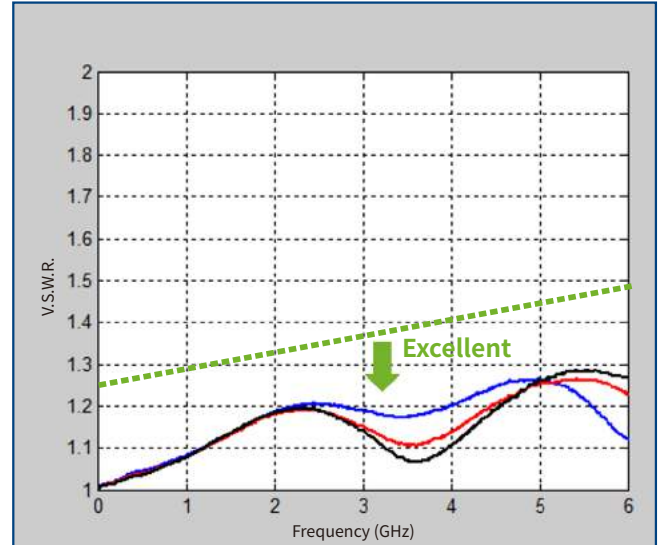


# Features

## 1. Space Saving Design

## 2. High Frequency (0 to 6GHz)

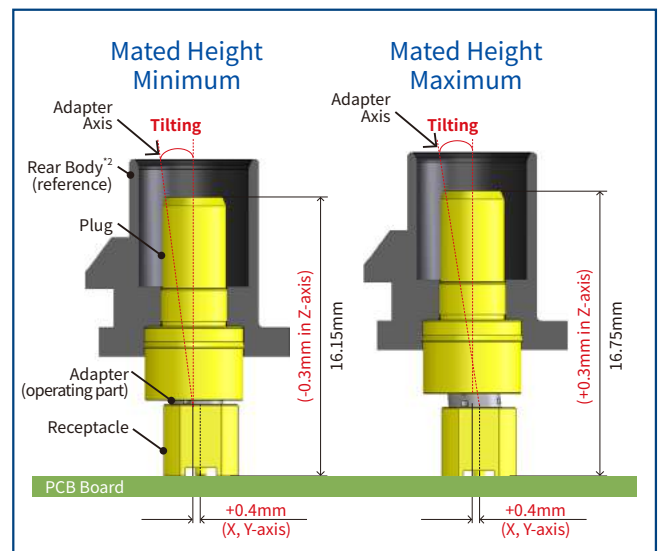
V.S.W.R. is 1.49 or less at 0 to 6GHz.



## 3. Misalignment Absorption

- X and Y-axis directions : Floating Range  $\pm 0.4\text{mm}$
- Z-axis direction : Effective Mating Length  $\pm 0.3\text{mm}$

The POK22 connector is designed to accommodate mating misalignments, thereby improving assembly workability.



## 4. High Reliability with Multi-point Contact

POK22 offers multiple contact points for secure connectivity, with three points of contact for signal transmission and eight for grounding.

## 5. IP67<sup>1</sup> Waterproof Performance

Prevent water penetration into the connector interior and rear body<sup>2</sup>.

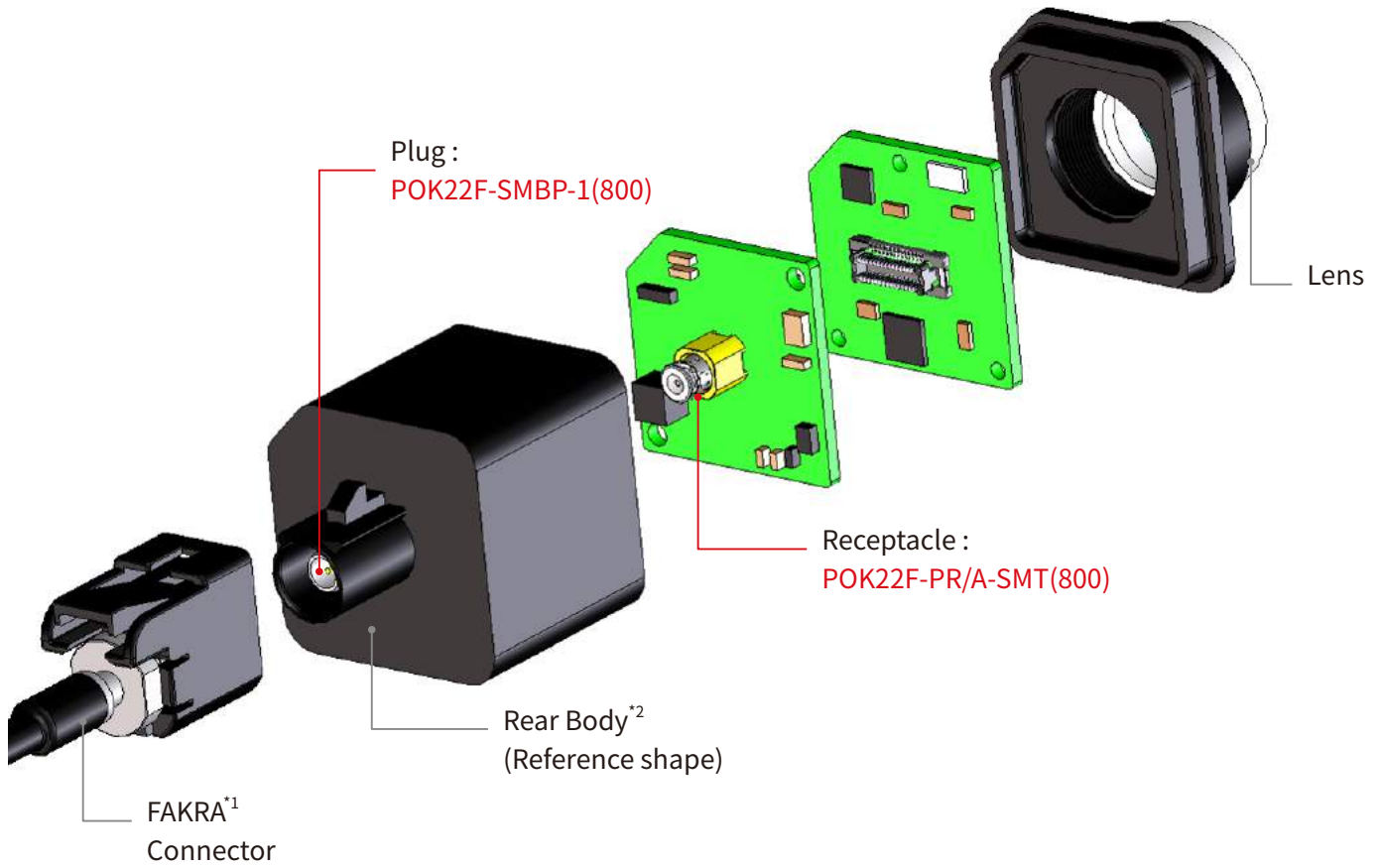
<sup>1</sup> IP67 Waterproof (Camera module single body) Test Condition: Immersed in 1.5meter of water for 30 minutes

<sup>2</sup> Please contact Hirose sales representative for rear body design guide.

<sup>3</sup> If camera module is assembled with FAKRA cable, it complies with FAKRA's waterproof standard

## Connection Example

POK22 is suitable for camera modules in both surround view and rear view monitors. It is USCAR-18 compliant and compatible with FAKRA<sup>1</sup> connectors.



<sup>1</sup> USCAR-18 compliant connectors.

<sup>2</sup> Please contact Hirose sales representative for rear body design guide.

## Product Specifications

Operating Temperature (Note 1)	-40 to +105°C
Rated Current	1A
Characteristic Impedance (Note 2)	50Ω (0 to 6GHz)
V.S.W.R. (Note 2)	1.49 Max. (0 to 6GHz)
Insertion Loss (Note 2)	1.5dB Max. (0 to 6GHz)

Items	Specifications	Conditions
Contact Resistance	Initial : Center : 30mΩ Max. Outer : 60mΩ Max. After Testing : Center : 50mΩ Max. Outer : 300mΩ Max.	1mA AC Max. (or 1KHz)
Insulation Resistance	Initial : 100MΩ Min. After Testing : 10MΩ Min.	500V DC
Withstanding Voltage	No insulation breakdown	500V AC for 1 min.
Mating Durability	Contact Resistance : Center : 50mΩ Max. Outer : 300mΩ Max. Insertion and Withdrawal force : 75N Max. V.S.W.R. : 1.49 Max.	30 times.
Vibration Resistance	Contact Resistance : Center : 50mΩ Max. Outer : 300mΩ Max. Insertion and Withdrawal force : 75N Max. V.S.W.R. : 1.49 Max.	Frequency 60 to 500Hz, acceleration of 49m/s <sup>2</sup> , amplitude of 0.7mm, in 3 axis directions for 11 min. Test for 24 hours in total
Shock Resistance	No electrical discontinuity for more than 1μs.	Acceleration : 980m/s <sup>2</sup> , duration : 6ms Test 18 times in 3 axial directions
Temperature Cycles	Contact Resistance : Center : 50mΩ Max. Outer : 300mΩ Max. Insertion and Withdrawal force : 75N Max. V.S.W.R. : 1.49 Max.	Temperature : -40±2 → +15 to +35 → +105±2 → +15 to +35°C Time : 30 → 2 to 3 → 30 → 2 to 3 min. 1,000 Cycles
Damp Heat Cycles	Insulation Resistance : 10MΩ Min.	Left at temperature of -10 to +65°C and humidity of 90 to 95% for 24 hours, 10 cycles
Dry Heat	Contact Resistance : Center : 50mΩ Max. Outer : 300mΩ Max. Insertion and Withdrawal force : 75N Max. V.S.W.R. : 1.49 Max. Insulation Resistance : 10MΩ Min.	Left at temperature of 105±2°C for 1,000 hours
Humidity Resistance	Contact Resistance : Center : 50mΩ Max. Outer : 300mΩ Max. Insertion and Withdrawal force : 75N Max. V.S.W.R. : 1.49 Max. Insulation Resistance : 10MΩ Min.	Left at temperature of 60±2°C and humidity of 90 to 95% for 1,000 hours
Combine Vibration	Contact Resistance : Center : 50mΩ Max. Outer : 300mΩ Max. V.S.W.R. : 1.49 Max. Insertion Loss : 1.5dB Max. No electrical discontinuity for more than 1μs.	Left at 85±2°C, 90 to 95 %, 120 cycles (45 min. : ON, 15 min. : OFF) Vibration Acceleration 4.4G Frequency 20 to 200Hz for 40 hours, 3 directions

Note 1 : Includes the temperature rise due to current flow.

Note 2 : Includes PCB Loss data.

Note 3 : Please refer to the specification sheet for details.

## Materials / Finish

Component		Materials	Finish, Remarks
Receptacle	Shell	Brass	Gold Plated Over Nickel Under plating
	Insulator	Nylon	Black, UL94V-0
	Contact	Beryllium Copper	Gold Plated Over Nickel Under plating
	Adapter (operating part) : Shell	Titanium Copper	Nickel Plated
	Adapter (operating part) : Insulator	Nylon	Black, UL94V-0
	Adapter (operating part) : Contact	Titanium Copper	Gold Plated Over Nickel Under plating
Plug	Shell	Brass	Nickel Plated
	Insulator	Nylon	Black, UL94V-0
	Contact	Beryllium Copper	Gold Plated Over Nickel Under plating
	Seal	Silicone	Brown, UL94HB

## 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.

### Receptacle

**POK22 F - PR/A - SMT (800)**

①      ②      ③      ④      ⑤

① Series Name	POK22	④ Assembly Type	SMT : SMT Vertical Mounting Type
② Style	F : Floating	⑤ Specifications	(800) : Standard, Embossed Tape Packaging (500pcs/Reel)
③ Connector Type	PR : Receptacle A : Adapter (operating part)		

### Plug

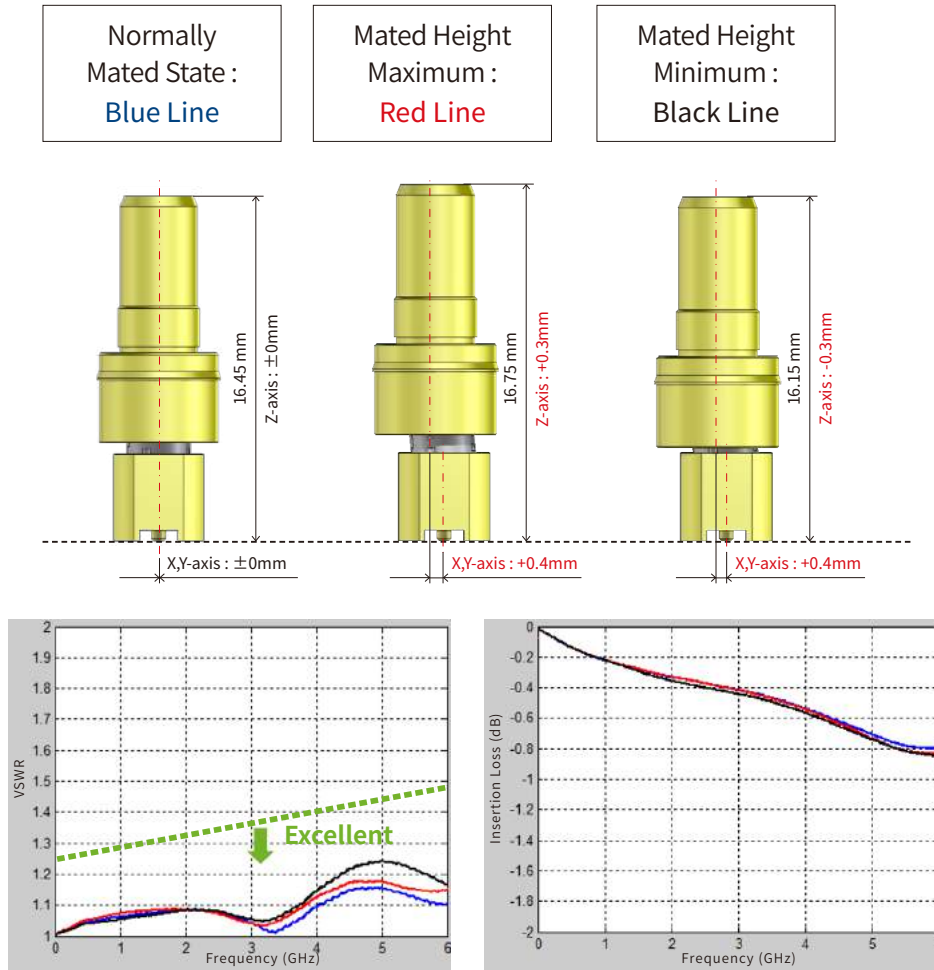
**POK22 F - SMBP - 1 (800)**

①      ②      ③      ④      ⑤

① Series Name	POK22	④ Assembly Type	1pos.
② Style	F : Floating	⑤ Specifications	(800) : Standard (200pcs/Bag)
③ Connector Type	Plug		

## High Frequency Performance (Typical Data)

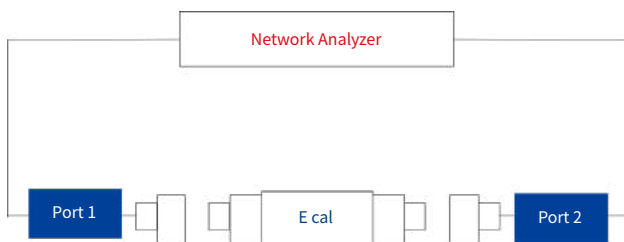
### Measurement Conditions (Mated Conditions)



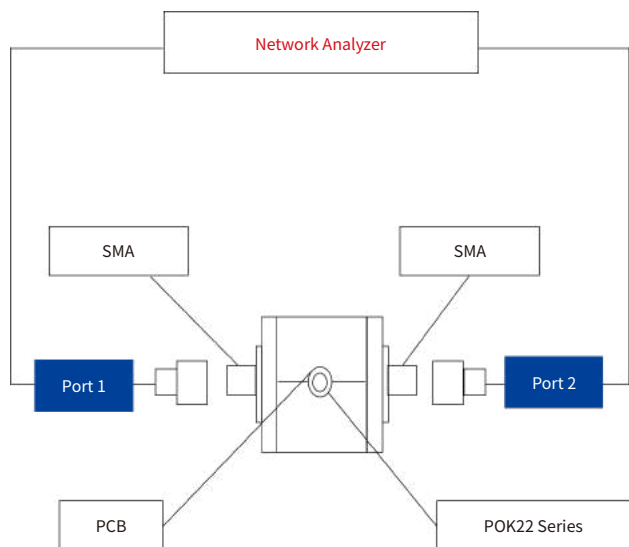
\*The characteristics of the evaluation board and SMA connector are included.

### ● Test Circuits

Calibration Circuit Diagram

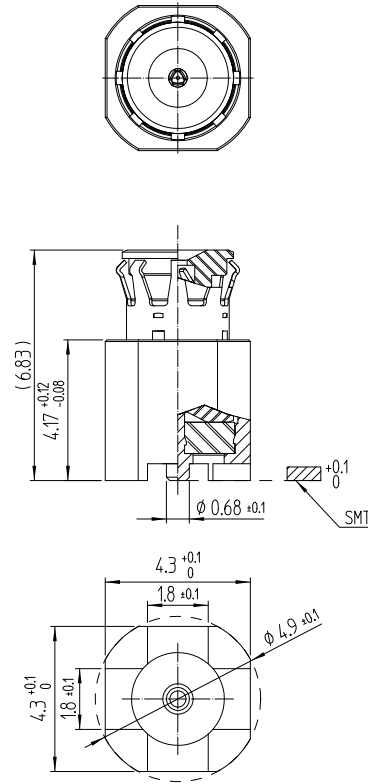


Measurement Circuit Diagram

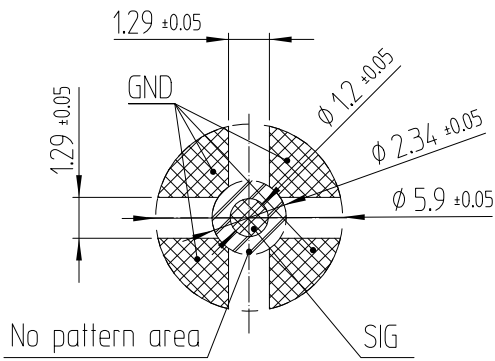


## Receptacle

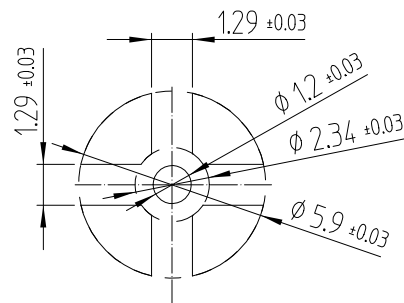
Unit : mm



### Recommended PCB Layout



### Recommended Metal Mask Dimensions (Mask Thickness : 0.1mm)



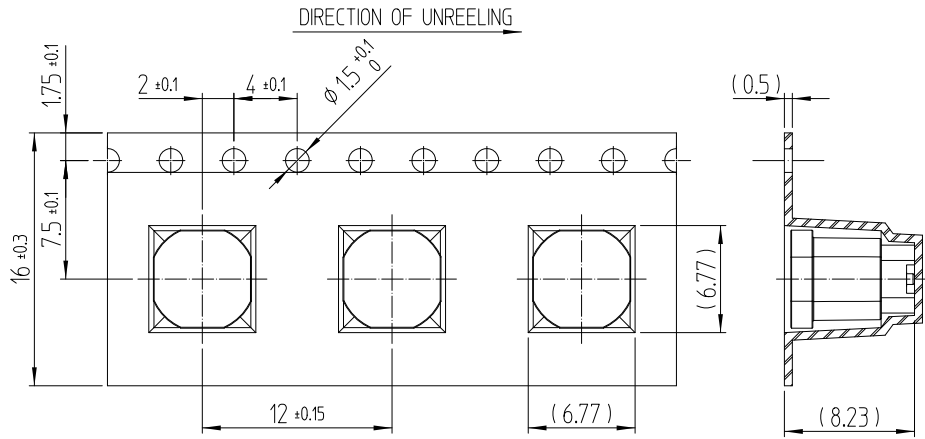
Part No.	HRS No.	Purchase Unit
POK22F-PR/A-SMT(800)	CL0480-1067-0-00	500pcs per reel

## Packaging Specifications

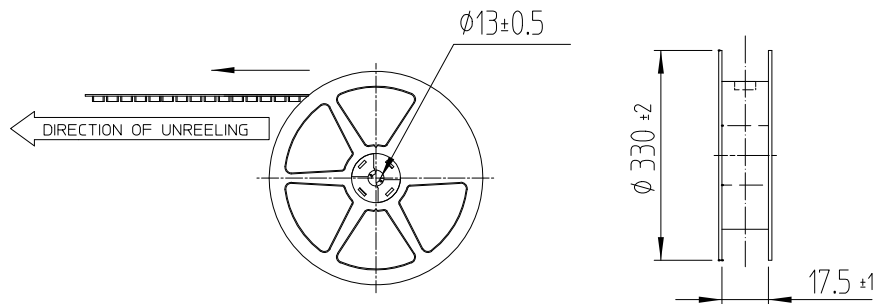
### ● Embossed Tape Dimensions

Unit : mm

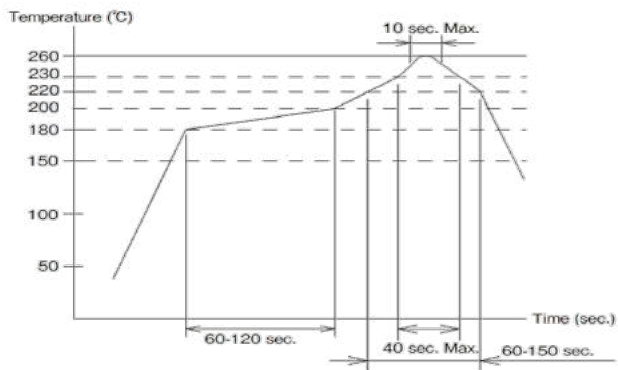
\* Mold cap is included. Please remove the mold cap when use the product after mounting.



### ● Reel Dimensions



## Recommended Solder Temperature Profile



[Conditions]

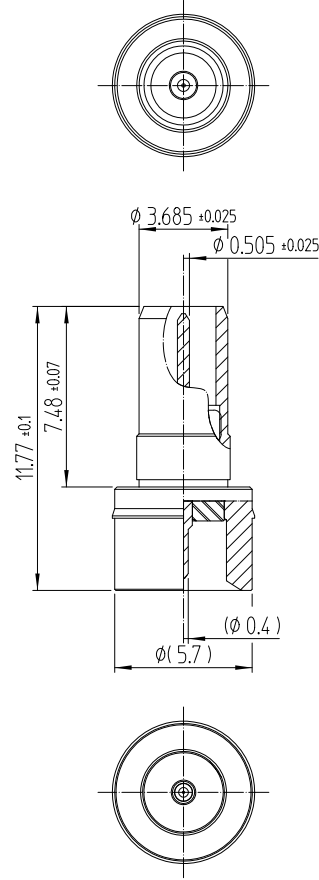
Peak Temperature : 260°C Max. within 10 seconds.  
 230°C Min. : 40 seconds Max.  
 220°C Min. : 60-150 seconds  
 180 to 200°C : 60-120 seconds

Reflow Cycle : 2 cycles Max.



# Plug

Unit : mm

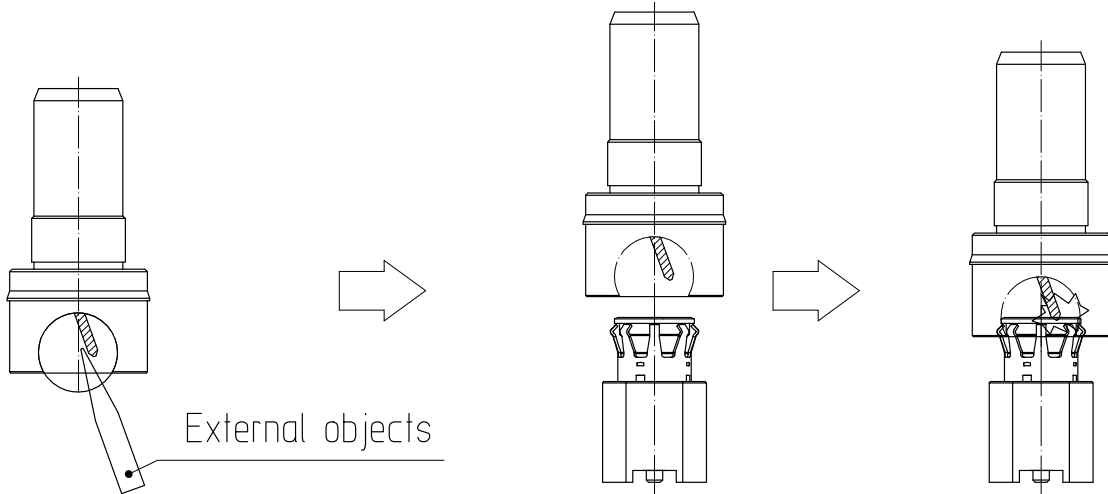


Part No.	HRS No.	Purchase Unit
POK22F-SMBP-1(800)	CL0480-1068-0-00	200pcs per bag

Note : If you have any questions regarding the rear body when combined with POK22F-SMBP-1, please contact your Hirose representative.

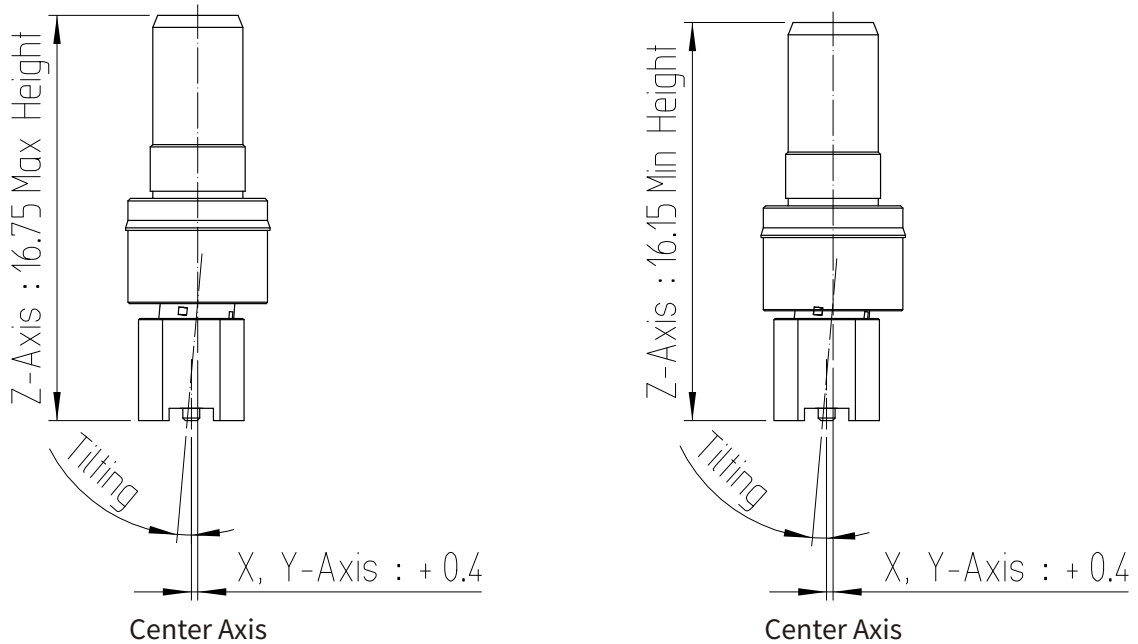
## Connector Handling Precautions

1. Please be careful to avoid contact deformation due to external objects.  
Mating the connectors with deformed contacts may lead to malfunctions, contact failure, or damage to both parts.

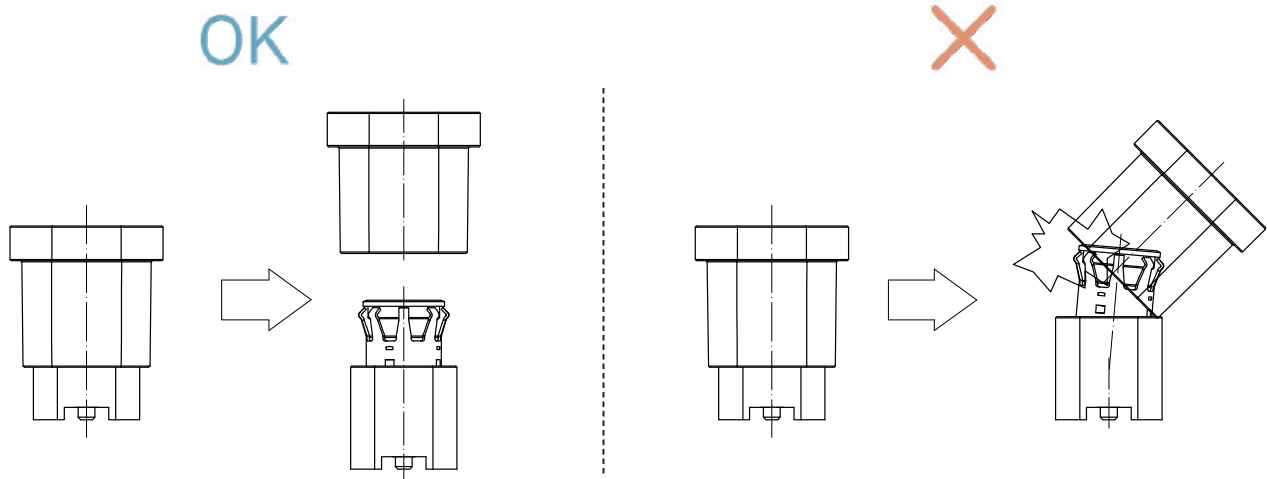


2. The operating range for the POK22 series is as follows.  
Using it beyond this range could cause damage.

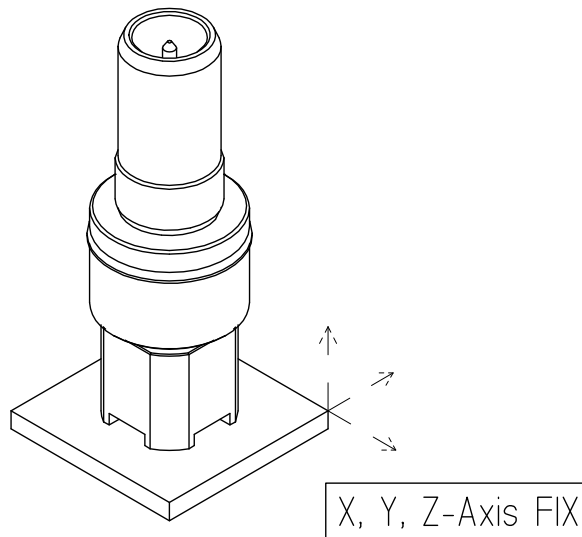
Unit : mm



3. To remove the cap from the receptacle, pull it straight out, perpendicular to the connector's mounted surface. Diagonal removal may cause the adapter (operating part) to tilt beyond its specified range, potentially damaging the product.



4. Using the product without securing the board may overload the connector, leading to damage or contact failure. Ensure the board is firmly secured to prevent movement.



## While Taking into 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.