

SMP Coaxial Connectors MIL Standard Compliant

SMP Series

Up to 40GHz



■ Features

1. Excellent High Frequency performance
2. Easy push-on lock
3. Wide variations
4. MIL Standard compliant (MIL-STD-348B)
5. RoHS2 compliant
6. Halogen-free

■ Applications

Optical transmission devices,
Data transmission measurement,
Radio communication equipment,
Measuring instruments etc.

■ Functional diagram

Plug side

- Straight plug receptacle
SMP-PR(**)-SMT-1



- Right angle plug receptacle
SMP-LPR(**)-SMT-1



- Conversion adapter (SMP plug to 2.92mm plug)
SMPP(**)-HKP



Jack side

- Jack
SMP-J-SF085



- Right angle jack
SMP-LJ-SF085



- Relay adapter (Jack to Jack)
SMP-A-JJ-645



- Conversion adapter (SMP jack to 2.92mm jack)
SMPJ-HKJ



- Terminator
SMP-TMJ



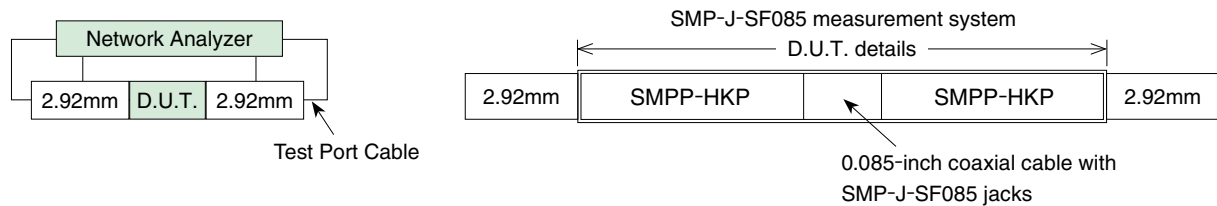
Product Specifications

| | | | | |
|---------|----------------------------------|------------|-----------------------------|----------------------------------|
| Ratings | Nominal characteristic impedance | 50Ω | Operating Temperature Range | -55°C to +125°C (95% RH or less) |
| | Frequency range | 0 to 40GHz | Storage Temperature Range | -55°C to +50°C (95% RH or less) |

| Items | Specifications | Conditions |
|--|---|---|
| 1. Contact resistance | Center : Not greater than 6mΩ External : Not greater than 6mΩ | Measured at 100mA or below |
| 2. Insulation resistance | Not greater than 1,000MΩ | Measured at 500V DC |
| 3. Withstanding voltage | No flashover or breakdown | 500V AC for 1 minute |
| 4. Voltage standing wave ratio | ● SMP-J-SF085 VSWR : Not greater than 1.3 (0 to 15GHz) VSWR : Not greater than 1.5 (15 to 40GHz) | ● SMP-PR (**)-SMT VSWR : Not greater than 1.5 (0 to 30GHz) |
| 5. Holding power of female contact | Not less than 0.2N | Measured with φ0.35 pin gauge |
| 6. Mating Cycles | Contact resistance at center : Not greater than 12mΩ External : Not greater than 12mΩ No broken, cracked, or loose parts | 500 cycles |
| 7. Moisture resistance of temperature/humidity cycle | Insulation resistance : Not less than 100MΩ (in a high humidity environment) Insulation resistance : Not less than 1,000MΩ (in a dry environment) No broken, cracked or loose parts | Left for 10 cycles (240 hours) in an environment with the temperature ranging from -10 to 65°C and the humidity ranging from 90 to 98%. |
| 8. Temperature cycle | No broken, cracked or loose parts | 5 cycles of the following series of test condition : Temperature : -65°C → - → +125°C → - Time period : 30 min. → 3 min. → 30 min. → 3 min. |
| 9. Salt spray | No considerable corrosion | Continuous 48 hour cycle in 5% salt water solution |

*Measurement of voltage standing wave ratio (VSWR)

The specified values of VSWR noted above, are taken with the test set up shown in the figure below:



Materials / Finish

| Part | Materials | Finish |
|-----------|-----------------|------------------------|
| Shell | Jack | Beryllium copper |
| | Plug | Brass, Stainless steel |
| Contact | Male contact | Phosphor bronze |
| | Female contact | Beryllium copper |
| Insulator | LCP, PTFE resin | — |

Product Number Structure

Refer to the below chart of the product number when determining the product specifications.

Please select from the product numbers listed below when placing orders.

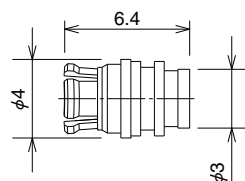
SMP - [] - []

① ② ③

| |
|--|
| ① Series name : SMP |
| ② Connector type J : Straight jack LJ : Right angle jack PR : Straight plug receptacle LPR : Right angle plug receptacle A-JJ : Relay adapter |
| ③ Applicable cable SF085 : 0.085-inch coaxial cable SMT : PCB surface mount type 645 : 6.45mm |

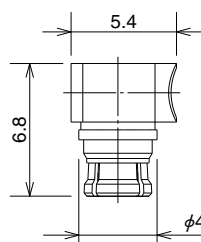
*Please contact Hirose for cable assembly specifications.

■ Straight jack (0 to 40GHz)



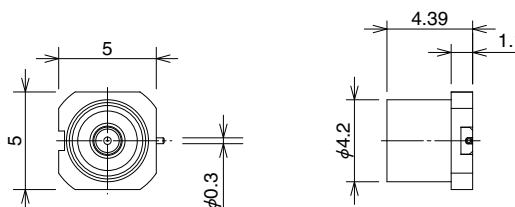
| Part No. | HRS No. |
|-------------|------------|
| SMP-J-SF085 | 338-1100-0 |

■ Right angle jack (0 to 30GHz)



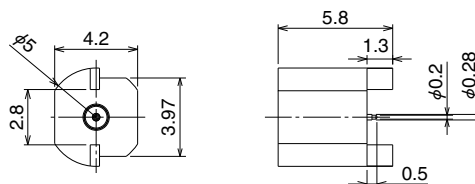
| Part No. | HRS No. |
|--------------|------------|
| SMP-LJ-SF085 | 338-1101-0 |

■ Straight plug receptacle (0 to 30GHz)



| Part No. | HRS No. |
|------------------|------------|
| SMP-PR(FD)-SMT-1 | 338-1102-0 |
| SMP-PR(LD)-SMT-1 | 338-1103-0 |
| SMP-PR(SB)-SMT-1 | 338-1104-0 |

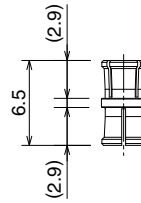
■ Right angle plug receptacle (0 to 30GHz)



| Part No. | HRS No. |
|-------------------|------------|
| SMP-LPR(FD)-SMT-1 | 338-1105-0 |
| SMP-LPR(LD)-SMT-1 | 338-1107-0 |
| SMP-LPR(SB)-SMT-1 | 338-1108-0 |

Note : Insertion / Extraction Force
 FD : FULL DETENT
 LD : LIMITED DETENT
 SB : SMOOTH BORE

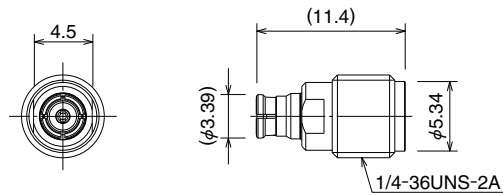
■ Relay adapter (Jack to Jack) (0 to 40GHz)



| Part No. | HRS No. |
|--------------|------------|
| SMP-A-JJ-645 | 338-1106-0 |

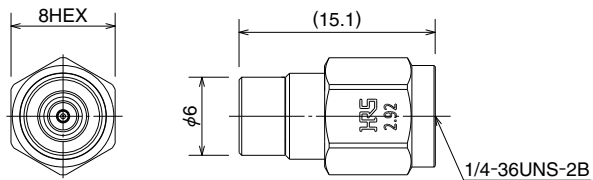
■ Conversion adapter

● SMP jack to 2.92mm jack (0 to 40GHz)



| Part No. | HRS No. |
|----------|------------|
| SMPJ-HKJ | 311-0013-0 |

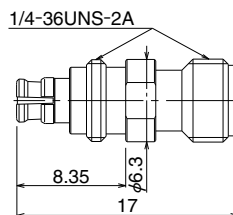
● SMP plug to 2.92mm plug (0 to 40GHz)



| Part No. | HRS No. |
|--------------|------------|
| SMPP(FD)-HKP | 311-0199-0 |
| SMPP(SB)-HKP | 311-1001-0 |

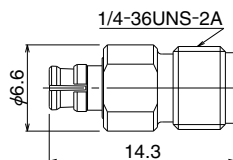
Note : Insertion / Extraction Force
 FD : FULL DETENT
 LD : LIMITED DETENT
 SB : SMOOTH BORE

●SMA conversion adapter launcher type (SMP jack to SMA jack) (0 to 18GHz)



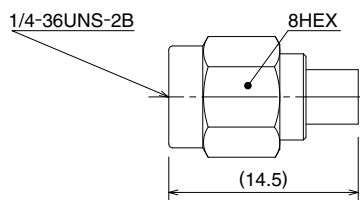
| Part No. | HRS No. |
|-------------------|------------|
| HRMJ-SMPJ-BPA-18G | 311-0001-0 |

●SMA conversion adapter (SMP jack to SMA jack) (0 to 18GHz)



| Part No. | HRS No. |
|---------------|------------|
| HRMJ-SMPJ-18G | 311-0002-0 |

●SMA conversion adapter (SMP plug to SMA plug) (0 to 18GHz)



| Part No. | HRS No. |
|---------------|------------|
| HRMP-SMPP-18G | 311-0006-0 |

■ Nonreflective terminator
■ Product Specifications

| | | | | |
|---------|----------------------------------|------------------|-----------------------------|----------------|
| Ratings | Nominal characteristic impedance | 50Ω | Operating Temperature Range | -40°C to +85°C |
| | Rated frequency | DC to 30GHz | | |
| | Power | 0.25W CW (+65°C) | Operating relative humidity | 95% RH or less |

■ Materials / Finish

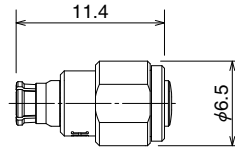
| Part | Materials | Finish |
|-------------------|--------------------------------|-------------|
| Shell | Body : Brass | Gold plated |
| | Spring Part : Beryllium copper | |
| Insulator | PTFE | — |
| Female contact | Beryllium copper | Gold plated |
| Resistive element | Metal film | — |

■ Product Number Structure

SMP - TM J

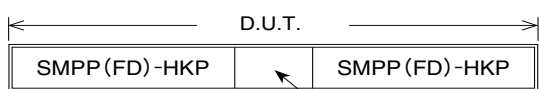
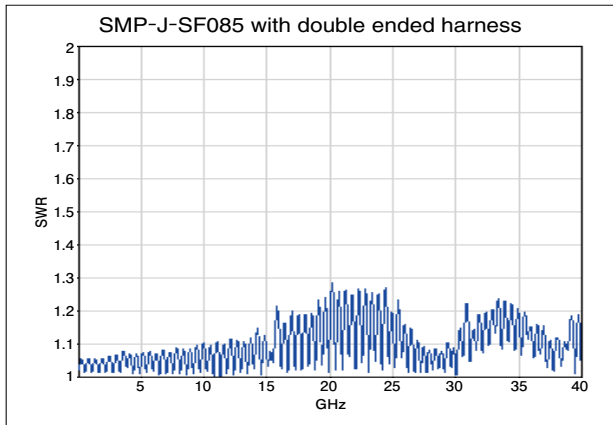
① ② ③

| | |
|------------------|---------------------------|
| ① Series name | SMP |
| ② TM | Non-reflective terminator |
| ③ Connector type | J : Jack type |

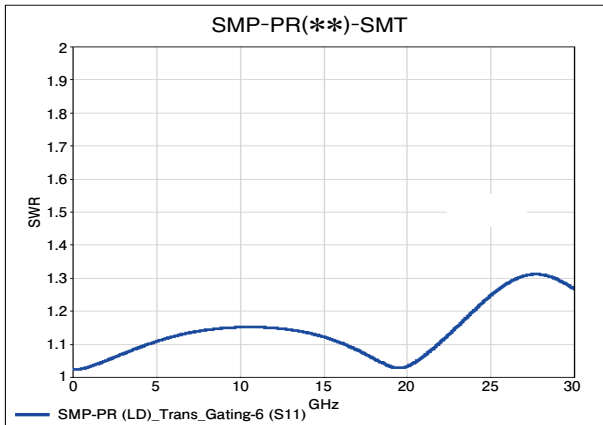


| Part No. | HRS No. | Voltage standing wave ratio (V.S.W.R.)(max) | | |
|----------|------------|---|-------------|-------------|
| | | DC to 15GHz | 15 to 25GHz | 25 to 30GHz |
| SMP-TMJ | 353-0024-0 | 1.15 | 1.2 | 1.25 |

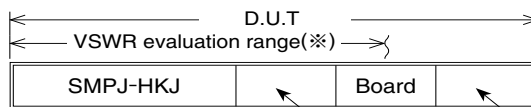
◆ Frequency characteristics (TYPICAL)



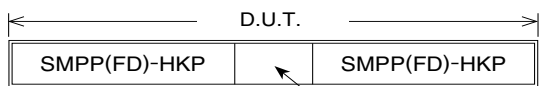
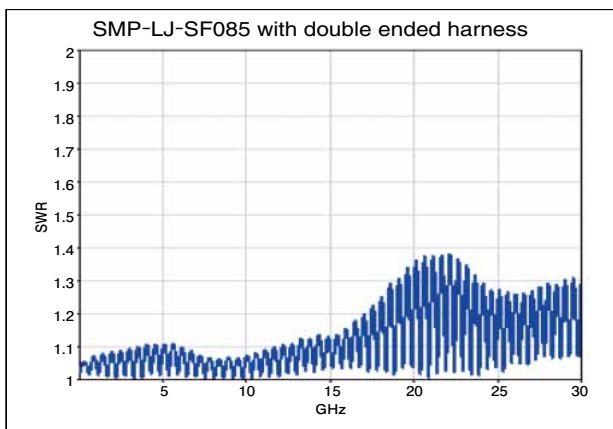
SMP-J-SF085 with double ended harness



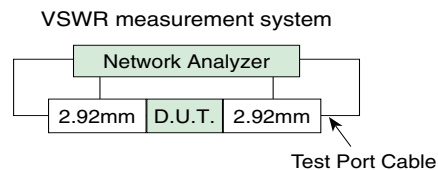
※This data does not include part of micro strip line and 2.92 end launch connector installed on test board by using gating function of vector network analyzer.

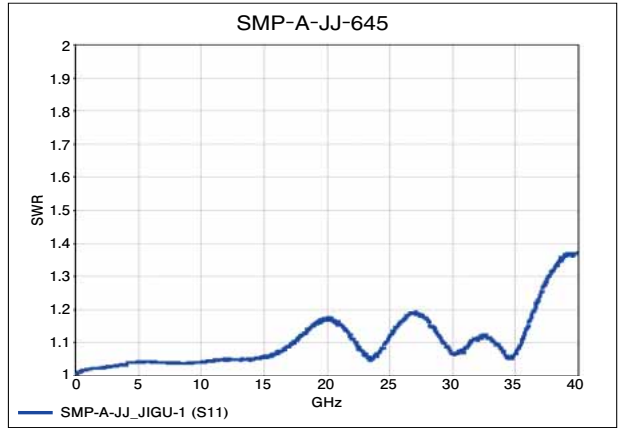
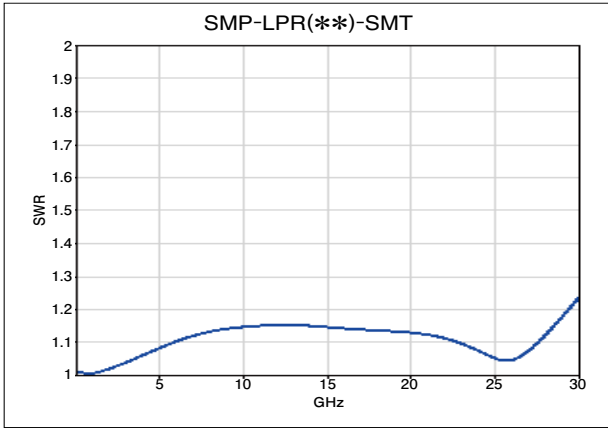


SMP-PR(**)-SMT 2.92 End Launch

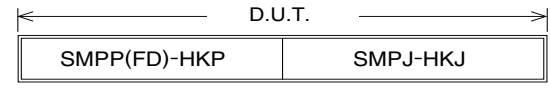
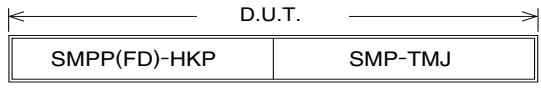
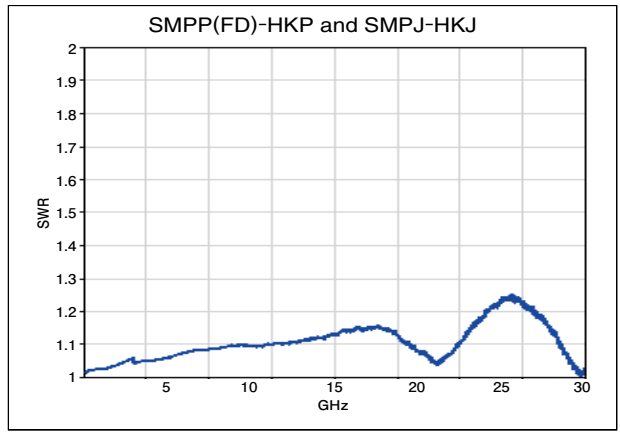
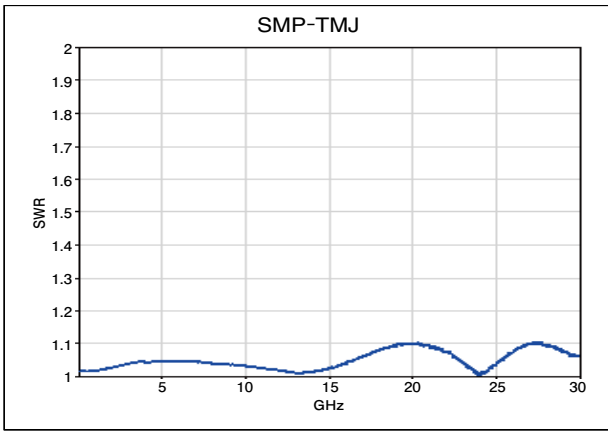
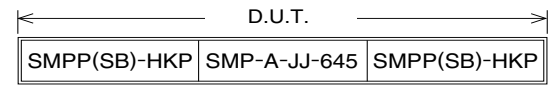
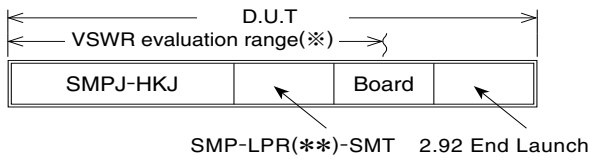


SMP-LJ-SF085 with double ended harness

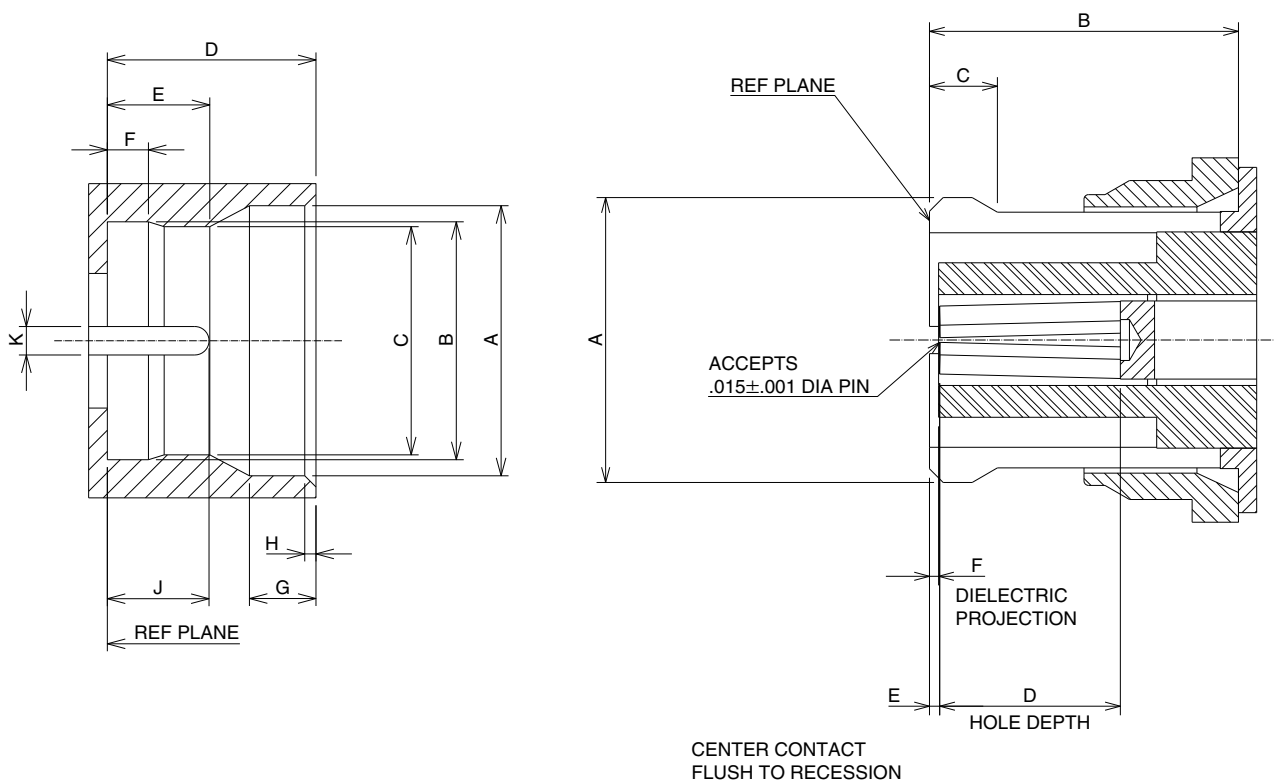




※ This data does not include part of micro strip line and 2.92 end launch connector installed on test board by using gating function of vector network analyzer.



◆ Mated dimensions (FD, LD, SB)



| | PLUG | | | | | | JACK | |
|---|--------------|--------------|----------------|--------------|-------------|-------------|------------|-------------|
| | Inches(mm) | | | | | | | |
| | Full detent | | Limited detent | | Smooth bore | | min | max |
| | min | max | min | max | min | max | | |
| A | φ.139(3.53) | φ.145(3.68) | φ.139(3.53) | φ.145(3.68) | φ.139(3.53) | φ.145(3.68) | — | φ.135(3.43) |
| B | φ.124(3.15) | φ.126(3.20) | φ.124(3.15) | φ.126(3.20) | φ.123(3.12) | φ.127(3.23) | .112(2.84) | — |
| C | φ.114(2.90) | φ.118(3.00) | φ.118(3.00) | φ.122(3.10) | — | — | .018(0.46) | .025(0.64) |
| D | .108(2.74) | .112(2.84) | .108(2.74) | .112(2.84) | .108(2.74) | .112(2.84) | .070(1.78) | — |
| E | .051(1.30) | .057(1.45) | .054(1.37) | .060(1.52) | .059(1.50) | .065(1.65) | .008(0.20) | |
| F | .0205(0.521) | .0235(0.597) | .0205(0.521) | .0235(0.597) | — | — | .000(0.00) | |
| G | .033(0.84) | .037(0.94) | .033(0.84) | .037(0.94) | .033(0.84) | .037(0.94) | — | — |
| H | .003(0.08) | .008(0.02) | .003(0.08) | .008(0.02) | .003(0.08) | .008(0.02) | — | — |
| J | .045(1.14) | .055(1.40) | .045(1.14) | .055(1.40) | .045(1.14) | .055(1.40) | — | — |
| K | .014(0.36) | .016(0.41) | .014(0.36) | .016(0.41) | .014(0.36) | .016(0.41) | — | — |

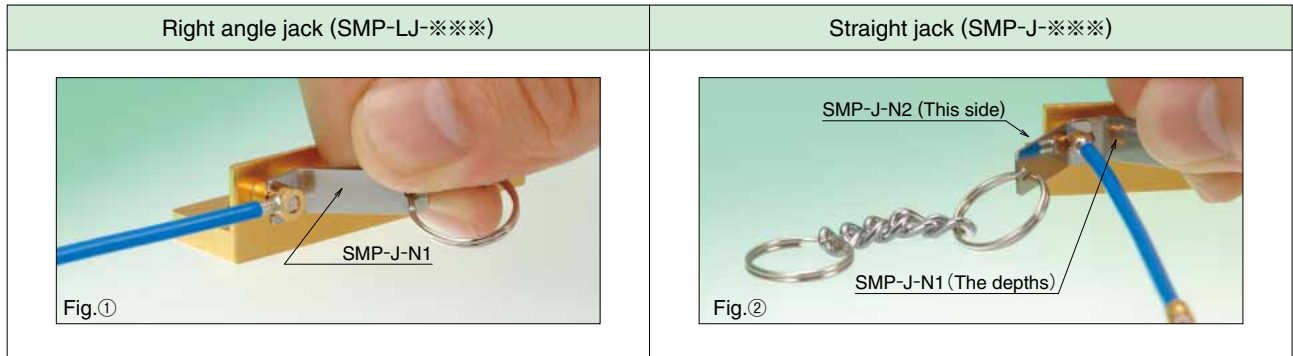
Note : Insertion / Extraction Force

- FD : FULL DETENT
- LD : LIMITED DETENT
- SB : SMOOTH BORE

◆ Connector extraction tools

Extraction tools have been released for jack products of SMP series.

| Part No. | Applicable tool | HRS No. | Reference |
|------------|-----------------|------------|-----------|
| SMP-LJ-*** | SMP-J-N1 | 350-0014-0 | Fig. ① |
| SMP-J-*** | SMP-J-N1 | 350-0014-0 | Fig. ② |
| | SMP-J-N2 | 350-0015-0 | |



Note 1 : The tools can release the lock. After releasing the lock, please hold connector body and pull out.

Note 2 : These extraction tools are designed for SMP series only.

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