

SMA9100-0223

SMA Reverse Polarity Jack Crimp

For RG223; 10GHz VSWR 1.2

50Ω

Technical drawing of the SMA Reverse Polarity Jack Crimp connector. The drawing shows a side view of the connector with the following dimensions:

- Hex nut height: 6.35 HEX (.250 HEX)
- Thread length: 1/4-36UNS-2A
- Distance from hex nut to start of insulator: 7.2 (.283)
- Total length: 18.1 (.713)
- Contact pin diameter:  $\varnothing 3.1$  ( $\varnothing .122$ )
- Body diameter:  $\varnothing 4.4$  ( $\varnothing .173$ )

| Parts       | Material | Plating (Micro-inch)                                  |
|-------------|----------|-------------------------------------------------------|
| Ferrule     | Brass    | Gold 4 Over Nickel-Phosphorus Alloy 80 Over Copper 20 |
| Contact Pin | Brass    | Gold 4 Over Nickel-Phosphorus Alloy 80 Over Copper 20 |
| Insulator   | Teflon   |                                                       |
| Body        | Brass    | Gold 4 Over Nickel-Phosphorus Alloy 80 Over Copper 20 |

Suitable Cables: RG223

This part number complies with RoHS.

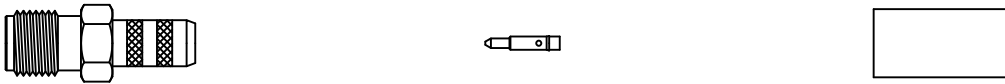
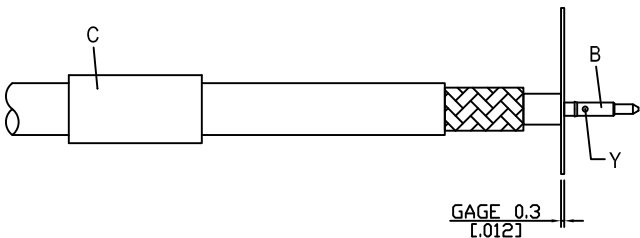
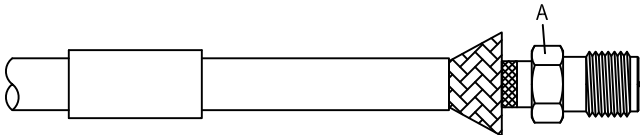
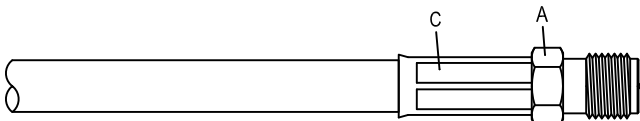
Notice: JYEBAO reserves the right to make modifications deemed appropriate.

| SMA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | SMA9100-0223                         |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|---------------------------------|-----------------|-----------------------|--------------------------------------|---------------------------|-------------------------|---------------------|--------------------------------------|-----------------------|-----------|------------------------------------|-------|------------------------------------|-------|------------------------------------------------|------------|--------------------------------|-----------|
| <div>Interface</div> <p>Per JYEBAO SMA Reverse Polarity derived from MIL-STD-348B</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                      |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| <div>Electrical Data</div> <table> <tr> <td>Impedance</td><td>50Ω</td></tr> <tr> <td>Frequency range</td><td>DC to 10GHz</td></tr> <tr> <td>VSWR</td><td>≤ 1.2 (DC to 10GHz)</td></tr> <tr> <td>Insertion loss</td><td>≤ 0.04 x √f(GHz) dB</td></tr> <tr> <td>Insulation resistance</td><td>≥ 5000MΩ</td></tr> <tr> <td>Contact resistance inner conductor</td><td>≤ 3mΩ</td></tr> <tr> <td>Contact resistance outer conductor</td><td>≤ 2mΩ</td></tr> <tr> <td>Dielectric withstanding voltage (at sea level)</td><td>1000 V rms</td></tr> <tr> <td>Working voltage (at sea level)</td><td>335 V rms</td></tr> </table> |                                      | Impedance                       | 50Ω             | Frequency range       | DC to 10GHz                          | VSWR                      | ≤ 1.2 (DC to 10GHz)     | Insertion loss      | ≤ 0.04 x √f(GHz) dB                  | Insulation resistance | ≥ 5000MΩ  | Contact resistance inner conductor | ≤ 3mΩ | Contact resistance outer conductor | ≤ 2mΩ | Dielectric withstanding voltage (at sea level) | 1000 V rms | Working voltage (at sea level) | 335 V rms |
| Impedance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 50Ω                                  |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Frequency range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DC to 10GHz                          |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| VSWR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ≤ 1.2 (DC to 10GHz)                  |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Insertion loss                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ≤ 0.04 x √f(GHz) dB                  |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Insulation resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ≥ 5000MΩ                             |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Contact resistance inner conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ≤ 3mΩ                                |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Contact resistance outer conductor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | ≤ 2mΩ                                |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Dielectric withstanding voltage (at sea level)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1000 V rms                           |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Working voltage (at sea level)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 335 V rms                            |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| <div>Mechanical Data</div> <table> <tr> <td>Recommended coupling nut torque</td><td>4 inch lbs</td></tr> <tr> <td>Coupling proof torque</td><td>5.3 inch lbs</td></tr> <tr> <td>Contact Captivation-axial</td><td>≥ 6.1 lbs</td></tr> <tr> <td>Durability (mating)</td><td>≥ 100</td></tr> </table>                                                                                                                                                                                                                                                                                                                      |                                      | Recommended coupling nut torque | 4 inch lbs      | Coupling proof torque | 5.3 inch lbs                         | Contact Captivation-axial | ≥ 6.1 lbs               | Durability (mating) | ≥ 100                                |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Recommended coupling nut torque                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 4 inch lbs                           |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Coupling proof torque                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5.3 inch lbs                         |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Contact Captivation-axial                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ≥ 6.1 lbs                            |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Durability (mating)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ≥ 100                                |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| <div>Environmental Data</div> <table> <tr> <td>Temperature range</td><td>-65°C to +165°C</td></tr> <tr> <td>Thermal shock</td><td>MIL-STD-202, Method 107, Condition B</td></tr> <tr> <td>Moisture resistance</td><td>MIL-STD-202, Method 106</td></tr> <tr> <td>Corrosion</td><td>MIL-STD-202, Method 101, Condition B</td></tr> <tr> <td>RoHS</td><td>Compliant</td></tr> </table>                                                                                                                                                                                                                                     |                                      | Temperature range               | -65°C to +165°C | Thermal shock         | MIL-STD-202, Method 107, Condition B | Moisture resistance       | MIL-STD-202, Method 106 | Corrosion           | MIL-STD-202, Method 101, Condition B | RoHS                  | Compliant |                                    |       |                                    |       |                                                |            |                                |           |
| Temperature range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -65°C to +165°C                      |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Thermal shock                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | MIL-STD-202, Method 107, Condition B |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Moisture resistance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | MIL-STD-202, Method 106              |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Corrosion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | MIL-STD-202, Method 101, Condition B |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| RoHS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Compliant                            |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| <div>Tooling</div> <table> <tr> <td>Crimping tool</td><td>CRT-1 or CRT-2</td></tr> <tr> <td>Crimp insert</td><td>INSERT-B</td></tr> <tr> <td>Soldering gauge</td><td>ST-0.3</td></tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                                           |                                      | Crimping tool                   | CRT-1 or CRT-2  | Crimp insert          | INSERT-B                             | Soldering gauge           | ST-0.3                  |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Crimping tool                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | CRT-1 or CRT-2                       |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Crimp insert                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | INSERT-B                             |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |
| Soldering gauge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ST-0.3                               |                                 |                 |                       |                                      |                           |                         |                     |                                      |                       |           |                                    |       |                                    |       |                                                |            |                                |           |

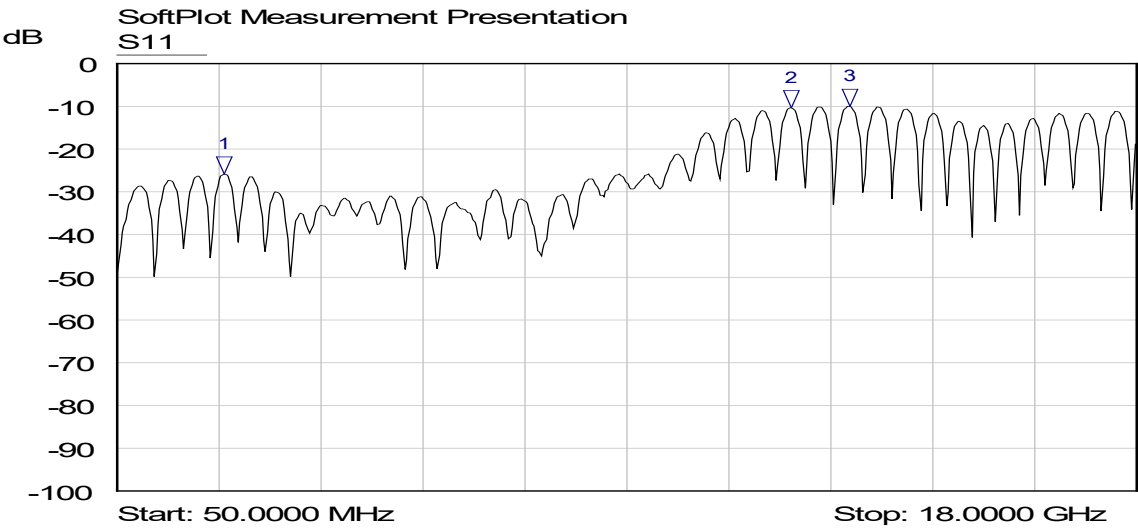
Notice: JYEBAO reserves the right to make modifications deemed appropriate.

# JYE BAO CO., LTD.

## CABLE ASSEMBLY INSTRUCTION

|                                                                                                                                                                                                                |  |         |                                                                                                                                                                                                                            |         |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---|
| SMA9100-0223                                                                                                                                                                                                   |  | DATE    | 2017/11/01                                                                                                                                                                                                                 | REV     | — |
| <div><div>A</div><div>B</div><div>C</div><div></div><div><div>BODY</div><div>CONTACT PIN</div><div>FERRULE</div></div></div> |  |         |                                                                                                                                                                                                                            |         |   |
| DIAGRAM                                                                                                                                                                                                        |  |         | ASSEMBLY INSTRUCTION                                                                                                                                                                                                       |         |   |
|                                                                                                                              |  |         | Step 1: STRIP AS SHOWN.                                                                                                                                                                                                    |         |   |
|                                                                                                                             |  |         | Step 2: SLIDE FERRULE "C" OVER CABLE.<br>Step 3: PUT 0.3 MM GAGE IN PLACE, INSERT CABLE'S CENTER CONDUCTOR INTO CENTER PIN "B" AND SOLDER OR CRIMP IN "Y".<br>(USE SQUARE 0.98mm/0.039inch SECTION OF INSERT-B IF CRIMPED) |         |   |
|                                                                                                                             |  |         | Step 4: LOOSEN BRAIDING AND SLIDE CONNECTOR "A" IN PLACE.                                                                                                                                                                  |         |   |
|                                                                                                                             |  |         | Step 5: SLIDE FERRULE "C" TOWARDS THE CONNECTOR "A" AND CRIMP.<br>(USE 5.9mm/0.232inch HEX SECTION OF INSERT-B)                                                                                                            |         |   |
| This part number complies with RoHS.<br>Notice: JYEBAO reserves the right to make modifications deemed appropriate.                                                                                            |  |         |                                                                                                                                                                                                                            |         |   |
| APPROVED                                                                                                                                                                                                       |  | CHECKED |                                                                                                                                                                                                                            | DRAWING |   |
|                                                                                                                                                                                                                |  |         |                                                                                                                                                                                                                            | Albert  |   |

SMA9100-0223



| Mkr | Trace | X-Axis      | Value     | Notes |
|-----|-------|-------------|-----------|-------|
| 1 ▽ | S11   | 1.9386 GHz  | -25.85 dB |       |
| 2 ▽ | S11   | 11.9212 GHz | -10.28 dB |       |
| 3 ▽ | S11   | 12.9404 GHz | -9.94 dB  |       |