Features

1. Reduced cost
   A change in the manufacturing methods makes the connectors more economical to use.

2. Complete compatibility with SMA Coaxial Connectors

3. High degree of impedance matching
   V.S.W.R. of 1.2 max. for frequencies of DC to 10 GHz
   V.S.W.R. of 1.3 max. for frequencies of 10 to 18 GHz

4. High durability
   500 mating/un-mating cycles, with corresponding connector.

5. RoHS compliant
   All components and materials comply with the requirements of EU Directive 2002/95/EC.

Applications

Mobile communications base stations, microwave equipment, measuring instrumentation and other applications requiring use of reliable coaxial connections with SMA connectors.

Typical Data

<table>
<thead>
<tr>
<th>HRM(V) Series</th>
<th>Measurement Adapter</th>
</tr>
</thead>
</table>

![Graph showing V.S.W.R. and Insertion Loss vs. Frequency]
Specifications

<table>
<thead>
<tr>
<th>Item</th>
<th>Specification</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.Insulation resistance</td>
<td>5000 MΩ min.</td>
<td>500V DC</td>
</tr>
<tr>
<td>2.Withstanding voltage</td>
<td>No flashover or insulation breakdown</td>
<td>1,000 V AC / 1 minute</td>
</tr>
<tr>
<td>3.Contact resistance</td>
<td>Center contact: 6 mΩ max.</td>
<td>100 mA max.</td>
</tr>
<tr>
<td></td>
<td>Outer shell: 6 mΩ max.</td>
<td></td>
</tr>
<tr>
<td>4.Center contact retention</td>
<td>0.3 N min.</td>
<td>Measured with 0.9017 mm dia. pin gauge</td>
</tr>
<tr>
<td>5. V.S.W.R.*</td>
<td>1.2 max.</td>
<td>DC to 10 GHz</td>
</tr>
<tr>
<td></td>
<td>1.3 max.</td>
<td>10 to 18 GHz</td>
</tr>
<tr>
<td>6.Vibration</td>
<td>No electrical discontinuity of 1 µs or longer</td>
<td>Frequency: 10 to 2,000 Hz, single amplitude of 0.75 mm, acceleration of 196 m/s², 4 hours in each of the 3 directions</td>
</tr>
<tr>
<td></td>
<td>No damage, cracks, or parts dislocation</td>
<td></td>
</tr>
<tr>
<td>7.Moisture resistance</td>
<td>Insulation resistance: 100 MΩ min. (high humidity)</td>
<td>10 cycles (240 hours) at a temperature of +25 to +65°C, and humidity of 90 to 98%</td>
</tr>
<tr>
<td></td>
<td>Insulation resistance: 5,000 MΩ min. (dry)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No damage, cracks, or parts dislocation</td>
<td></td>
</tr>
<tr>
<td>8.Temperature cycle</td>
<td>Contact resistance</td>
<td>Temperature: -55°C → +5°C to +35°C → +85°C → +5°C to +35°C</td>
</tr>
<tr>
<td></td>
<td>Center contact: 8 mΩ max.</td>
<td>Time: 30 min. → 5 min. → 30 min. → 5 min.</td>
</tr>
<tr>
<td></td>
<td>Outer shell: 8 mΩ max.</td>
<td>5 cycles</td>
</tr>
<tr>
<td></td>
<td>No damage, cracks, or parts dislocation</td>
<td></td>
</tr>
<tr>
<td>9.Durability</td>
<td>Contact resistance</td>
<td>500 cycles</td>
</tr>
<tr>
<td></td>
<td>Center contact: 8 mΩ max.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outer shell: 8 mΩ max.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>No damage, cracks, or parts dislocation</td>
<td></td>
</tr>
<tr>
<td>10.Salt spray</td>
<td>No corrosion</td>
<td>5% salt water solution, 48 hours</td>
</tr>
</tbody>
</table>

*V.S.W.R. Measurement System

Measured as shown on the block diagram below.

```
Network Analyzer
   D.U.T
       Test Port Cable
```

Note 1: Board connectors were measured while mounted to a dedicated adapter.

Materials / Finishes

Receptacle

<table>
<thead>
<tr>
<th>Part</th>
<th>Material</th>
<th>Finish</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shell</td>
<td>Stainless steel</td>
<td>Passivated</td>
</tr>
<tr>
<td>Female center contact</td>
<td>Beryllium copper</td>
<td>Gold plated</td>
</tr>
<tr>
<td>Center contact</td>
<td>Brass</td>
<td>Gold plated</td>
</tr>
<tr>
<td>Insulator</td>
<td>PTFE</td>
<td></td>
</tr>
</tbody>
</table>
### Receptacles

#### HRM(V)-301S

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CL No.</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRM(V)-301S</td>
<td>323-0884-5</td>
<td>YES</td>
</tr>
</tbody>
</table>

#### HRM(V)-302S

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CL No.</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRM(V)-302S</td>
<td>323-0885-8</td>
<td>YES</td>
</tr>
</tbody>
</table>

#### HRM(V)-304S

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CL No.</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRM(V)-304S</td>
<td>323-0886-0</td>
<td>YES</td>
</tr>
</tbody>
</table>

#### HRM(V)-306S

<table>
<thead>
<tr>
<th>Part Number</th>
<th>CL No.</th>
<th>RoHS</th>
</tr>
</thead>
<tbody>
<tr>
<td>HRM(V)-306S</td>
<td>323-0879-5</td>
<td>YES</td>
</tr>
</tbody>
</table>
HRM(V) Series ● Low-Cost SMA Coaxial Connectors (Version 2)

USA:
HIROSE ELECTRIC (U.S.A.), INC. Headquarters
2688 Westhills Court, Simi Valley, CA 93065-6235
Phone: 1-805-522-7958
Fax: 1-805-522-3217
http://www.hiroseusa.com

USA:
HIROSE ELECTRIC (U.S.A.), INC. Dallas Office
1701 N. Greenville Ave. Ste 817, Richardson, TX 75081
Phone: 1-469-330-9200
Fax: 1-469-330-9205
http://www.hiroseusa.com

USA:
HIROSE ELECTRIC (U.S.A.), INC. Chicago Office
277 Finley Road, Suite 28 Downers Grove, IL 60148
Phone: 1-630-916-1455
Fax: 1-630-916-1451
http://www.hiroseusa.com

USA:
HIROSE ELECTRIC (U.S.A.), INC. New York Office
510 Broadhollow Road, Suite 305, Melville, NY 11747
Phone: 1-516-249-5259
Fax: 1-516-249-5253
http://www.hiroseusa.com

USA:
HIROSE ELECTRIC (U.S.A.), INC. North California Office
20400 Stevens Creek Blvd., Ste 250, Cupertino, CA 95014
Phone: 1-408-253-9640
Fax: 1-408-253-9641
http://www.hiroseusa.com

USA:
HIROSE ELECTRIC (U.S.A.), INC. Detroit Office (Automotive)
37650 Professional Center Drive, Suite 120A, Livonia, MI 48154
Phone: 1-734-542-9963
Fax: 1-734-542-9964
http://www.hiroseusa.com

USA:
HIROSE ELECTRIC (U.S.A.), INC. New York Office
277 Finley Road, Suite 28 Downers Grove, IL 60148
Phone: 1-630-916-1455
Fax: 1-630-916-1451
http://www.hiroseusa.com

USA:
HIROSE ELECTRIC (U.S.A.), INC. Detroit Office (Automotive)
37650 Professional Center Drive, Suite 120A, Livonia, MI 48154
Phone: 1-734-542-9963
Fax: 1-734-542-9964
http://www.hiroseusa.com

CHINA:
HIROSE ELECTRIC CO., LTD. Beijing Office
Unit 1605, Block A, ZhuBang2000 BusinessCenter, No.100, Baizhuang Xili, Chaoyang District, Beijing, 10025
Phone: 86-10-5165-9332
Fax: 86-10-8586-1418
http://www.hirose-china.com.cn

CHINA:
HIROSE ELECTRIC CO., LTD. Shenzhen Office
Unit 1102, Energy Plaza, 92 Granville Road, Tsim Sha Tsui East, Kowloon
Phone: 852-8203-5338
Fax: 852-2591-6560
http://www.hirose-china.com.cn

KOREA:
HIROSE KOREA CO., LTD.
(22NA311, Shihwa Industrial Complex), 1261-10, Jeongwjiang-Dong, Shihung-City, Kyunggi-Do 429-450
Phone: 82-31-496-7000,7124
Fax: 82-31-496-7100
http://www.hirose.co.kr

SINGAPORE:
HIROSE ELECTRIC CO., LTD.
10 Anson Road #26-16 International Plaza 079903
Phone: 65-6324-6113
Fax: 65-6324-6123

GERMANY:
HIROSE ELECTRIC GmbH
Herzog-Carl-Strasse 4 D-73760 Ostfildern (Scharnhauser Park)
Phone: 49-711-4560-02-1
Fax: 49-711-4560-02-299
http://www.hirose.de

FINLAND:
HIROSE ELECTRIC Europe B.V. Finland Office
Teknobulevardi 3-5 01530 VANTAA
Phone: 358-9-2517-8459
Fax: 358-9-2517-8460
http://www.hiroseeurope.com

THE NETHERLANDS:
HIROSE ELECTRIC EUROPE B.V.
Beechavenue 46,1119 PV Schiphol-Rijk
Phone: 31-20-6557490
Fax: 31-20-6557469
http://www.hiroseeurope.com