

# Rotary Joints

## HRM-RPA Series



### ■ Features

#### 1. Long Life

These non-contact rotary joints have a long life of 10<sup>3</sup> hours or greater (at 500 r.p.m.).

#### 2. High Performance

High frequency characteristics feature extremely low loss and a high degree of matching.

V.S.W.R. 1.25 or less (HRM-RPA-JJ-3 1.5~1.7GHz)

#### 3. Low Torque Rotation

Rotation at low torque permits high speed rotation.

Torque of 4.9mN·m

### ■ Product Specifications

|         |  |   |  |                            |
|---------|--|---|--|----------------------------|
| Ratings | Frequency range (Note)<br>Characteristic impedance<br>Maximum Input Power (Note) | 1.5 to 12.4 GHz<br>50 ohms<br>1 to 30 W | Operating temperature range<br>Operating relative humidity | -10°C to +65°C<br>95% Max. |
|---------|--|---|--|----------------------------|

NOTE: The frequency range and maximum usable power will depend on the model.

| Item         | Standard                                | Conditions  |
|--------------|---|---|
| 1. Vibration | No damage, cracks, or parts dislocation | Frequency of 10 to 500 Hz, overall amplitude of 1.5 mm, acceleration of 98 m/s <sup>2</sup> for 4 hours in each of 3 directions |
| 2. Shock     |   | Acceleration of 98 m/s <sup>2</sup> , sine half-wave waveform, 3 cycles in each of the 3 axis                                   |

● The test method conforms to MIL-STD-202.

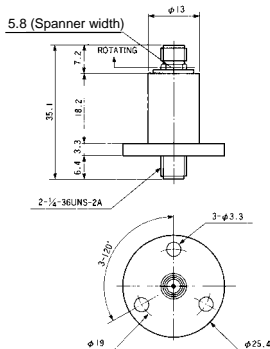
### ■ Materials

| Part           | Materials        | Finish         |
|----------------|------------------|----------------|
| Body           | Brass            | Nickel plating |
| Insulator      | PTFE             | —              |
| Female contact | Beryllium copper | Gold plating   |
| Ball bearings  | —                | —              |

### ■ Specifications

| Part Number                            | HRM-RPA-JJ-3(40)    | HRM-RPA-JJ(40)      |
|--|---------------------|---------------------|
| Frequency Range (GHz)                  | 1.5~1.7             | 5~12.4              |
| V.S.W.R.(Max)                          | 1.25                | 1.5                 |
| Insertion Loss (dB Max)                | 0.4                 | 0.4                 |
| WOW (dB/360° Max)                      | 0.2                 | 0.1                 |
| V.S.W.R. Rotational (360° Max)         | 0.2                 | 0.1                 |
| Rotational Speed (R·P·M)               | 500                 | 500                 |
| Durability(Insertion/withdrawal) (hrs) | 1,000 (at 500R·P·M) | 1,000 (at 500R·P·M) |
| Starting Torque (mN·m Max)             | 4.9                 | 4.9                 |
| Connectors                             | HRM-J               | HRM-J               |
| Weight (g)                             | 30                  | 30                  |
| RoHS                                   | YES                 |                     |

### ■ External Dimensions



### ■ Typical Data

