

QRJ1-50000-56

Singal Channel, DC~50GHz, 56mm

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|-------------------------------|--|
| Features: | Applications: |
| * Low VSWR | * High Speed Digital Signal Transmission |
| * Low VSWR Flatness | * Analog Signal Transmission |
| * Low Insertion Loss Flatness | |

Electrical (Rotary Joint)

| | |
|--------------------------|---|
| Frequency: | DC~50GHz |
| VSWR: | 1.7 max. |
| VSWR Flatness: | 0.2 max. |
| Insertion Loss: | 0.9dB max. |
| Insertion Loss Flatness: | 0.1 dB max.. |
| Phase Flatness: | 2° max. |
| Average Power: | 50W max. @1GHz 15W max. @10GHz 5W max. @26.5GHz 3W max. @50GHz |
| Peak Power: | 500W max. |
| IP Grade: | IP40 acc. EN 60529 |

Mechanical (Rotary Joint)

| | |
|------------------------|--------------|
| Connectors: | 2.4mm female |
| Rotating Speed: | 150RPM max. |
| Starting Torque: | 0.5N.cm max. |
| Connector Axial Load: | ±0.1N max. |
| Rotating Torque: | 0.5N.cm max. |
| Connector Radial Load: | ±0.1N max. |
| Operation Life: | 10M Cycles |
| Dielectric: | PTFE |

Environmental

| | |
|-----------------------------|-----------|
| Temperature (Rotary Joint): | -55~+85°C |
| Temperature (Slip Ring): | -30~+80°C |

Electrical (Slip Ring)

| | |
|---|-----------------------------|
| Voltage (Power/Signal): | 0~440V/0~240V |
| Impedance of Dielectric (Power/Signal): | 500/300MΩ min. |
| Lead Wire (Power): | AWG#17 Silver plated Teflon |
| Lead Wire (Signal): | AWG#22 Silver plated Teflon |
| Dielectric Resistance: | 500V AC @50Hz, 60s |
| Electrical Noise: | 0.01Ω max. |
| IP Grade: | IP51 |

Mechanical (Slip Ring)

| | |
|-------------------|-------------------------------|
| Operation Life: | 10M Cycles |
| Rotating Speed: | 250RPM max. |
| Contact Material: | Gold |
| Housing: | Aluminum alloy |
| Torque: | 0.01N.m @6 Channels + 0.05N.m |

How To Order

QRJ1-50000-56-X-Y

X: Power Circuits

For example:

0610 - 6 circuits@10A

Y: Signal Circuits

For example:

06S - 6 circuits signal@2A

Customization is available upon request.

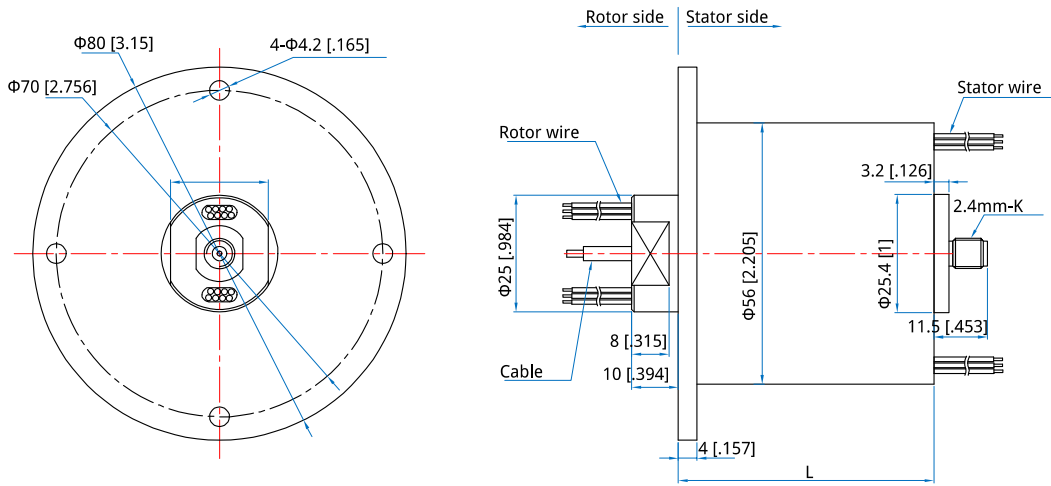
Color Code of Lead Wire

| | | | | | | | | | | | | |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|---------|
| Ring | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Color | BLK | BRN | RED | ORG | YEL | GRN | BLU | PUR | GRY | WHT | PINK | LGT BLU |

| | | | | | | | | | | | | |
|-------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|------------|
| Ring | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| Color | WHT/BLK | WHT/BRN | WHT/RED | WHT/ORG | WHT/YEL | WHT/GRN | WHT/BLU | WHT/PUR | WHT/GRY | BLK/RED | BLK/BRN | Transparet |

Remark: "1" : the first wire from rotor side , QRJ1-50000-56-12S wire color sequence: BLK/BRN/RED/ORG/YEL/GRN/BLU/PUR/GRY/WHT/PINK/LGT BLU, 24 color wires asone group, if more than 24wires, repeat as sequence, use number tube to tell group 1#, 2#....

Outline Drawings



Unit: mm [in] Tolerance: $\pm 0.2\text{mm}$ [$\pm 0.008\text{in}$]

Standard Part Number List

| Part Number | RF Channel | Frequency (GHz) | Circuits no. (10A) | Circuits no. (0~2A) | Length L(mm/in) |
|------------------------|------------|-----------------|--------------------|---------------------|-----------------|
| QRJ1-50000-56-0610 | 1 | DC-50 | 6 | 0 | 38 [1.496] |
| QRJ1-50000-56-06S | 1 | DC-50 | 0 | 6 | 38 [1.496] |
| QRJ1-50000-56-0610-06S | 1 | DC-50 | 6 | 6 | 55 [2.165] |
| QRJ1-50000-56-1210 | 1 | DC-50 | 12 | 0 | 55 [2.165] |
| QRJ1-50000-56-12S | 1 | DC-50 | 0 | 12 | 55 [2.165] |
| QRJ1-50000-56-0610-12S | 1 | DC-50 | 6 | 12 | 71.5 [2.815] |
| QRJ1-50000-56-1810 | 1 | DC-50 | 18 | 0 | 71.5 [2.815] |
| QRJ1-50000-56-18S | 1 | DC-50 | 0 | 18 | 71.5 [2.815] |
| QRJ1-50000-56-0610-18S | 1 | DC-50 | 6 | 18 | 88.5 [3.484] |
| QRJ1-50000-56-1210-12S | 1 | DC-50 | 12 | 12 | 88.5 [3.484] |
| QRJ1-50000-56-2410 | 1 | DC-50 | 24 | 0 | 88.5 [3.484] |
| QRJ1-50000-56-24S | 1 | DC-50 | 0 | 24 | 88.5 [3.484] |
| QRJ1-50000-56-36S | 1 | DC-50 | 0 | 36 | 122 [4.803] |
| QRJ1-50000-56-48S | 1 | DC-50 | 0 | 48 | 156 [6.142] |