# SNW-5836231235-15-CM

## V Band Waveguide Three-Junction Circulator, 58 to 62 GHz

**SNW-5836231235-15-CM** is a V band waveguide three-junction circulator that covers the frequency range of 58 to 62 GHz. The three-junction waveguide circulator is designed and manufactured to provide a low insertion loss of 1.2 dB and a high port isolation of 35 dB between designated ports. The three-junction circulator is offered for high port isolation duplexing between the transmitter and receiver. Unlike single junction circulator, the three-junction circulator offer inherent high port insertion loss from port 3 to port 1 and slightly lower isolation from port 1 to port 3 due to its unique mechanical configuration. The RF ports of the circulator are WR-15 waveguides with UG-385/U anti-cocking flanges.

### Electrical Specifications:

| Parameter | Minimum | Typical | Maximum |
|---|---|---|---|
| Frequency | 58 GHz | | 62 GHz |
| Insertion Loss*<br>(Port 1 to Port 2 & Port 2 to Port 3) | | 1.2 dB | 2.0 dB |
| Isolation*<br>(Port 2 to Port 1 & Port 3 to Port 2) | 30 dB | 35 dB | |
| Insertion Loss (Port 3 to Port 1) * | 30 dB | 35 dB | |
| Isolation (Port 1 to Port 3) * | 18 dB | 25 dB | |
| Return Loss | 15 dB | 18 dB | |
| Forward Power Handling | | | 3 W (CW) |
| Reverse Power Handling | | | 3 W (CW) |
| Specification Temperature | | +25°C | |
| Operating Temperature | -40°C | | +85°C |

* The values are obtained when the spare port is terminated with high performance load.

### Mechanical Specifications:

| Item | Specification |
|---|---|
| RF Ports | WR-15 Waveguide with UG-385/U Anti-Cocking Flange |
| Body Material | Aluminum |
| Body Finish | Gold Plated |
| Cover Finish | Black Anodized |
| Weight | 0.8 Oz |
| Outline | NW-CV-A-3 |

**ECCN**

EAR99

**FEATURES**

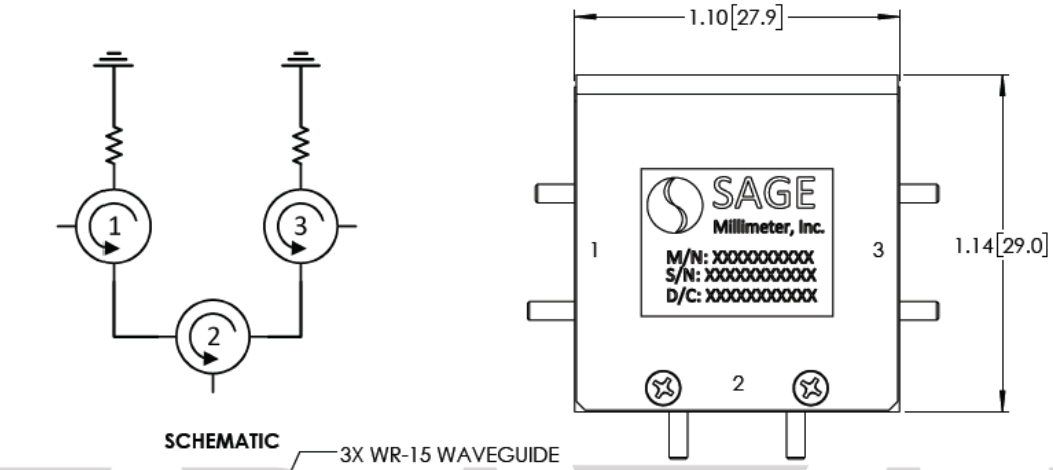
- Low Insertion Loss
- High Isolation
- Three-Junction Configuration

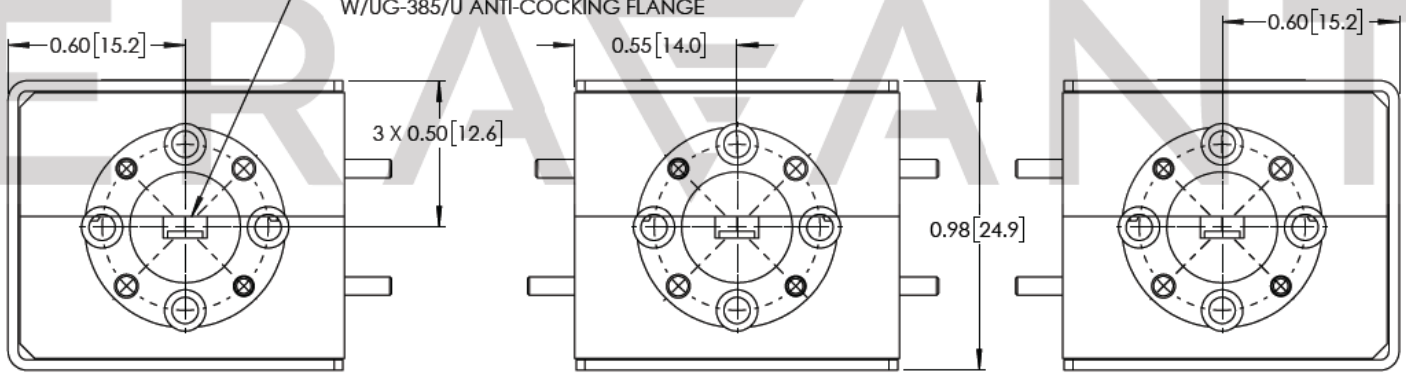
**APPLICATIONS**

- IEEE 802.11.ad WiGig System
- Tx/Rx Duplexing
- System Integration

**SUPPLEMENTAL DETAILS**

**Mechanical Outline:** (Unless otherwise specified, all dimensions are in inches [millimeters])




**NOTE:**

- On condition that test data is provided it is collected from a sample lot. Actual data may vary slightly from unit to unit. All testing is performed under +25 °C room temperature.
- On condition that simulated test data is provided, actual measured data may slightly vary.
- Eravant reserves the right to change the information presented without notice.

**CAUTION:**

- Exceeding absolute maximum ratings will damage the device.
- This device is magnetic sensitive. Keep the device at least 6” away from magnetic fields.
- If a waveguide is present, any foreign objects in the waveguide will cause performance degradation and may damage or destroy the unit.
- For 1 mm connectors proper torque should be applied: 4.0 ± 0.15 inch-pounds (0.45 ± 0.02 Nm). Torque wrench model SCH-06004-S1 is highly recommended.
- For 1.35 mm, 1.85 mm, 2.4 mm, 2.92 mm, and SMA connectors proper torque should be applied: 8.0 ± 0.15 inch-pounds (0.90 ± 0.02 Nm). Torque wrench model SCH-08008-S1 is highly recommended