



## E Band Waveguide Junction Circulator, 81 to 86 GHz

### Description:

**Model SNW-8138630818-12-C1** is an E band waveguide junction circulator that covers the frequency range of 81 to 86 GHz. The circulator is a key component in any radar and communication system where the duplexing functions are required. The waveguide junction circulator is manufactured to offer the highest performance. The circulator is designed and manufactured to provide a low insertion loss of 0.8 dB and an isolation of 18 dB typically, which offers the broadest bandwidth in the class. The compact dimension guarantees the compact system integration. The RF ports are WR-12 waveguides with UG-387/U flanges.



### Features:

- Low Insertion Loss
- Moderate Isolation
- Compact Configuration

### Applications:

- Module Integration
- TX/RX Duplexing
- Port Isolation

### Electrical Specifications:

Parameter	Minimum	Typical	Maximum
Frequency	81 GHz		86 GHz
Insertion Loss		0.8 dB	
Isolation		18 dB	
Return Loss		16 dB	
Forward Power Handling			3 W (CW)
Specification Temperature		+25 °C	
Operating Temperature	-40 °C		+85 °C

### Mechanical Specifications:

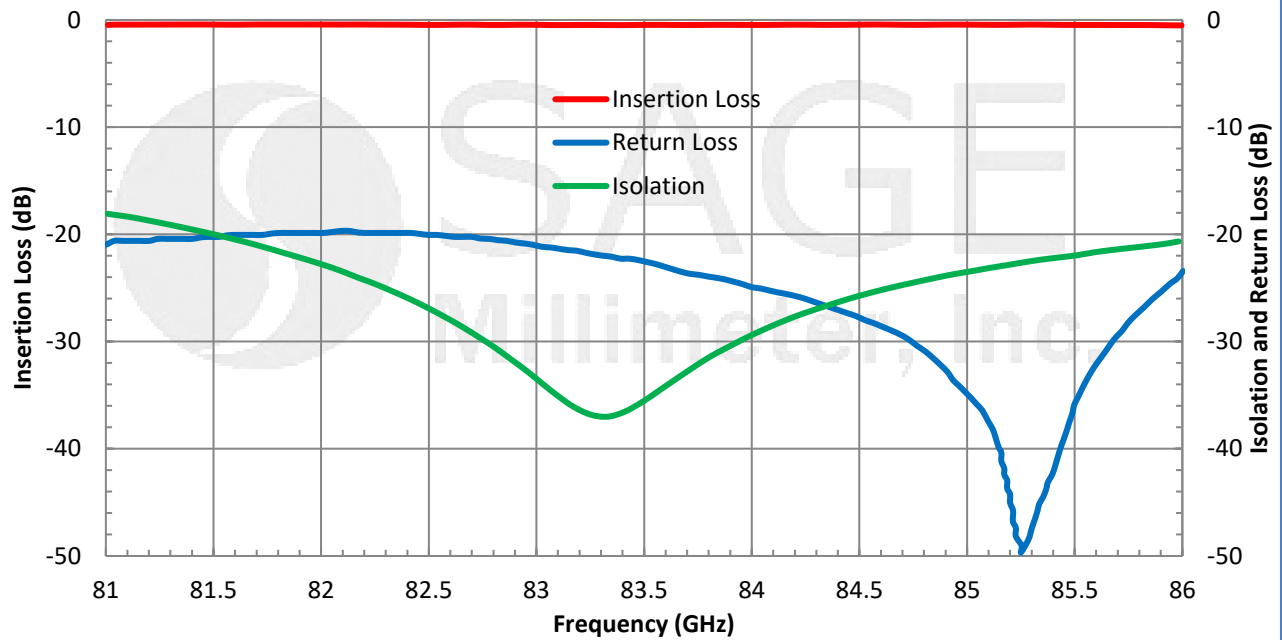
Item	Specification
RF Ports	WR-12 Waveguide with UG-387/U Flange
Body Material	Aluminum
Body Finish	Silver Plated
Cover Finish	Black Anodized
Weight	0.8 Oz
Size	1.0" (L) X 1.0" (W) X 0.85" (H)
Outline	NW-CE-SX1





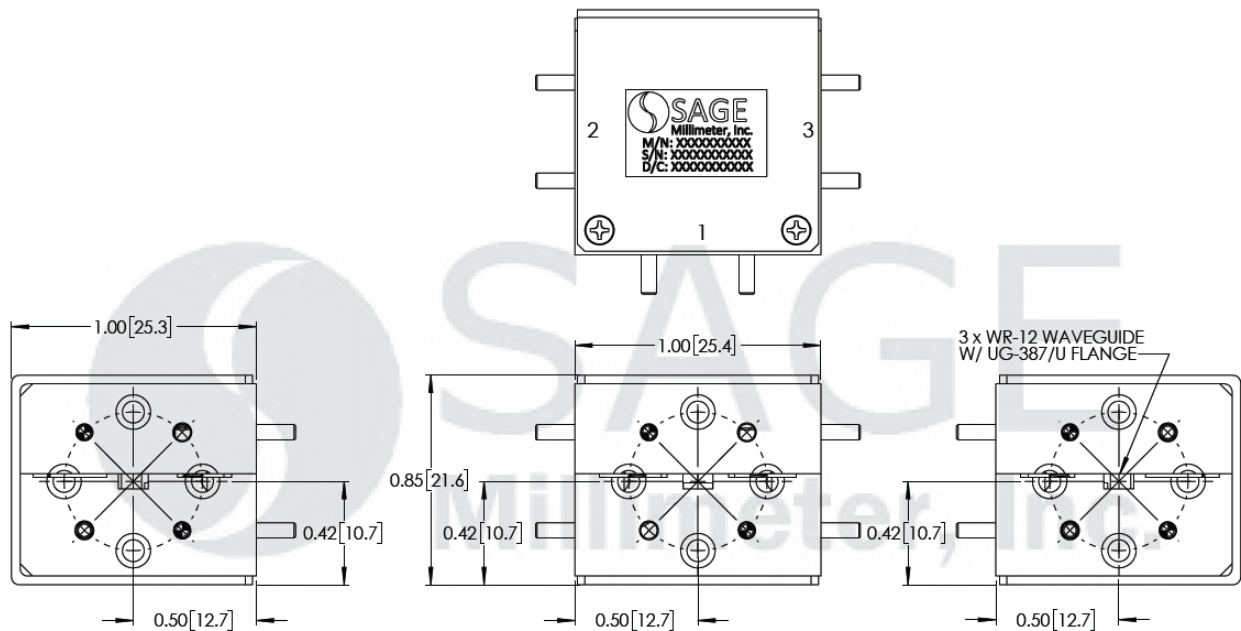
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### Typical Performance vs. Frequency



**Note:** The insertion loss, isolation and return loss between other ports, such as port 2 to port 3, port 3 to port 1 are similar to above given plots.

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



**Note:**



www.sagemillimeter.com | 3043 Kashiwa Street, Torrance, CA 90505  
 Phone: 424-757-0168 | Fax: 424-757-0188 | Email: sales@sagemillimeter.com



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- All data presented is collected from a sample lot. Actual data may vary unit to unit slightly.
- All testing was performed under +25 °C case temperature.
- SAGE Millimeter, Inc. 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.
- Any foreign objects in the waveguide will degrade the performance and/or damage the device.

