

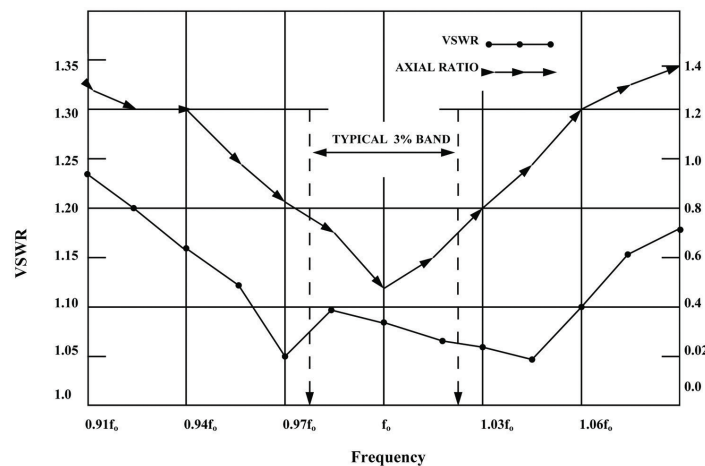
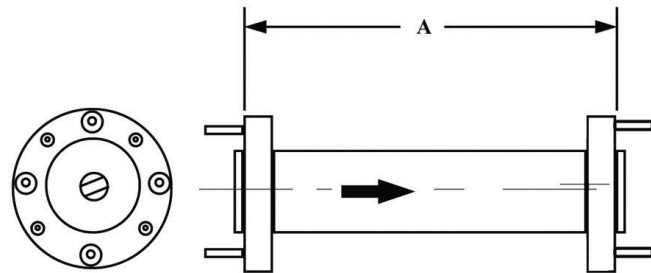
Description

Mi-Wave's 282 Series circular polarizer converts input linear signals to circularly polarized output signals. The circular polarization sense (RHCP or LHCP) and center frequency should be specified at the time of order. This polarizer will yield a maximum VSWR of 1.2 an axial ratio of 1.0 dB maximum over the indicated bandwidth.

- **VSWR < 1.2**
- **Higher Frequency Units will be quoted on request.**
- **Axial Ratio < 1.0 dB Over the indicated bandwidth.**
- **Converts Linear Input Signals to Circular Out**
- **Specify Sense of Circular Polarization (RHCP or LHCP)**
- **Available from 12.4 to 220 GHz with 3% or Greater Bandwidth.**

Applications

- Satellite Links
- Radio Astronomy
- Communications Systems



Dimensional Specifications

Model No.	Frequency Band (GHz)	A	
		in.	mm
282K	18.0–26.5	1.25	31.8
282A	26.5–40.0	1.25	31.8
282B	33.0–55.0	1.25	31.8
282U	40.0–60.0	1.25	31.8
282V	50.0–75.0	1.25	31.8
282E	60.0–90.0	1.25	31.8
282W	75.0–100.0	1.25	31.8
282F	90.0–140.0	1.25	31.8
282F	90.0–140.0	90.0–140.0	90.0–140.0
282F	90.0–140.0	90.0–140.0	90.0–140.0

Ordering Information

282

-FL



Specify Flange
(See Appendix A)

Three Digit Pipe Inside Diameter
(See Appendix J)

Specify RF Band Designer

Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	8.2 GHz		12.4 GHz
Bandwidth		2 GHz	
Insertion Loss			1.0 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	1.094" ID Circular Waveguide (8-9.97 GHz)
Waveguide Option 2	.938" ID Circular Waveguide (8.5-11.6 GHz)
Waveguide Option 3	.797" ID Circular Waveguide (9.7-12.4 GHz)
Flange	UG-90/U
Material	Aluminum

Tested by: Mark Smith

Date: 2020-11-10



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	18 GHz		26.5 GHz
Bandwidth		3 GHz	
Insertion Loss			1.0 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.470" ID Circular Waveguide (17.5- 20.5 GHz)
Waveguide Option 2	.396" ID Circular Waveguide (20.5-24.5 GHz)
Waveguide Option 3	.328" ID Circular Waveguide (24.5-26.5 GHz)
Flange	UG-419/U
Material	Aluminum
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-10



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	26.5 GHz		40 GHz
Bandwidth		5 GHz	
Insertion Loss			1.0 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.328" ID Circular Waveguide (26.5-28.5 GHz)
Waveguide Option 2	.281" ID Circular Waveguide (28.5-33 GHz)
Waveguide Option 3	.250" ID Circular Waveguide (33-38.5 GHz)
Waveguide Option 4	.219" ID Circular Waveguide (38.5-40 GHz)
Flange	UG-599/U
Material	Aluminum
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-10



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	33 GHz		50 GHz
Bandwidth		5 GHz	
Insertion Loss			1.0 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.250" ID Circular Waveguide (33-38.5 GHz)
Waveguide Option 2	.219" ID Circular Waveguide (38.5-43 GHz)
Waveguide Option 3	.188" ID Circular Waveguide (43-50 GHz)
Flange	UG-383/U
Material	Brass
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-11



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	40 GHz		60 GHz
Bandwidth		6 GHz	
Insertion Loss			1.0 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.219" ID Circular Waveguide (40-43 GHz)
Waveguide Option 2	.188" ID Circular Waveguide (43-50 GHz)
Waveguide Option 3	.165" ID Circular Waveguide (50-58 GHz)
Waveguide Option 4	.141" ID Circular Waveguide (58-60 GHz)
Flange	UG-383/U-M
Material	Brass
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-11



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	50 GHz		75 GHz
Bandwidth		7 GHz	
Insertion Loss			1.0 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.165" ID Circular Waveguide (50-58 GHz)
Waveguide Option 2	.141" ID Circular Waveguide (58-68 GHz)
Waveguide Option 3	.125" ID Circular Waveguide (68-75 GHz)
Flange	UG-385/U
Material	Brass
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-11



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	60 GHz		90 GHz
Bandwidth		7 GHz	
Insertion Loss			1.0 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.141" ID Circular Waveguide (60-68 GHz)
Waveguide Option 2	.125" ID Circular Waveguide (68-77 GHz)
Waveguide Option 3	.110" ID Circular Waveguide (77-87 GHz)
Waveguide Option 4	.094" ID Circular Waveguide (87-90 GHz)
Flange	UG-387/U
Material	Brass
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-11



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	75 GHz		110 GHz
Bandwidth		8 GHz	
Insertion Loss			1.0 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.125" ID Circular Waveguide (75-77 GHz)
Waveguide Option 2	.110" ID Circular Waveguide (77-87 GHz)
Waveguide Option 3	.094" ID Circular Waveguide (87-100 GHz)
Waveguide Option 4	.082" ID Circular Waveguide (100-110 GHz)
Flange	UG-387/U-M
Material	Brass
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-11



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	90 GHz		140 GHz
Bandwidth		10 GHz	
Insertion Loss			1.5 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.094" ID Circular Waveguide (87-100 GHz)
Waveguide Option 2	.082" ID Circular Waveguide (100-112 GHz)
Waveguide Option 3	.075" ID Circular Waveguide (112-125 GHz)
Waveguide Option 4	.067" ID Circular Waveguide (125-140 GHz)
Flange	UG-387/U-M
Material	Brass
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-12



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	110 GHz		170 GHz
Bandwidth		10 GHz	
Insertion Loss			1.5 dB
Axial Ratio		1 dB	2 dB
VSWR		1.2:1	

Physical Specifications

Waveguide Option 1	.082" ID Circular Waveguide (110-112 GHz)
Waveguide Option 2	.075" ID Circular Waveguide (112-125 GHz)
Waveguide Option 3	.067" ID Circular Waveguide (125-140 GHz)
Waveguide Option 4	.059" ID Circular Waveguide (140-170 GHz)
Flange	UG-387/U-M
Material	Brass
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-12



Description

282 Series Circular Polarizer

Notes

Data Sheet Variables: XX in Product Name = Center Frequency (Defined by End-User); ".XXX" in Product Name correlates with Internal Diameter defined in Physical Specifications below. The orientation of the polarizer will determine the Right Hand or Left Hand Circular polarization.

S/N: N/A

Electrical Specifications

	Minimal	Typical	Maximum
Frequency Range	140 GHz		220 GHz
Bandwidth		10 GHz	
Insertion Loss			1.7 dB
Axial Ratio		1 dB	2 dB
VSWR		1.3:1	

Physical Specifications

Waveguide Option 1	.067" ID Circular Waveguide (125-140 GHz)
Waveguide Option 2	.059" ID Circular Waveguide (140-220 GHz)
Flange	UG-387/U-M
Material	Brass
Finish	Gold Plated

Tested by: Mark Smith

Date: 2020-11-24

