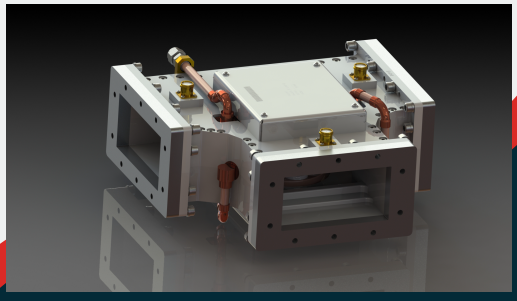
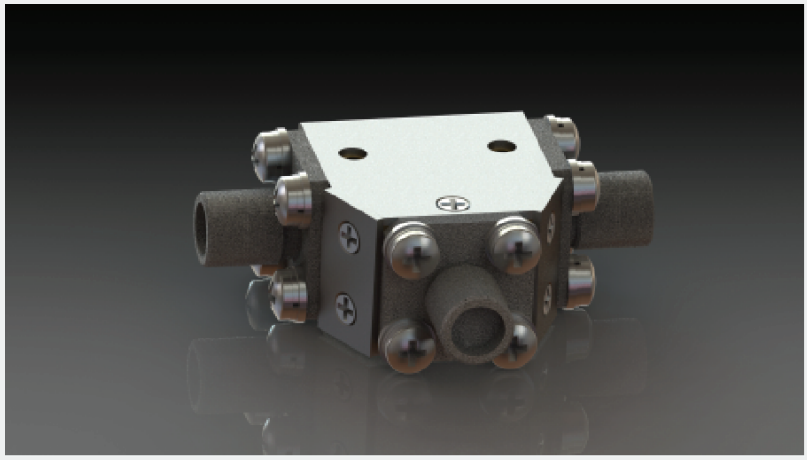
Microwave Techniques LLC

Circulators, Isolators & Duplexers





3-Port Junction

4-Port Differential Phase Shift

Fixed (MHz) Frequencies	Common Bands (MHz)
56	1,200-1,400
60	1,215-1,415
202	2,100-2,400
352	2,700-2,900
500	2,700-3,100
650	3,100-3,500
805	4,900-5,100
915	5,400-5,900
1,300	6,300-6,800
1,497	7,500-8,500
2,100	8,500-9,600
2,450	9,500-10,500
2,856	11,900-13,200
2,998	14,000-14,800
5,712	15,500-17,500
5,800	17,300-18,100
9,300	18,100 - 19,600

3-Port Junction

- Waveguide WR28 to WR2300
- Coaxial SMA to 9.1875”
- Fixed footprint driven by frequency
- Extremely low insertion loss

4-Port Differential Phase Shift

- Waveguide WR28 to WR650
- Footprint can be increased for ultra-high average power applications
- Extremely high isolation

Microwave Techniques LLC

When failure isn't an option, our high power components provide you with unique capabilities in protection and detection.

Power - Peak & Average

The ***peak*** power capability of a circulator is dependent on the dielectric properties and gas pressure within the system and geometry of the components within the device itself.

The ***average*** power dissipated in a circulator is proportional to the insertion loss and the greatest contribution to insertion loss is the ferrite material selected for use. Insertion loss results in heating of the ferrite which can impact performance if not mitigated. This heating can also impact the biasing magnets, increasing the complexity involved in maintaining a stable environment.

MT's circulator and isolator solutions place emphasis on the selection and bias point of ferrite material to ***minimize insertion loss*** and ***maximize isolation*** at the ***frequency, bandwidth*** and ***power level*** of interest.

Load VSWR (Output mismatch)

The design and power handling capability of a circulator is ultimately determined by the ***sum*** of the forward and reflected power, the latter being the result of any mismatch present at the output of the device.

As an example, a device operating at 5,000W forward with an output mismatch of 2:1 (11%) must be capable of handling 5,550W. The same device operating into a short or open circuit must be capable of handling 10,000W.

Microwave TECHNIQUES LLC

MEGA RF Solutions INDUSTRIES ISO 9001 AS9100 A MICROWAVE TECHNIQUES COMPANY | Ferrite Microwave Technologies A MICROWAVE TECHNIQUES COMPANY

High Power Microwave Components & Systems

Microwave Techniques, LLC
28 / 29 Sanford Drive, Gorham, ME 04038
Phone: +1 (207) 854-1700
sales@microwavetechniques.com
www.microwavetechniques.com