MicroHarmonics
Superior mm-Wave Components

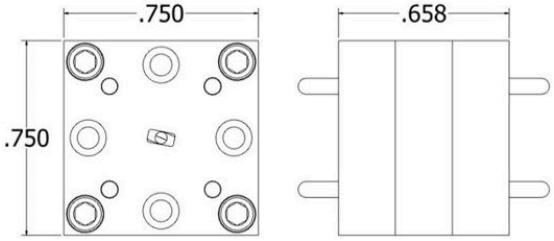
Making Compact Isolators Even Smaller

Waveguide losses become problematic at the higher mm-wave frequencies. And the size and weight of mm-wave systems is always an important consideration. So, in response to customer inquiries, we are introducing a new line of isolators that provide internal access to the flange screws. This eliminates the need for connecting waveguides between the isolator and other system components, resulting in an overall reduction in the size of the system, reduced loss, and lower cost.

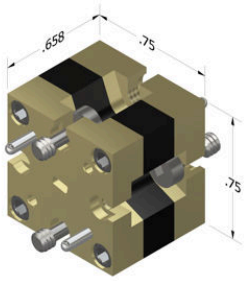
FR100M2 webpage

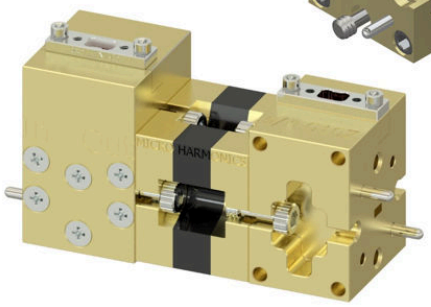
The graphic below shows our WR-10 isolator model FR100 on the left. On the right we show the newer WR-10 model FR100M2 which has the internal flange screw access. We also show an example of the FR100M2 attached between two system components.

FR100



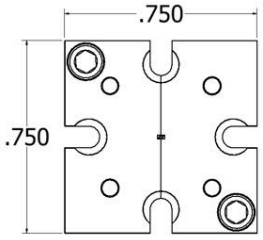
FR100M2

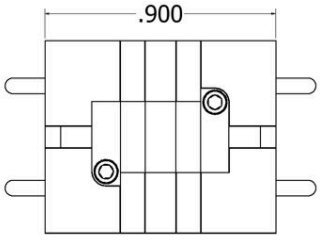


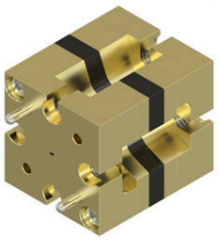


Our WR-2.8 isolator model FR28 is shown below. The FR28 covers the band from 260-400 GHz. This is an example where the length of the isolator was increased to gain internal screw access. But eliminating two 1-inch sections of WR-2.8 waveguide is worth it.

FR28 webpage







At Micro Harmonics, we listen carefully to our customers and do our best to respond to their needs. We are always seeking ways to improve our products and better serve the global mm-wave community. Other models are currently available and more are coming.

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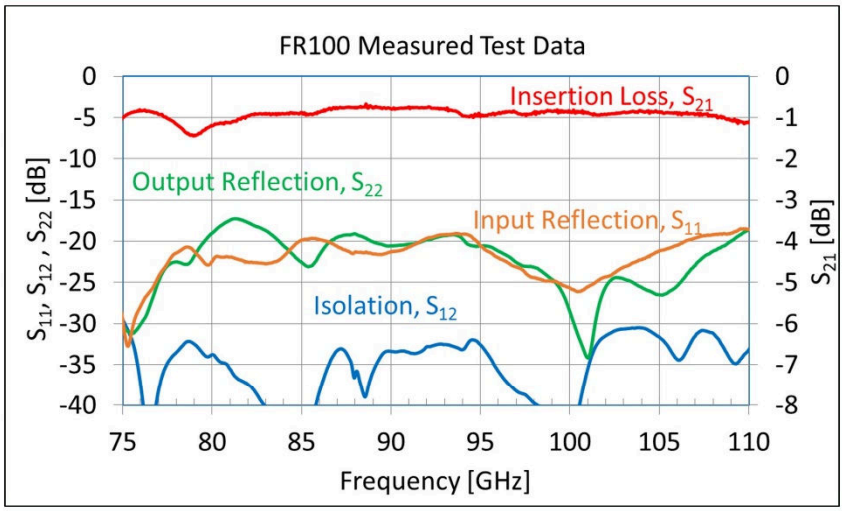
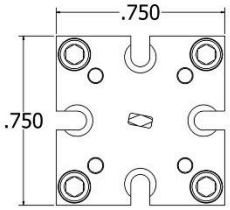
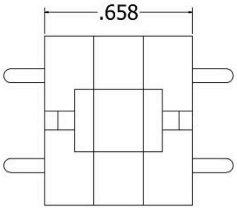
Model: FR100M2

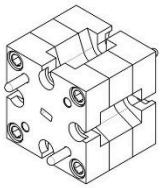
Specifications	
Flange	WR-10
Frequency (GHz)	75-110
Insertion Loss (dB, typ)	0.8
Insertion Loss (dB, max)	1.8
Isolation (dB, typ)	30
Isolation (dB, min)	18
Input Return Loss (dB, typ)	20
Output Return Loss (dB, typ)	22
VSWR (max)	1.4:1
Maximum Power (W)	1.3
Diamond Heatsink	Yes

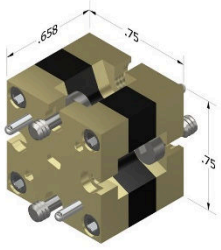
Every isolator is tested on a vector network analyzer to ensure conformity.









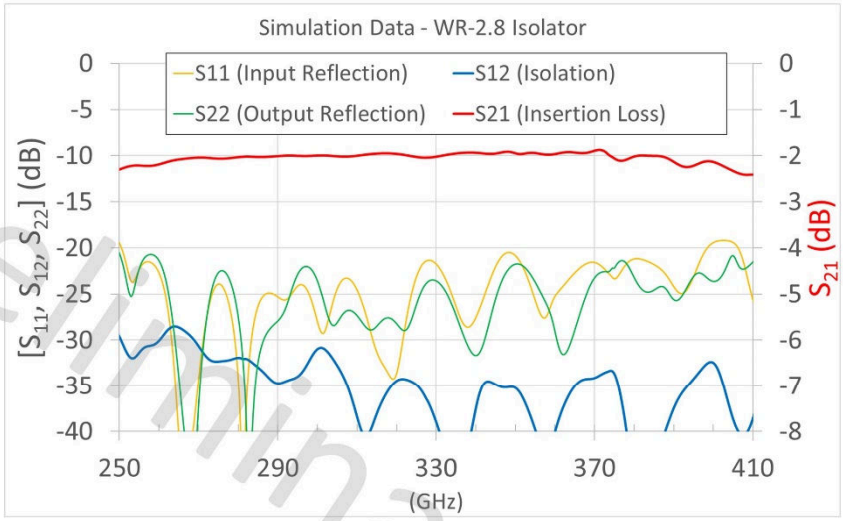


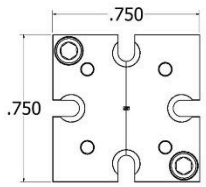
January 25, 2021

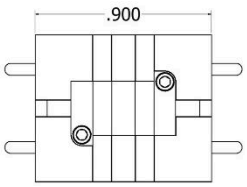
Model: FR28

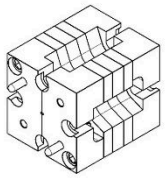
Preliminary Specifications	
Flange	WR-2.8
Frequency (GHz)	260-400
Insertion Loss (dB, typ)	2.2
Insertion Loss (dB, max)	3.5
Isolation (dB, typ)	22
Isolation (dB, min)	20
Input Return Loss (dB, typ)	20
Output Return Loss (dB, typ)	20
VSWR (max)	1.4:1
Maximum Power (W)	0.3
Diamond Heatsink	No

Every isolator is tested on a vector network analyzer to ensure conformity. (Drawing units are inch.)









June 1, 2021

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