

WR-2.8 Faraday Rotation Isolators

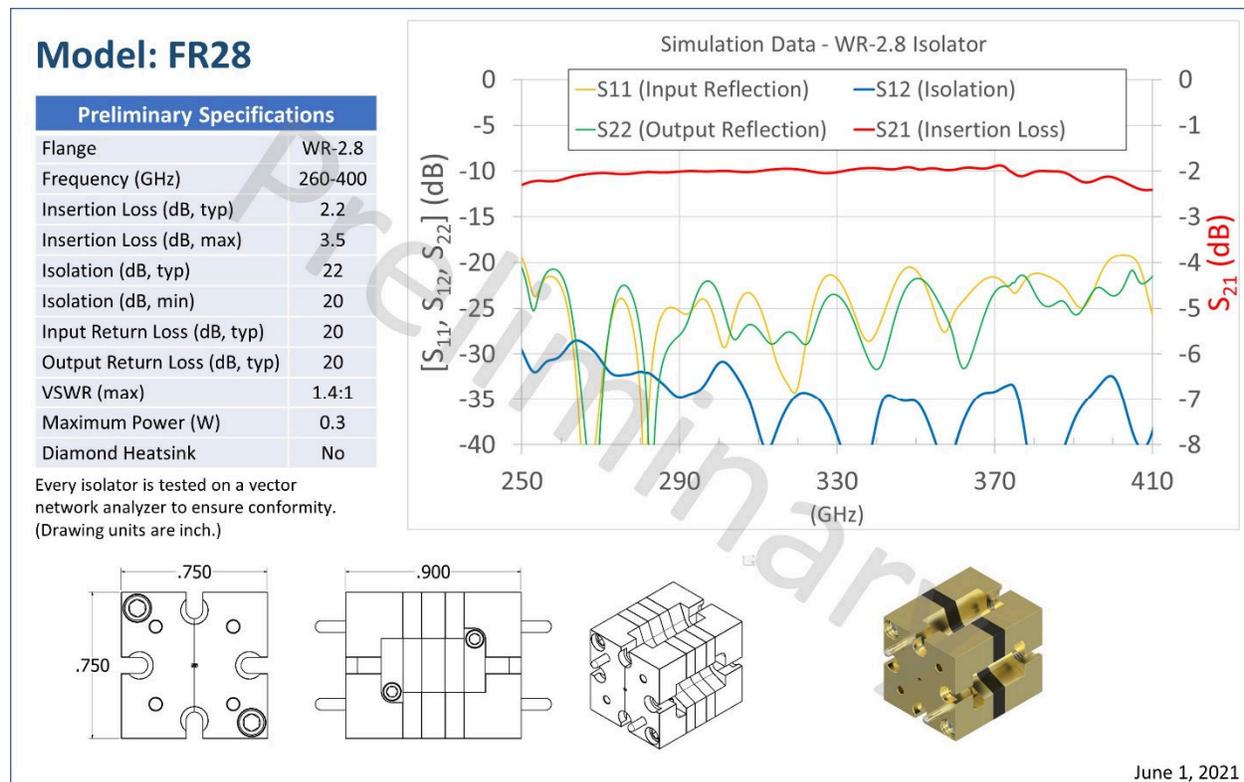
Coming soon - the world's first WR-2.8 Faraday rotation isolator, Model FR28. The FR28 is designed to cover the entire band from 260-400 GHz. The challenges in fabricating and aligning the constituent parts have been monumental, but we managed to assemble the first batch of prototypes in May 2021. RF testing is slated for June 2021. We are excited to bring this unique component to the marketplace.

The global demand for the FR28 has been high and we are working hard to produce this component in the necessary quantities. If you have an interest in purchasing one of these isolators, please contact us soon so that we can plan accordingly.



[FR28 webpage](#)

The FR28 specification sheet is shown below. The data is from our advanced simulation models. The FR28 exhibits state-of-the-art performance in terms of low-insertion loss, broad-bandwidth, and low port reflections. Since there is nothing to compare it to, the FR28 defines the state-of-the-art.

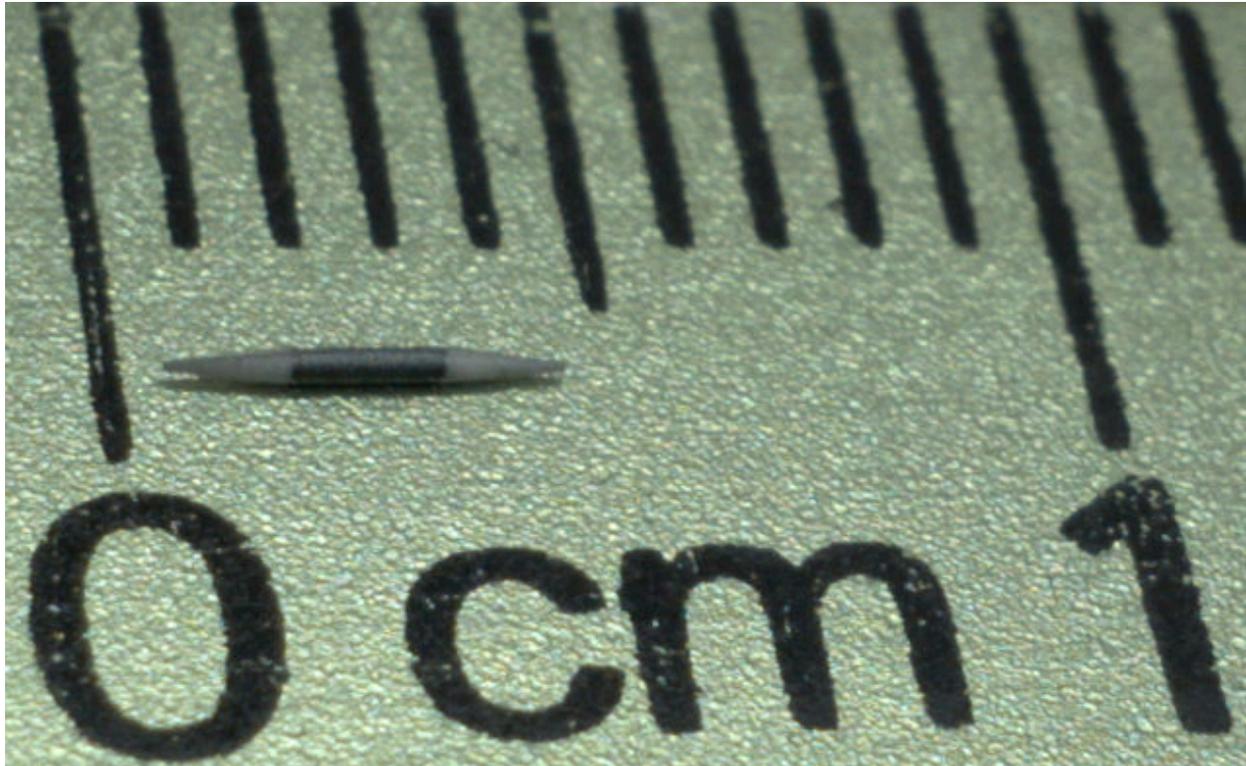


Internal access to all eight of the flange screws is provided so that you do not have to use lossy and expensive intervening waveguides in your system. The initial production runs will not have diamond heatsinks.

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The picture below shows the core assembly of the FR28 isolator. The core comprises a black ferrite rod and two white alumina ceramic cones. The total length is about 4 mm. Each cone has a resistive layer bisecting the central axis. Fabricating the cones at this size has been a major challenge. Since we bias our isolators in magnetic saturation, the ferrite length has to be tightly controlled. The resistive layers have to be aligned at 45° with respect to each other and then precisely aligned in the waveguide block.



Micro Harmonics Faraday Rotation Isolators

Model	Flange (EIA)	Band (GHz)	Insertion Loss (dB, typ)	Isolation (dB, typ)	*Max Power (W)
FR280	WR-28	26 - 40	0.5	25	5
FR188	WR-19	40 - 60	Coming		4
FR148	WR-15	50 - 75	0.6	25	1.7
FR122	WR-12	60 - 90	0.8	25	1.5
FR100	WR-10	75 - 110	0.8	30	1.3
FR100M2	WR-10	75 - 110	0.8	30	1.3
FR90	WR-9	82 - 122	1.0	24	1.1
FR80	WR-8	90 - 140	0.9	30	0.9
FR65	WR-6.5	110 - 170	1.0	24	0.8
FR51	WR-5.1	140 - 220	1.4	25	0.6
FR43	WR-4.3	170 - 260	1.5	20	0.4
FR34	WR-3.4	220 - 330	2.0	25	0.3
FR28	WR-2.8	260 - 400	2.3 (preliminary)	25	0.3

* The maximum power ratings are conservative and will be revised upward in the coming year.

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