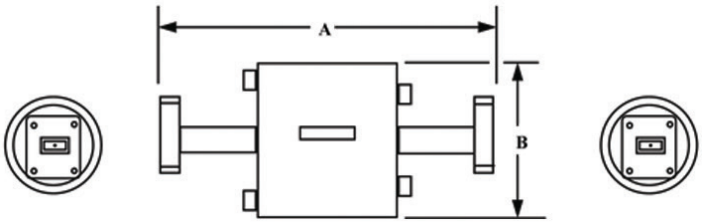
Description

Mi-Wave's 115 series isolators use the Faraday principle of rotation in a broadband dielectric waveguide design to achieve high isolation across full waveguide bands. These isolators are available in standard waveguide sizes from 18.0 to 170 GHz. High-quality ferrite material is used in these isolators, and the magnetic field is produced by an integral permanent magnet. To ensure maximum reproducibility and performance, a combination of precise machining operations and refined assembly techniques are used.

- *Low insertion loss*
- *Full waveguide band*
- *Excellent isolation across the band*
- *Faraday rotation principle of operation*

Applications

Designed for full waveguide band operation, the 115 series isolator is used in swept frequency applications. These components provide a high degree of isolation between signal sources and mismatched loads by attenuating the reflected signals. The insertion loss in the forward direction is minimized to allow for the full available power from the signal source-isolator combination. Typical applications for these broadband isolators include laboratory setups as well as millimeter wave test sets and automotive radar.



Dimensional Specifications

Model No.	A		B	
	in.	mm	in.	mm
115K	4.34	110.2	1.25	31.8
115 WR-34	4.34	110.2	1.25	31.8
115A	3.43	85.9	1.25	31.8
115B	2.79	68.3	1.25	31.8
115U	2.57	65.2	1.25	31.8
115V	2.56	65.2	0.88	22.2
115E	2.56	64.9	0.88	22.2
115W	2.44	61.9	0.88	22.2
115F	2.33	59.2	0.88	22.2
115D	2.31	59.7	0.88	22.2
115G	2.29	58.2	0.88	22.2

WARNING

Sensitive ferromagnetic devices are susceptible to effects of stray magnetic fields and the presence of other ferrous components. These isolators should be kept at least two inches from all possible sources of interference.

TECHNICAL SPECIFICATIONS (TYPICAL)

Model No.	115K	115	115A	115B	115U	115V	115E	115W	115F	115D	115G
Frequency	18–26.5	22–33.0	26.5–40	33–50	40–60	50–70	60–90	75–110	90–140	110–170	140–220
Isolation	25	25	25	25	25	25	25	25	22	20	20
Insertion loss (dB) Typ.	1.0	1.0	1.0	1.3	1.5	1.7	2.0	2.2	2.7*	3.1*	3.5*
VSWR (Typ.)	1.30	1.30	1.30	1.30	1.30	1.35	1.35	1.40	1.50	1.50*	1.50*
Power Handling (Watts Max)	2.0	2.0	2.0	1.5	1.5	1.0	1.0	1.0	0.4	0.2	0.2
Waveguide size	WR-42	WR-34	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-08	WR-06	WR-05
Waveguide Flange[1]	UG-595/U (54-4-001)	UG-595/U (54-4-001)	UG-599/U (54-4-003)	UG-383/U (67-2-006)	UG-383/U (67-2-008)	UG-385/U (67-2-008)	UG-387/U (67-2-009)	UG-387/U (67-2-010)	UG-387/U (67-2-010)	UG-387/U (67-2-010)	UG-387/U (67-2-010)

1. Optional flanges are available: UG-381/U (67B-005), Mi-Wave 720. Please consult Mi-Wave for further information.
* Nominal Values