

## DESCRIPTION

The HMI AND HMC series broadband ferrite junction isolators and circulators are available from 18 - 120 GHz. They utilize a low loss H-plane structure in a modified Y-junction format to provide minimum loss with maximum isolation and bandwidth. 2 GHz bandwidths with 20 dB of isolation are standard. Wider bandwidth, high power handling and magnetic shielding are available in select units.

The isolators are commonly utilized to buffer mismatches and are often used on amplifier and oscillator outputs. Circulators are commonly employed as signal duplexers on transceivers having a single antenna. The in-line port orientation makes the mechanical interface more convenient than standard Y-junction types. An access pocket allows for blind flange mating.



## APPLICATIONS

- Ferrite Duplexers
- Amplifier Stages
- General RF Matching
- Mismatch Buffers

## FEATURES

- 20 dB Isolation
- 2+ GHz Bandwidths
- H-Plane Design
- In-Line Port Orientation

Specifications @ 35°C T<sub>CASE</sub>, Specifications subject to change w/o notice.

Part Number Isolator	Part Number Circulator	Center Frequency Range (GHz)	Waveguide	Standard Flange	Insertion Loss (dB)	Isolation (dB)	CW Power Handling
HMI42	HMC42	18.0 – 26.5	WR – 42	UG–595/U	0.3	20	1 watt
HMI28	HMC28	26.5 – 40.0	WR – 28	UG–599/U	0.4	20	1 watt
HMI22	HMC22	33.0 – 50.0	WR – 22	UG–599/U	0.4	20	1 watt
HMI19	HMC19	40.0 – 60.0	WR – 19	UG–599/U	0.5	20	1 watt
HMI15	HMC15	50.0 – 75.0	WR – 15	UG–385/U	0.7	20	0.5 watts
HMI12	HMC12	60.0 – 90.0	WR – 12	UG–387/U	0.8	20	0.5 watts
HMI10	HMC10	75.0 – 110.0	WR – 10	UG–387/U-M	0.8	18	0.5 watts
HMI10H*	HMC10H	75.0 - 110.0	WR - 10	UG-387/U-M	0.8	18	15 watts
HMI8	HMC8	90.0 - 120.0	WR - 8	UG-387/U-M	1.0	16	0.4 watts

\*Requires an external high power load.

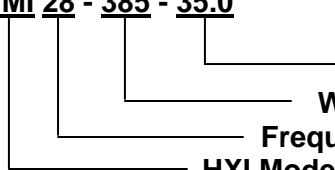
## General Specifications

Frequency Bandwidth: 2 GHz nominal; specifications for wider bandwidths (up to 7 GHz in some bands) available on request  
 Operating Temperature: 0 to +60°C  
 VSWR: 1.20:1 to WR-19, 1.25:1 to WR-10

## Requesting quotes

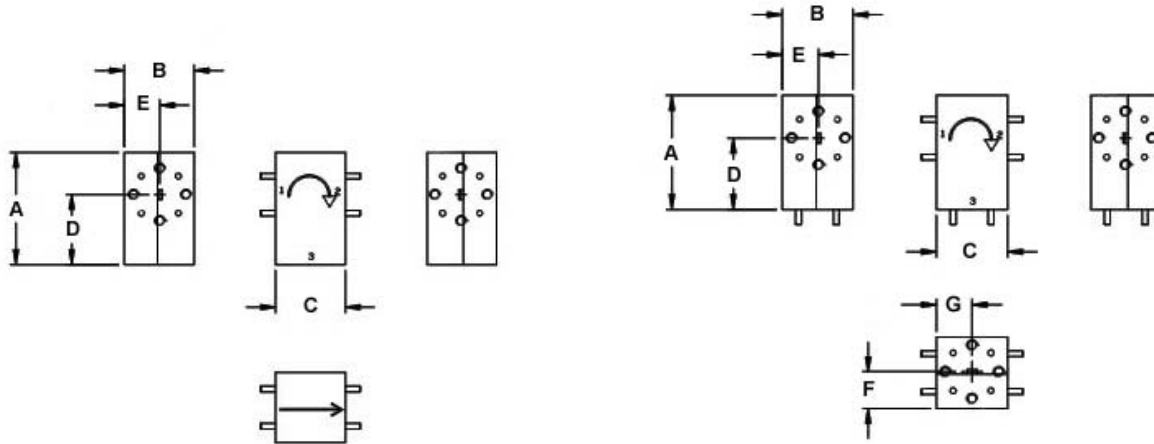
When requesting a quote for HMI and HMC ferrite isolators and circulators, please specify required center frequency, bandwidth and any other required specifications. The part number guide below can be used as a reference for requesting quotes.

**HMI 28 - 385 - 35.0**



Center Frequency (GHz)  
 Waveguide Flange  
 Frequency Band (WR #)  
 HXI Model # (HMI for isolator, HMC for circulator)

## Isolator and Circulator Outlines



Isolator Outline  
(round flange pattern shown)

Circulator Outline  
(round flange pattern shown)

FREQUENCY BAND	WAVEGUIDE SIZE	FLANGE PATTERN	ISOLATOR DIMENSIONS (inches)				
			A	B	C	D	E
Ka	WR-28	UG-599/U	1.25	.75	.75	.88	.38
Q	WR-22	UG-599/U	1.25	.75	.75	.88	.38
		UG-383/U	1.40	1.21	1.13	.84	.61
U	WR-19	UG-599/U	1.25	.75	.75	.88	.38
		UG-383/U	1.40	1.21	1.13	.84	.61
V	WR-15	UG-385	1.20	.75	.75	.75	.38
E	WR-12	UG-387	1.20	.75	.75	.75	.38
W	WR-10	UG-387	1.20	.75	.75	.75	.38

FREQUENCY BAND	WAVEGUIDE SIZE	FLANGE PATTERN	CIRCULATOR DIMENSIONS (inches)						
			A	B	C	D	E	F	G
Ka	WR-28	UG-599/U	1.25	.75	.75	.88	.38	.38	.38
Q	WR-22	UG-599/U	1.25	.75	.75	.88	.38	.38	.38
		UG-383/U	1.40	1.21	1.13	.84	.61	.61	.57
U	WR-19	UG-599/U	1.25	.75	.75	.88	.38	.38	.38
		UG-383/U	1.40	1.21	1.13	.84	.61	.61	.57
V	WR-15	UG-385	1.20	.75	.75	.75	.38	.38	.38
E	WR-12	UG-387	1.20	.75	.75	.75	.38	.38	.38
W	WR-10	UG-387	1.20	.75	.75	.75	.38	.38	.38