

Full Band Junction Circulators and Isolators

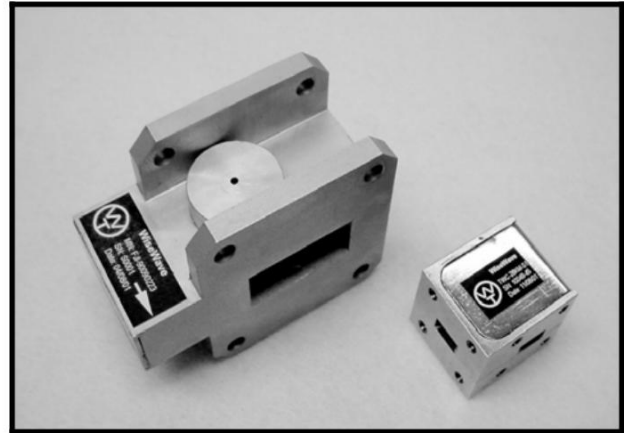
Bulletin No. FIF & FCF

FEATURES

- ❖ Full waveguide band operation
- ❖ Low insertion loss
- ❖ High Isolation
- ❖ Compact size

APPLICATIONS

- ❖ Test setup
- ❖ Instrumentation
- ❖ Subsystems
- ❖ Transceivers



FIF & FCF Series

DESCRIPTION

FIF series full band waveguide junction isolators and **FCF** series full band waveguide junction circulators are available from 8.2 to 40 GHz frequency range in five waveguide bands. The isolators and circulators feature low insertion loss and high isolation for full waveguide bands operation. With H-plane junction configuration, the full band junction isolators offer a lower insertion loss compared to the Faraday-rotation types, while circulators offer unique full band operation features. These devices are ideally suited for broad band communication systems, EW systems and test instrument applications.

SPECIFICATIONS

Frequency Band	X	WR-75	Ku	K	Ka
Model Number (Isolator)	FIF-90-01	FIF-75-01	FIF-62-01	FIF-42-01	FIF-28-01
Model Number (Circulator)	FCF-90-01	FCF-75-01	FCF-62-01	FCF-42-01	FCF-28-01
Frequency Range (GHz)	8.2 to 12.4	10.0 to 15.0	12.4 to 18.0	18 to 26.5	26.5 to 40.0
Waveguide Size	WR-90	WR-75	WR-62	WR-42	WR-28
Insertion Loss (dB max)	0.5	0.5	0.5	0.5	0.5
Isolation (dB min)	18	18	18	16	16
VSWR (max)	1.35:1	1.35:1	1.35:1	1.40:1	1.40:1
Flange Type	UG-39/U	WR-75	UG419/U	UG595/U	UG599/U
Forwarding (W, min)	50	50	50	10	10
Load Power (W, min)*	1	1	0.5	0.5	0.5
Outline Drawings	Consult Factory				
Temperature Range	0 to +50°C				

*Note: Isolator only

e Device Outline Drawings

WT-D-1

Drop-in Isolator

Freq. Range	DWG	W	L	H	H1	H2	H3	H4	V1	V2
0.8~1.2 GHz	A	1.00	1.25	0.27	0.09	0.82	NA	NA	0.09	0.82
1.2~2.4 GHz	B	1.00	1.00	0.47	0.09	0.82	0.09	0.82	0.09	0.82
2.0~3.5 GHz	B	0.71	0.98	0.39	0.16	0.39	0.10	NA	0.08	0.83
3.5~5.0 GHz	B	0.63	1.02	0.41	0.31	NA	0.08	0.47	0.09	0.54
5.0~8.0 GHz	B	0.47	0.79	0.37	0.08	0.31	0.08	0.31	0.08	0.63
8.0~18.0 GHz	A	0.35	0.59	0.31	0.06	0.24	NA	NA	0.06	0.47

Dimensions are in inches

WT-D-2

Drop-in Circulator

Freq. Range	DWG	W	L	H	H1	H2	H3	H4	V1	V2
0.8~1.2 GHz	A	1.00	1.00	0.27	0.09	0.82	NA	NA	0.09	0.82
1.2~2.4 GHz	B	1.00	1.00	0.47	0.09	0.82	0.09	0.82	0.09	0.82
2.0~3.5 GHz	B	0.79	0.98	0.45	0.39	NA	0.14	0.51	0.06	0.83
3.5~5.0 GHz	B	0.63	0.87	0.41	0.31	NA	0.08	0.47	0.09	0.54
5.0~8.0 GHz	B	0.50	0.67	0.24	0.06	0.38	0.06	0.38	0.06	0.55
8.0~18.0 GHz	A	0.35	0.49	0.31	0.06	0.24	NA	NA	0.06	0.37

Dimensions are in inches

WT-D-3

Coaxial Isolator

Freq. Range	W	L	H	V0	H01	H02	H1	H2	V1	V2
0.9~2.0 GHz	0.98	1.16	0.59	0.71	0.12	0.75	NA	NA	NA	NA
2.0~3.5 GHz	0.98	1.16	0.59	0.71	0.12	0.75	NA	NA	NA	NA
3.5~6.5 GHz	0.63	1.02	0.55	0.63	0.10	0.43	0.10	0.43	0.09	0.78
6.5~18.0 GHz	0.47	0.79	0.51	0.55	0.08	0.31	NA	NA	NA	NA

Dimensions are in inches

WT-D-4

Coaxial Circulator

Freq. Range	W	L	H	H1	H2	H3	H4	V1	V2
0.9~2.0 GHz	0.98	0.98	0.59	0.18	0.63	0.12	0.75	0.12	0.75
2.0~3.5 GHz ²	0.98	0.98	0.59	0.12	0.75	NA	NA	0.71	NA
3.5~6.5 GHz	0.63	0.83	0.55	NA	NA	NA	NA	NA	NA
6.5~18.0 GHz	0.59	0.75	0.51	0.16	0.28	0.12	0.35	0.12	0.47

Dimensions are in inches

WT-D-5

Junction Isolator

BAND	H	L	W
K	0.88	1.26	0.50
Ka	0.75	1.10	0.39
Q & U	1.18	1.26	0.59
V,E & W	0.85	1.00	0.75

Dimensions are in inches

WT-D-6

Junction Circulator

BAND	H	L	W
K	0.88	1.06	0.94
Ka	0.75	0.94	0.83
Q	1.22	1.34	1.22
U	1.22	1.34	1.34
V,E & W	0.85	1.00	1.00

Dimensions are in inches

The flange pattern shown is for illustration purpose. Refer to Technical Reference Section for flange pattern details.
The outline drawings shown are standard versions. Contact factory for your specific package requirements.