



# QJD Series

## Precision Dual-Directional Couplers



### SPECIFICATIONS

FREQUENCY BAND	K	Ka	Q	U	V	E	W	F	D	G
Frequency Range (GHz)	18-26.5	26.5-40	33-50	40-60	50-75	60-90	75-110	90-140	110-170	140-220
Waveguide Size*	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10	WR-8	WR-6	WR-5
Coupling Values** (dB at center frequency)	10, 20, 30, 40 ( $\pm 1$ )									
Coupling Flatness ( $\pm$ dB MAX)	$\pm 0.7$	$\pm 0.7$	$\pm 0.7$	$\pm 0.7$	$\pm 0.7$	$\pm 0.8$	$\pm 0.8$	$\pm 1.0$	$\pm 1.0$	$\pm 1.2$
Directivity (dB typ) <sub>1,3</sub>	35	35	35	35	30	30	30	28	28	25
Insertion Loss (dB MAX) <sup>2</sup>	1	1	1	1	1.2	1.3	1.5	2	2.5	3
VSWR, Main Line (typ)	1.10:1	1.10:1	1.10:1	1.10:1	1.10:1	1.10:1	1.10:1	1.15:1	1.15:1	1.20:1
VSWR, Secondary Line (typ)	1.10:1	1.10:1	1.10:1	1.10:1	1.10:1	1.15:1	1.15:1	1.20:1	1.21:1	1.25:1

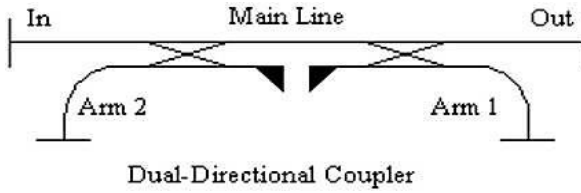
\* Other waveguide sizes are available.

\*\* Custom coupling values are available.

<sup>1</sup> Directivity is the difference between power levels at the coupled port when input and output ports are interchanged.

<sup>2</sup> Insertion loss is defined as the power loss in excess of the loss due to coupling.

<sup>3</sup> For 30 dB and 40 dB couplers: directivity = 25 dB typ.





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### MECHANICAL SPECIFICATIONS/OUTLINE DRAWINGS

Frequency Band	Waveguide Size	Flange Pattern	DIMENSIONS (INCHES/MM)				
			A	B	C	D	E
K	WR-42	UG-595/U	1.40/35.6	1.24/31.4	9.25/234.9	8.05/204.5	0.60/15.2
Ka	WR-28	UG-599/U	1.10/27.9	1.05/26.7	6.25/158.8	5.05/128.3	0.50/12.7
Q	WR-22	UG-383/U	1.36/34.5	1.37/34.8	5.50/139.7	3.90/99.1	0.562/14.2
U	WR-19	UG-383/U-M	1.36/34.5	1.334/33.9	5.50/139.7	3.90/99.1	0.562/14.3
V	WR-15	UG-385/U	1.10/27.9	0.90/22.9	4.00/101.6	2.80/71.1	0.5/12.7
E	WR-12	UG-387/U	1.10/27.9	0.87/22.1	3.50/88.9	2.30/58.4	0.5/12.7
W	WR-10	UG-387/U-M	1.10/27.9	0.86/21.8	3.25/82.5	2.05/52.1	0.5/12.7
F	WR-8	UG-387/U-M	1.20/30.5	0.84/21.3	2.42/61.5	1.22/31.0	0.38/9.7
D	WR-6	UG-387/U-M	1.20/30.5	0.83/21.0	2.42/61.5	1.22/31.0	0.38/9.7
G	WR-5	UG-383/U-M	1.20/30.5	0.81/20.6	2.42/61.5	1.22/31.0	0.38/9.7

Frequency Band	Waveguide Size	Flange Pattern	DIMENSIONS (INCHES/MM)	
			F	G
K	WR-42	UG-595/U	0.360/9.1	0.620/15.7
Ka	WR-28	UG-599/U	0.300/7.6	0.525/13.3
Q	WR-22	UG-383/U	0.244/6.2	0.685/17.4
U	WR-19	UG-383/U-M	0.208/5.3	0.667/16.9
V	WR-15	UG-385/U	0.148/3.8	0.45/11.4
E	WR-12	UG-387/U	0.138/3.5	0.436/11.1
W	WR-10	UG-387/U-M	0.110/2.8	0.43/10.9



F	WR-8	UG-387/U-M	0.085/2.2	0.385/9.8
D	WR-6	UG-387/U-M	0.070/1.8	0.389/9.9
G	WR-5	UG-383/U-M	0.056/1.4	0.392/10.0

