QDC Series
General Purpose Waveguide Directional Couplers

SPECIFICATIONS

FREQUENCY BAND	K	Ka	Q	U	V	E	W
Frequency Range (GHz)	18-26.5	26.5-40	33-50	40-60	50-75	60-90	75-110
Waveguide Size*	WR-42	WR-28	WR-22	WR-19	WR-15	WR-12	WR-10
Coupling Values (dB at center frequency)**	10, 20, 30, 40 (± 1)						
Coupling Flatness (±dB Max)	±0.6	±0.6	±0.6	±0.8	±1.0	±1.0	±1.0
Directivity (dB typ) [1,3]	35	35	35	35	35	35	30
Insertion Loss (dB typ) [2]	0.7	0.7	0.7	0.7	0.8	1	1.2
VSWR, Main Line (typ)	1.05	1.05	1.05	1.10	1.1	1.1	1.1
VSWR, Secondary Line (typ)	1.12	1.12	1.12	1.15	1.15	1.15	1.17

* Other waveguide sizes are available.

** Custom coupling values are available.

[1] Directivity is the difference between power levels at the coupled port when input and output ports are interchanged.

[2] Insertion loss is defined as the power loss in excess of the loss due to coupling.

[3] For 30 dB and 40 dB couplers: directivity = 25 dB typ.

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MECHANICAL SPECIFICATIONS/OUTLINE DRAWINGS

FREQUENCY BAND AND COUPLING LEVEL (dB)	Waveguide Sizes	Plane	OUTLINE DIMENSIONS, inches/mm			
			A	B	C	D
K 10, 20, 30, 40	WR-42	H	11.50/292.0	2.00/50.8	1.50/38.1	.21/5.3
		E				-
Coupling Flatness (±dB Max)	WR-28	H	9.62/244.0	1.75/44.5	1.38/35.1	.16/4.06
		E				-
Q 10, 20, 30, 40	WR-22	H	8.40/213.0	1.64/41.7	1.30/33.0	.13/3.30
		E				-
U 10, 20, 30, 40	WR-19	H	7.38/187.4	1.38/35.1	1.12/28.5	.11/2.80
		E				-
V 10, 20, 30, 40	WR-15	H	6.25/159.0	1.13/28.7	0.88/22.4	.08/2.03
		E				-
E 10, 20, 30, 40	WR-12	H	5.50/140.0	1.13/28.7	0.88/22.4	.07/1.78
		E				-
W 10, 20, 30, 40	WR-10	H	4.50/114.0	1.00/25.4	0.81/20.6	.06/1.52
		E				-