

Section 4-2: Split Block Waveguide Directional Coupler

www.3jmicrowave.com Frequency Coverage: 18 to 110 GHz

Applications:

- Network Analyzer
- Test Bench

Features:

- Low Insertion Loss
- Low Return Loss
- 3, 6, 10, 20, 30 & 40 dB Coupling

Descriptions:

3J Microwave, Inc. offers a complete line of split block directional couplers in 8 waveguide bands. The coupling level is designed at 3, 6, 10, 20, 30 and 40 dB, which can be chosen to fit in various applications. The split block directional couplers are suitable for instrumentations, bench test, network analyzers and Subsystem Integration. The split block waveguide directional couplers



are sorted in three categories: 1) **DC3** series 3-port split block couplers; 2) **DC4** series 4-port split block directional couplers; 3) **DCD** series dual directional couplers.

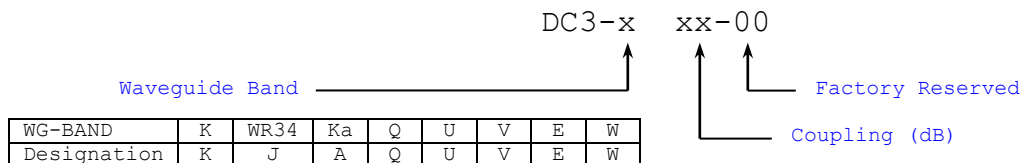
General waveguide directional couplers with waveguide structure are available for the applications of instrumentation and module assemblies. Please see Section 4-3 for the details.

DC3 Series Split Block 3-Port Directional Coupler Specs:

Model No.	DC3-xxx-00*							
WG Band	WR-42	WR-34	WR-28	WR-22	WR-19	WR15	WR-12	WR-10
Frequency Range (GHz)	18 to 26.5	22 to 33	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Coupling (dB)	3, 6, 10, 20, 30 & 40							
Coupling Flatness (dB)	+/-0.9							
I. L. (dB)	0.7	0.8	0.9	1.0	1.0	1.2	1.5	1.8
Directivity (dB)	-35 dB for coupling of 3, 6, 10 and 20 dB -30 dB for coupling of 30 and 40 dB							
Return Loss (dB)	-30 dB for the thru line -25 dB for the secondary line							
WG Flange	UG595/U	UG595/UM	UG599/U	UG383/U	UG383/UM	UG385/U	UG387/U	UD387/UM

* Please see "how to order" for the model number details

How to Order:





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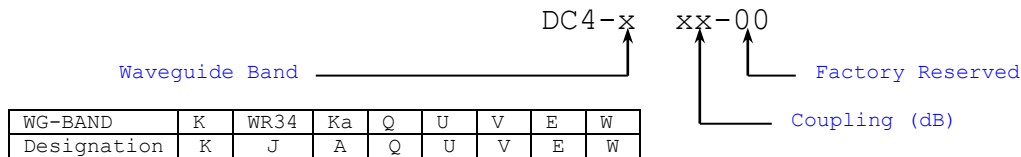
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DC4 Series Split Block 4-Port Directional Coupler Specs:

Model No.*	DC4-xxx-00							
WG Band	WR-42	WR-34	WR-28	WR-22	WR-19	WR15	WR-12	WR-10
Frequency Range (GHz)	18 to 26.5	22 to 33	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Coupling (dB)	3, 6, 10, 20, 30 & 40							
Coupling Flatness (dB)	+/-0.9							
I. L. (dB)	0.7	0.8	0.9	1.0	1.0	1.2	1.5	1.8
Directivity (dB)	-35 dB for coupling of 3, 6, 10 and 20 dB -30 dB for coupling of 30 and 40 dB							
Return Loss (dB)	-30 dB for the thru line -23 dB for the secondary line							
WG Flange	UG595/U	UG595/U	UG599/U	UG383/U	UG383/U	UG385/U	UG385/U	UD387/UM

* Please see "how to order" for the model number details

How to Order:

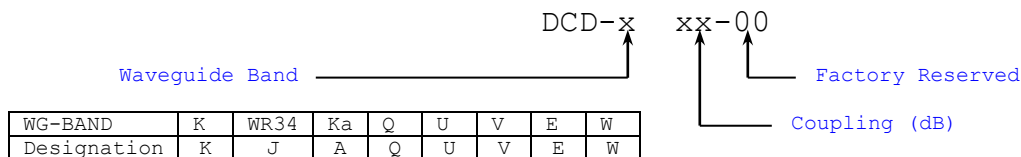


DCD Series Split Block Dual Directional Coupler Specs:

Model No.*	DCD-xxx-00							
WG Band	WR-42	WR-34	WR-28	WR-22	WR-19	WR15	WR-12	WR-10
Frequency Range (GHz)	18 to 26.5	22 to 33	26.5 to 40	33 to 50	40 to 60	50 to 75	60 to 90	75 to 110
Coupling (dB)	3, 6, 10, 20, 30 & 40							
Coupling Flatness (dB)	+/-0.9							
I. L. (dB)	0.9	1.0	1.1	1.2	1.3	1.4	1.7	2.0
Directivity (dB)	-35 dB for coupling of 10 and 20 dB -30 dB for coupling of 30 and 40 dB							
Return Loss (dB)	-30 dB for the thru line -23 dB for the secondary line							
WG Flange	UG595/U	UG595/U	UG599/U	UG383/U	UG383/U	UG385/U	UG385/U	UD387/UM

* Please see "how to order" for the model number details

How to Order:



Model No. Example:

Model No. of a V-Band 20 dB 4-port Split block Directional Coupler:
SBDC4-V20-00

Outlines:

Please see Section 4-11, Page 4-22 to 23 for the outline details