



Section 4-3: Waveguide Directional Coupler

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

Applications:

- Instrumentations
- Assembly Modules

Features:

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



Descriptions:

3J Microwave, Inc. offers a complete line of waveguide 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 standard waveguide is used for the waveguide directional coupler series. These waveguide directional couplers are suitable for instrumentations and assemblies and are sorted in

three categories: 1) **GDC3** series 3-port waveguide directional couplers; 2) **GDC4** series 4-port waveguide directional couplers; 3) **GDCD** series waveguide dual directional couplers.

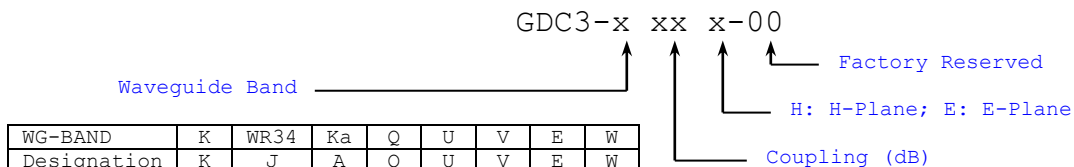
Split block directional couplers with split block structure are available for the network analyzer and bench testing applications. Please see page x-xx for the details of the split block directional couplers.

GDC3 3 Port Waveguide Directional Coupler Specifications:

Model No.	GDC3-xxxx-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/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:





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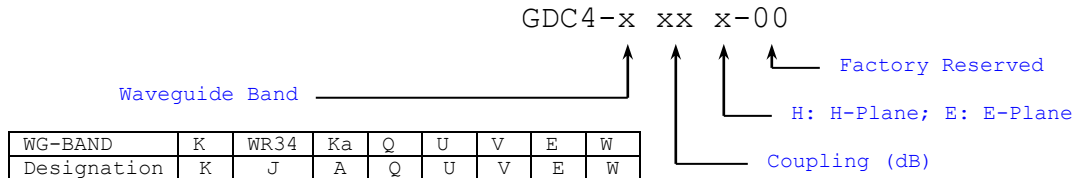
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GDC4 4 Port Waveguide Directional Coupler Specifications:

Model No.*	GDC4-xxxxe-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:

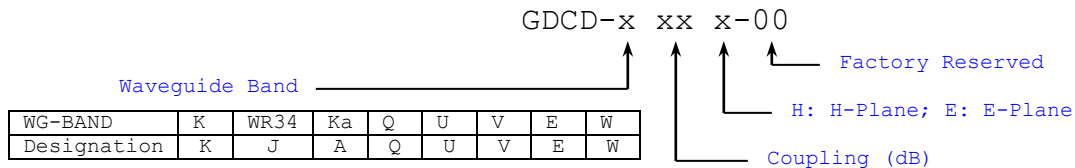


GDCD Series Split Block Dual Directional Coupler Specs:

Model No.*	GDCD-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 20dB 4-port H-Plane Waveguide Directional Coupler: GDC4-V20H-00

Outlines:

Please see Section 4-11, Page 4-23 to 24 for the outline details