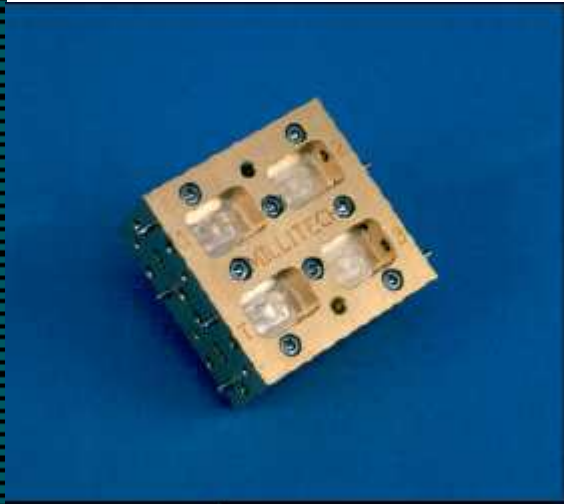


SERIES CSS

SHORT SLOT HYBRID COUPLERS



FEATURES:

- Low insertion loss
- 90° relative phase
- Compact, in-line port arrangement
- Covers up to 50% waveguide band

APPLICATIONS:

- Power distribution network
- Diplexer, phase detectors
- General purpose power dividers
- Subsystems

DESCRIPTION

Millitech series CSS short slot couplers are ideal for applications where in-line power division or combining is required. The two outputs have 90° phase difference and nearly equal power levels over 5% of center frequency with minimum insertion loss. These couplers are useful as power dividers for over 50% of the waveguide band. Three couplers can be connected together to make a four-way power divider. All units can bolt to blind flanges through access holes at the top and bottom of each flange.

These hybrid couplers can be used to configure a frequency diplexer for two frequencies within a 20% bandwidth. Millitech can provide a completely tested frequency diplexer to meet your requirements.

Millitech also offers series CL3 and CL4 high directivity directional couplers, series CMT hybrid couplers, series CGC crossguide couplers, and compact 4- and 8-way custom power dividers/combiners. Higher order units are available upon request.

ELECTRICAL SPECIFICATIONS

Model Number	CSS-42	CSS-28	CSS-22	CSS-19	CSS-15	CSS-12	CSS-10	CSS-08	CSS-06
Frequency band	K	Ka	Q	U	V	E	W	F	D
Insertion loss of either output port (dB) (max) ^{*1}	0.5	0.5	0.5	0.5	0.8	0.8	1.0	1.0	1.5
Bandwidth, % center frequency ^{*2}	5%	5%	5%	5%	5%	5%	5%	5%	5%
Isolation between output ports (dB) (typ) ^{*3}	20	20	20	20	20	20	20	20	18
Standard center frequencies available (GHz) ^{*4}	24	29, 37	40	46, 56	60	80	94	140	140

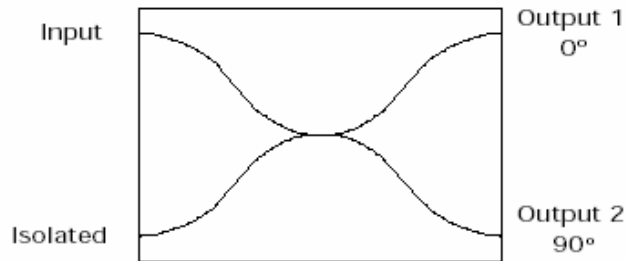
*1 – Insertion loss includes 3 dB nominal power split with 90° relative phase.

*2 – Operation over broader bandwidth (up to 50%) achieved with degraded performance.

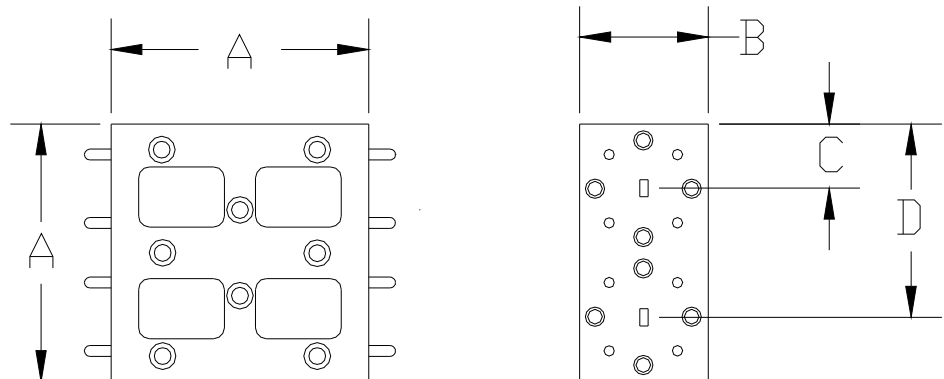
*3 – All specifications are tested with the isolated port terminated with a series WRT termination, offered separately.

*4 – These frequencies are for standard units; other frequencies available upon request.

PORT ARRANGEMENT



OUTLINE DRAWINGS



MECHANICAL SPECIFICATIONS

Model Number	CSS-42	CSS-28	CSS-22	CSS-19	CSS-15	CSS-12	CSS-10	CSS-08	CSS-06
A (in/mm)	2.5/66	2.25/57.1	2.25/57.1	2.25/57.1	1.5/38.1	1.5/38.1	1.5/38.1	1.5/38.1	1.5/38.1
B (in/mm)	.88/22	0.75/19	0.75/19	0.75/19	0.75/19	0.75/19	0.75/19	0.75/19	0.75/19
C (in/mm)	.69/18	0.56/14.2	0.56/14.2	0.56/14.2	0.38/9.6	0.38/9.6	0.38/9.6	0.38/9.6	0.38/9.6
D (in/mm)	1.82/46	1.69/42.9	1.69/42.9	1.69/42.9	1.13/28.7	1.13/28.7	1.13/28.7	1.13/28.7	1.13/28.7
Flange MIL.F-3922	/54-001*	/54-003*	/67B-006	/67B-007	/67B-008	/67B-009	/67B-010	/67B-M08	/67B-M06

* With #4-40 threaded holes.

HOW TO ORDER

Specify Model Number CSS-XX-ABBBCØ
XX = Waveguide Band WR – number
A = Flange Type R – round (WR-22 through WR-06 only) S – square (WR-42 and WR-28 only)
BBB = Center Frequency Example: 094 = 94 GHz (other frequencies available)
C = Material A – aluminum (gold plated) B – brass (gold plated)
Ø = Other Options N – nonstandard (please specify requirements)

EXAMPLE:

To Order: a standard brass WR-10 series with a round flange and center frequency 94 GHz

Specify: CSS-10-R094B0