Ceramic

Directional Coupler

DCW-22-332+

50Ω 22 dB Coupling 1200 to 3300 MHz

Generic photo used for illustration purposes only

CASE STYLE: JC0603C

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500,1000, 4000

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C

Permanent damage may occur if any of these limits are exceeded.

Pad Connections

INPUT	1
OUTPUT	6
COUPLED	3
TERMINATION	4
GROUND	2,5

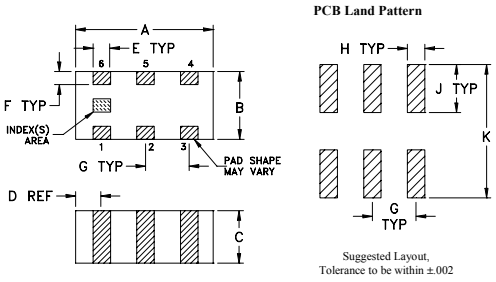
Features

- Wideband, 1200-3300 MHz
- Low insertion loss, 0.4 dB typ.
- Excellent return loss for input/output ports ideal for signal-tap
- Ultra small size, 0603 (1.6 x 0.8 mm)
- Temperature stable
- LTCC construction

Applications

- ISM
- WiMAX
- Wi-Fi
- UMTS
- PCS
- LTE

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F
.063	.031	.024	.012	.008	.006
1.60	0.79	0.61	0.30	0.20	0.15

G	H	J	K	wt
.020	.010	.022	.053	grams
0.51	0.25	0.56	1.35	0.005

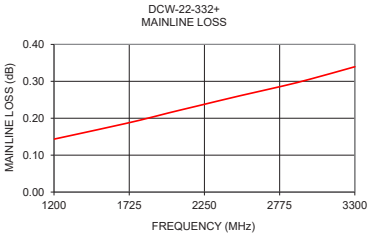
Electrical Specifications at 25°C

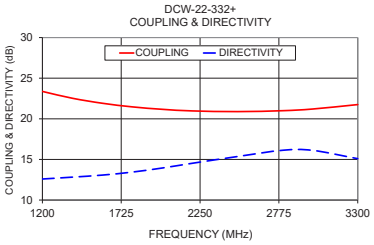
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		1200		3300	MHz
Mainline Loss	1200-3300	—	0.4	0.7	dB
Coupling	1200-3300	—	22±2.0	—	dB
Coupling Flatness(±)	1200-3300	—	1.3	—	dB
Directivity	1200-3300	—	12	—	dB
Return Loss (Input)	1200-3300	15	20	—	dB
Return Loss (Output)	1200-3300	15	23	—	dB
Input Power[1]	1200-3300	—	2	—	W

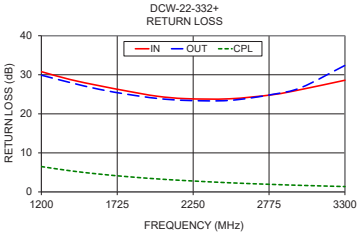
1. Derate linearly 1W at 100°C.

Typical Performance Data

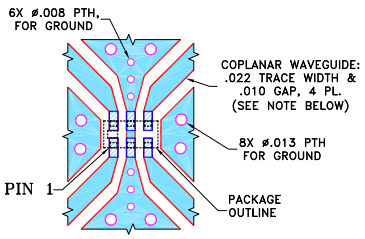
Frequency (MHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB) In	Return Loss (dB) Out	Return Loss (dB) Cpl
1200	0.14	23.37	12.59	30.79	29.90	6.49
1400	0.16	22.53	12.82	28.77	28.00	5.41
1600	0.18	21.91	13.07	27.20	26.28	4.57
1800	0.19	21.47	13.45	25.78	24.97	3.89
2000	0.21	21.17	13.95	24.51	23.95	3.34
2200	0.23	20.97	14.53	23.88	23.44	2.90
2500	0.26	20.89	15.36	23.84	23.43	2.34
2800	0.29	21.00	16.13	24.90	24.98	1.92
3000	0.31	21.20	16.12	26.25	26.77	1.68
3300	0.34	21.75	15.09	28.60	32.40	1.37







Demo Board MCL P/N: TB-794+
Suggested PCB Layout (PL-440)



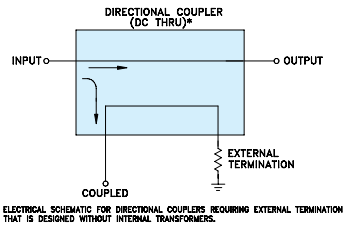
NOTES:

1. COPLANAR WAVEGUIDE IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010" ± .001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER).

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.

Electrical Schematic



* ELECTRICAL SCHEMATIC FOR DIRECTIONAL COUPLERS REQUIRING EXTERNAL TERMINATION THAT IS DESIGNED WITHOUT INTERNAL TRANSFORMERS.

Notes

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