Ceramic

Directional Coupler

DCW-11-722+

50Ω 11 dB Coupling 2400 to 7200 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 105°C
Storage Temperature	-55°C to 105°C
Input Power[1]	1W

Permanent damage may occur if any of these limits are exceeded.
1. Derate linearly 0.5W at 0.5°C

Pad Connections

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

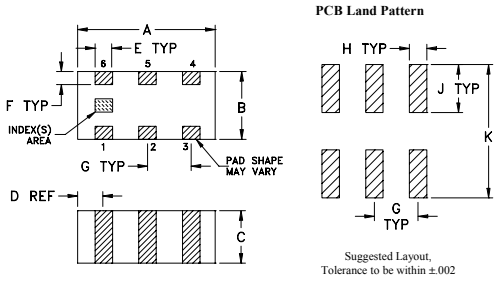
Features

- Wideband, 2400-7200 MHz
- 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

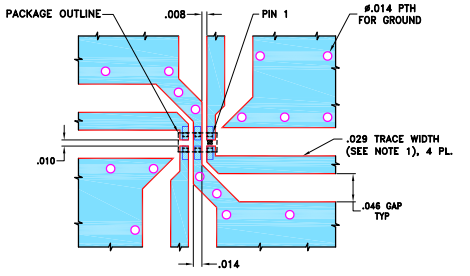
Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		2400		7200	MHz
Mainline Loss	2400-7200	—	0.7	2.2	dB
Midband Coupling	2400-7200	—	11	—	dB
Coupling Flatness(±)	2400-7200	—	2.5	—	dB
Directivity	2400-7200	—	12	—	dB
Return Loss (Input)	2400-7200	9.5	17	—	dB
Return Loss (Output)	2400-7200	9.5	17	—	dB

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
2400	0.36	13.93	13.69	34.89	31.26	23.33
2800	0.42	12.93	13.86	31.59	27.87	22.12
3400	0.50	11.84	13.86	25.48	23.92	21.83
4000	0.58	11.11	13.54	22.22	21.59	21.39
4600	0.64	10.69	13.39	20.58	20.63	20.42
5000	0.66	10.58	13.77	19.80	20.51	20.09
5600	0.67	10.66	14.81	19.22	19.79	19.16
6200	0.66	11.12	17.41	18.42	18.10	16.77
6800	0.66	12.07	21.40	16.78	15.58	13.28
7200	0.67	12.92	16.67	15.83	13.96	11.49

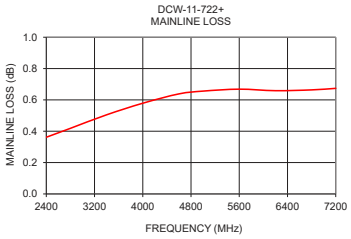
Demo Board MCL P/N: TB-DCW-11-722+
Suggested PCB Layout (PL-572)

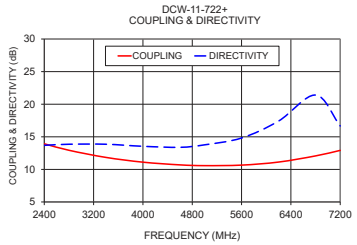


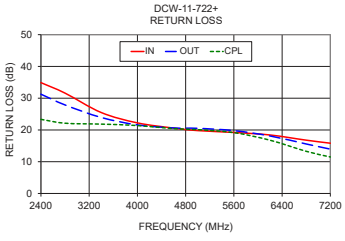
NOTES:
1. TRACE WIDTH & GAP ARE SHOWN FOR FR4, GRADE IT-180TC (ITEQ CORP.) WITH DIELECTRIC THICKNESS .016±.0015. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
3. REFER TO MODEL DATASHEET FOR PIN OUTS.

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

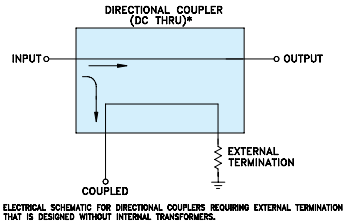
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK.







Electrical Schematic



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

Notes
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