

Ceramic Coupler

50Ω 2400 to 2500 MHz 17dB Coupling

CPJC-17-252R+



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

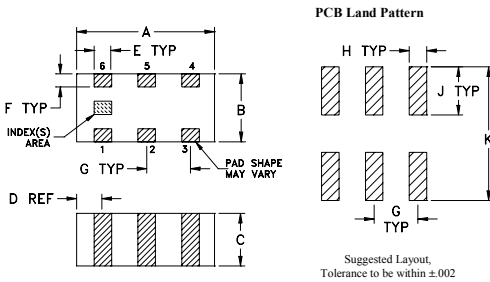
Operating Temperature	-40°C to 85°C
Storage Temperature*	-40°C to 85°C

*Refer to product storage temperature after installation.
Suggestion for T&R unused product storage condition: +5--+35°C, Humidity 45-75%RH, 12 Month max.
Permanent damage may occur if any of these limits are exceeded.

Pad Connections

Input	1
GND	2
Coupled	3
Termination	4
GND	5
Output	6

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	

Features

- miniature size 0603 (0.063"[1.6mm] x 0.031"[0.8mm] x 0.024"[0.6mm])
- low cost
- aqueous washable

Applications

- ISM Band
- WLAN
- Bluetooth
- Zigbee

Electrical Specifications at 25°C

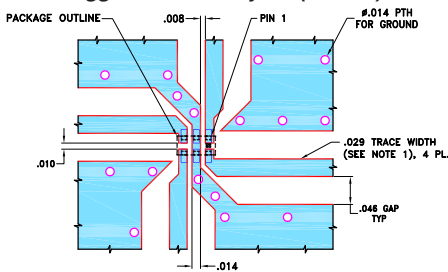
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		2400		2500	MHz
Mainline Loss	2400 - 2500	—	0.14	0.45	dB
Coupling	2400 - 2500	16.65	17.65	18.65	dB
Directivity	2400 - 2500	6	12	—	dB
Return Loss (Input)	2400 - 2500	15.5	31	—	dB
Return Loss (Output)	2400 - 2500	15.5	32	—	dB
Input Power ¹	2400 - 2500	—	—	2	W

1. Derate linearly to 1W at 85°C.

Typical Performance Data

Frequency (GHz)	Mainline Loss (dB) In-Out	Coupling (dB) In-Cpl	Directivity (dB)	Return Loss (dB)		
				In	Out	Cpl
2.40	0.14	17.87	12.20	39.22	41.77	11.60
2.41	0.14	17.84	12.21	39.00	41.23	11.59
2.42	0.14	17.81	12.22	38.68	39.94	11.57
2.43	0.14	17.79	12.27	38.64	39.47	11.55
2.44	0.14	17.75	12.29	38.26	38.58	11.55
2.45	0.14	17.72	12.31	37.85	37.68	11.54
2.46	0.14	17.70	12.34	37.38	37.23	11.53
2.47	0.14	17.67	12.37	36.94	36.69	11.53
2.48	0.15	17.64	12.37	36.34	36.13	11.52
2.49	0.15	17.61	12.40	36.26	35.70	11.51
2.50	0.15	17.58	12.41	35.83	35.49	11.49

Demo Board MCL P/N: TB-1031-17+ Suggested PCB Layout (PL-572)



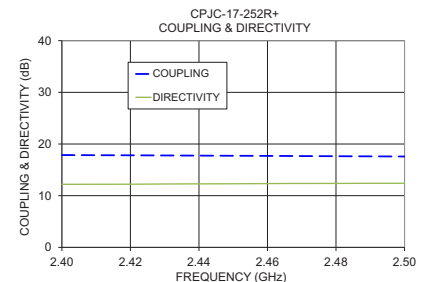
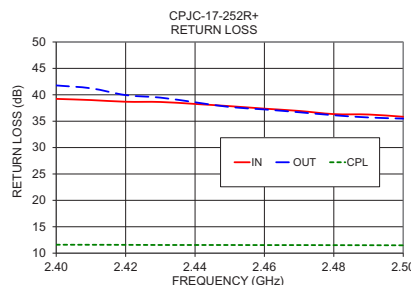
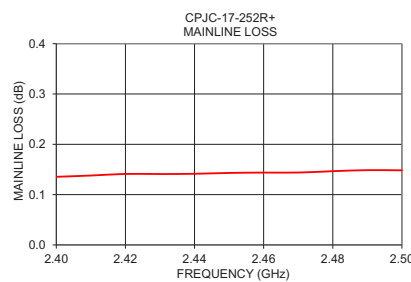
- NOTES:
1. TRACE WIDTH & GAP ARE SHOWN FOR FR4, GRADE IT-180TC (ITEQ CORP.) WITH DIELECTRIC THICKNESS .016±.0015. COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
 3. REFER TO MODEL DATASHEET FOR PIN OUTS.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

Notes

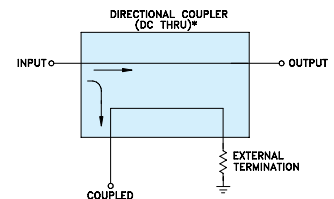
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Electrical Schematic



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