Ultra-Small Ceramic

Power Splitter/Combiner

QCN-5D+

2 Way-90° 50Ω 330 to 580 MHz

CASE STYLE: FV1206-1
PRICE: $4.45 ea. QTY (20)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify 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, 3000

Maximum Ratings

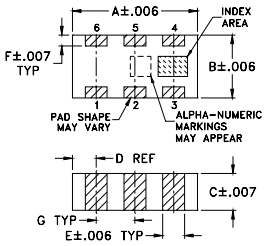
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

* Derate linearly to 7W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

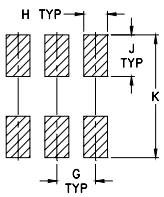
Pin Connections

SUM PORT	1
PORT 1 (0°)	4
PORT 2 (+90°)	6
GROUND	2,5
50 OHM TERM EXTERNAL	3

Outline Drawing



PCB Land Pattern



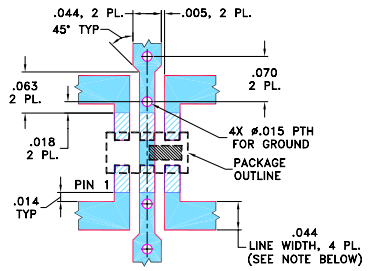
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F
.126	.063	.035	.024	.022	.011
3.20	1.60	0.89	0.61	0.56	0.28

G	H	J	K	wt
.039	.024	.042	.123	grams
0.99	0.61	1.07	3.12	.020

Demo Board MCL P/N: TB-255+
Suggested PCB Layout (PL-131)



NOTES: 1.TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH 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

Features

- low insertion loss, 0.4 dB typ.
- high isolation, 22 dB typ.
- wrap-around terminal for excellent solderability
- ultra small, 0.12"X0.06"X0.035"
- patent pending

Applications

- balanced amplifiers
- modulators
- VHF
- defense communication

Electrical Specifications

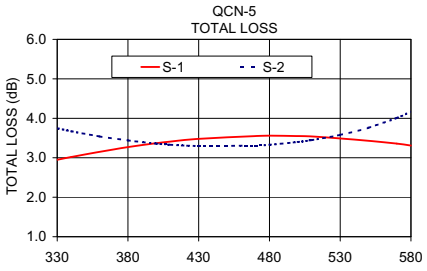
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		VSWR (:1)
f_L-f_U	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.
330-580									
330-400	20	17	0.3	0.6	2.5	5	0.6	1.1	1.2
400-525	20	16	0.4	0.7	2.5	4	0.2	0.5	1.2
525-580	18	14	0.6	0.9	1	4	0.8	1.6	1.2

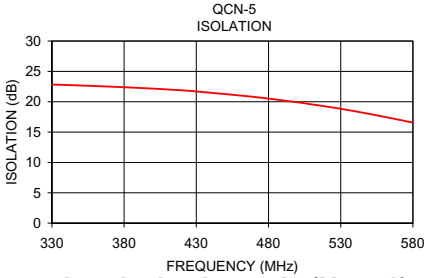
1. For applications requiring DC voltage to be applied to the RF ports. DC resistance to ground is 100 Mohms min.

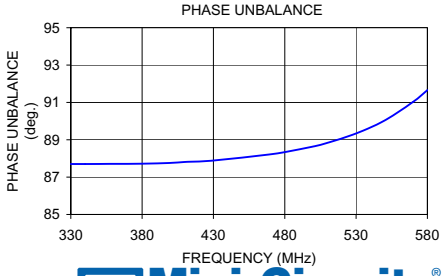
Typical Performance Data

Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
330.00	2.95	3.75	0.81	22.84	87.70	1.15	1.20	1.13
340.00	3.02	3.67	0.66	22.76	87.70	1.15	1.20	1.14
360.00	3.15	3.54	0.39	22.58	87.71	1.15	1.20	1.14
380.00	3.27	3.44	0.17	22.39	87.72	1.15	1.21	1.15
400.00	3.37	3.36	0.01	22.16	87.76	1.15	1.22	1.16
410.00	3.41	3.33	0.08	22.02	87.81	1.15	1.22	1.17
430.00	3.48	3.30	0.18	21.70	87.89	1.16	1.23	1.19
470.00	3.55	3.31	0.24	20.79	88.22	1.17	1.26	1.23
480.00	3.56	3.33	0.22	20.51	88.34	1.18	1.27	1.24
500.00	3.55	3.40	0.15	19.91	88.64	1.20	1.30	1.28
510.00	3.54	3.45	0.08	19.57	88.84	1.21	1.31	1.30
530.00	3.49	3.58	0.09	18.83	89.34	1.23	1.34	1.34
550.00	3.43	3.76	0.33	17.98	90.03	1.26	1.39	1.39
570.00	3.36	4.01	0.66	17.04	91.03	1.31	1.44	1.46
580.00	3.31	4.17	0.85	16.55	91.66	1.33	1.48	1.50

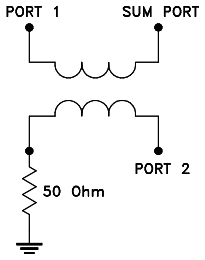
1. Total Loss = Insertion Loss + 3dB splitter loss.







electrical schematic (Note 1)



For detailed performance specs & shopping online see web site

REV. M
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QCN-5D+
AD/RS/CP/AM
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