Ultra-Small Ceramic

Power Splitter/Combiner

2 Way-90° 50Ω 330 to 580 MHz

QCN-5+
QCN-5

CASE STYLE: FV1206-1
PRICE: $3.95 ea. QTY (20)

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

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

Maximum Ratings

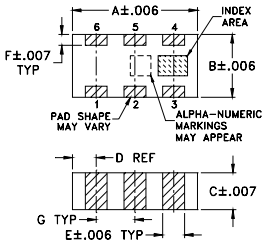
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

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

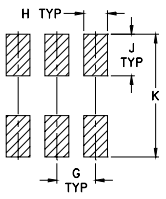
Pin Connections

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

Outline Drawing



PCB Land Pattern



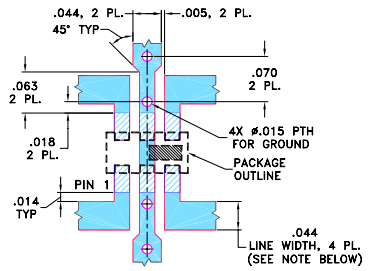
Suggested Layout,
Tolerance to be within ±.002

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"

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	18	0.3	0.6	2.5	5	0.6	1.1	1.2
400-525	22	17	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

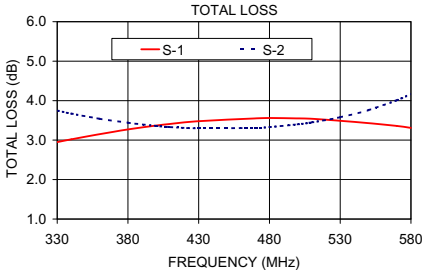
1. For applications requiring DC voltage to be applied to the RF ports, add suffix letter "D+" to part no. DC resistance to ground is 100 Mohms min.

Typical Performance Data

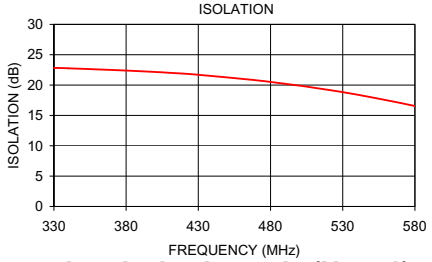
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
330.00	2.95	3.75	0.81	22.84	87.70	1.15	1.20	1.13
340.00	3.02	3.67	0.66	22.76	87.70	1.15	1.20	1.14
360.00	3.15	3.54	0.39	22.58	87.71	1.15	1.20	1.14
380.00	3.27	3.44	0.17	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.

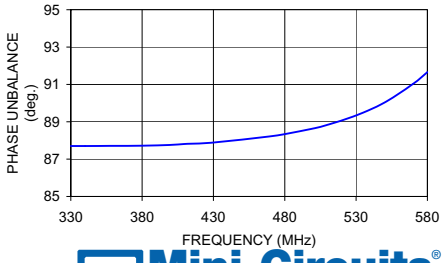
QCN-5
TOTAL LOSS



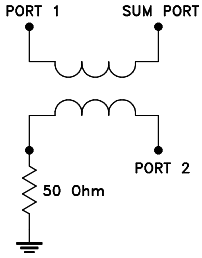
QCN-5
ISOLATION



QCN-5
PHASE UNBALANCE



electrical schematic (Note 1)



For detailed performance specs & shopping online see web site

REV. M
M132682
QCN-5
AD/RS/CP/AM
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