Ultra-Small Ceramic

Power Splitter/Combiner

2 Way-90° 50Ω 2500 to 4500 MHz

QCN-45D+

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

+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, 3000

Maximum Ratings

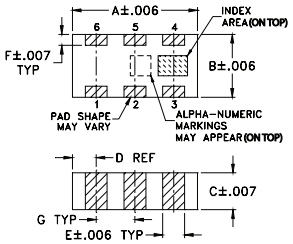
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

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

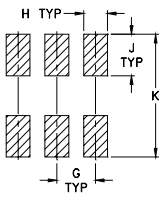
Pin Connections

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

Outline Drawing



PCB Land Pattern



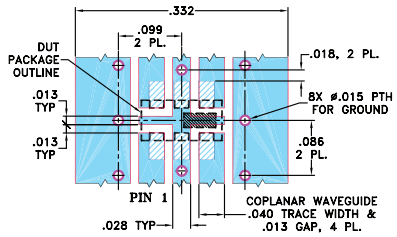
Suggested Layout,
Tolerance to be within ±.002

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-405
Suggested PCB Layout (PL-250)



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

- wide band, 2500-4500 MHz
- low insertion loss, 0.4 dB typ.
- wrap-around terminal for excellent solderability
- ultra small, 0.12"X0.06"X0.035"
- patent pending

Applications

- balanced amplifiers
- modulators
- MMDS
- defense communications

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.
2500-4500									
2500-3500	22	16	0.4	0.7	1	4	0.5	1.7	1.2
3500-4500	19	15	0.5	0.8	3	6	1.0	2.1	1.2

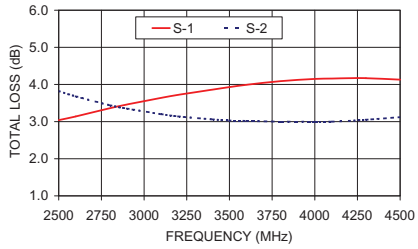
1. For applications requiring DC voltage to be applied to the RF ports. DC resistance to ground is 100 Mohms min.

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						
2500.00	3.04	3.82	0.78	18.35	88.41	1.20	1.21	1.26
2600.00	3.14	3.68	0.54	18.66	88.69	1.19	1.18	1.24
2800.00	3.36	3.44	0.09	19.11	89.21	1.18	1.13	1.20
2900.00	3.46	3.35	0.11	19.15	89.40	1.19	1.11	1.18
3100.00	3.64	3.20	0.44	19.20	89.79	1.22	1.08	1.17
3200.00	3.72	3.14	0.57	19.10	89.97	1.22	1.08	1.16
3400.00	3.86	3.06	0.80	18.69	90.28	1.25	1.08	1.12
3500.00	3.93	3.03	0.90	18.48	90.38	1.27	1.09	1.11
3600.00	3.99	3.02	0.97	18.13	90.47	1.29	1.10	1.12
3800.00	4.09	3.00	1.09	17.47	90.65	1.32	1.11	1.12
4000.00	4.15	3.00	1.15	16.86	90.87	1.33	1.12	1.12
4100.00	4.16	3.00	1.16	16.63	90.98	1.34	1.12	1.13
4200.00	4.17	3.02	1.15	16.38	91.08	1.35	1.12	1.13
4300.00	4.17	3.05	1.13	16.23	91.21	1.35	1.13	1.14
4500.00	4.13	3.12	1.01	16.03	91.48	1.36	1.13	1.13

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

QCN-45+
TOTAL LOSS



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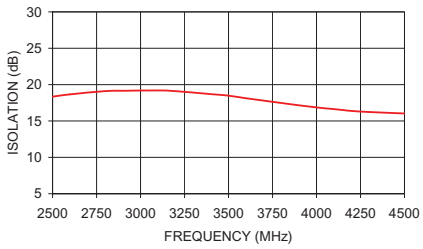
ISOLATION



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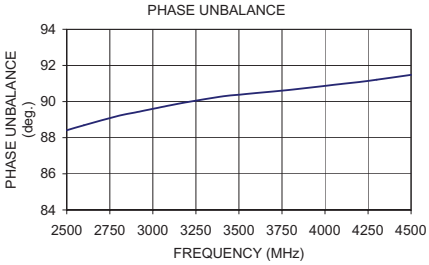
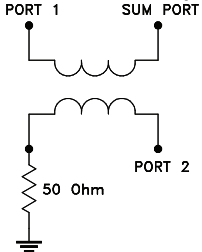
PHASE UNBALANCE



electrical schematic (Note 1)



For detailed performance specs & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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