Ultra-Small Ceramic

Power Splitter/Combiner

2 Way-90° 50Ω 800 to 1250 MHz

QCN-12AD+
QCN-12AD

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

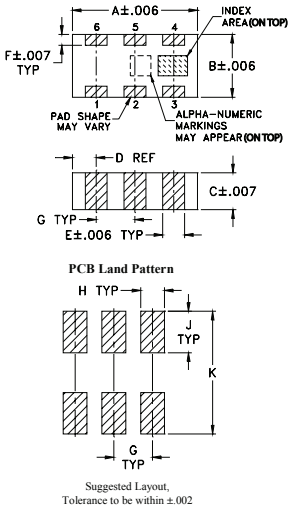
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

* 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

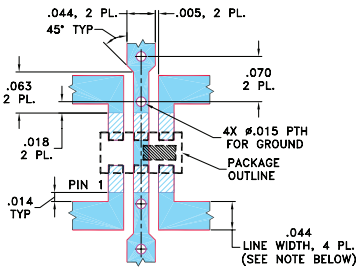


Outline Dimensions (inch / mm)

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.
- wrap-around terminal for excellent solderability
- ultra small, 0.12"X0.06"X0.035"

Applications

- cellular
- GSM
- balanced amplifiers
- modulators

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.
800-1250									
800-1000	17	15	0.3	0.6	2.5	5.0	0.2	0.8	1.2
1000-1250	16	13	0.4	0.7	2.5	5.0	0.5	0.8	1.2

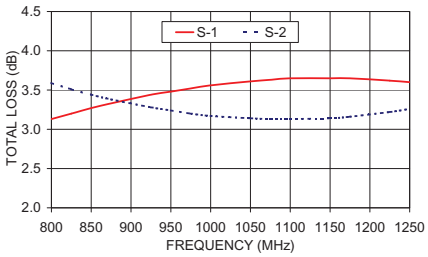
1. For applications requiring DC voltage to be applied to the RF ports. DC resistance to ground is 100 Mohms min.

Typical Performance Data

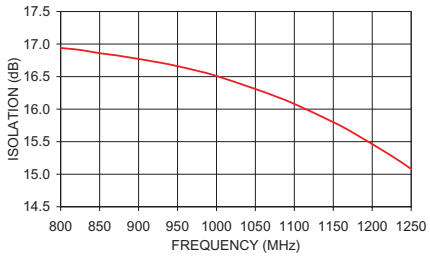
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
800.00	3.13	3.59	0.46	16.94	87.58	1.27	1.20	1.11
825.00	3.20	3.51	0.31	16.91	87.64	1.27	1.20	1.10
850.00	3.27	3.44	0.18	16.86	87.73	1.27	1.19	1.10
875.00	3.33	3.38	0.05	16.82	87.82	1.27	1.18	1.09
925.00	3.44	3.28	0.16	16.72	87.99	1.27	1.16	1.08
950.00	3.48	3.24	0.25	16.66	88.10	1.27	1.15	1.07
975.00	3.52	3.20	0.32	16.59	88.21	1.27	1.14	1.07
1000.00	3.56	3.17	0.39	16.51	88.35	1.27	1.13	1.07
1050.00	3.61	3.14	0.48	16.31	88.65	1.27	1.10	1.07
1075.00	3.63	3.13	0.50	16.20	88.81	1.28	1.09	1.07
1100.00	3.65	3.13	0.52	16.08	88.98	1.28	1.07	1.07
1150.00	3.65	3.14	0.51	15.80	89.40	1.29	1.05	1.09
1175.00	3.65	3.16	0.49	15.64	89.65	1.29	1.03	1.10
1225.00	3.62	3.22	0.40	15.28	90.21	1.30	1.01	1.12
1250.00	3.60	3.26	0.34	15.08	90.53	1.31	1.03	1.14

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

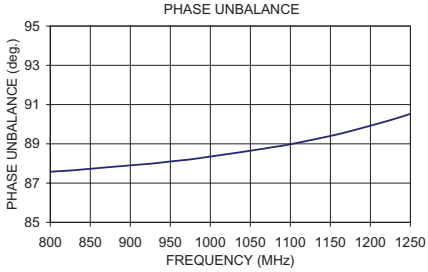
TOTAL LOSS



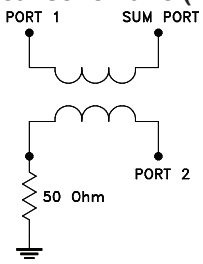
ISOLATION



PHASE UNBALANCE



electrical schematic (Note 1)



For detailed performance specs & shopping online see web site

REV. K
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ED-1164/2
AD/RS/CP/AM
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