

# Ultra-Small Ceramic Power Splitter/Combiner

2 Way-90° 50Ω 2500 to 3400 MHz

QCN-34D+  
QCN-34D



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

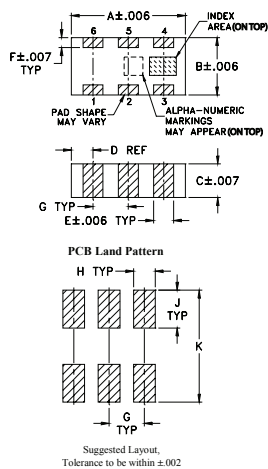
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

\* 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

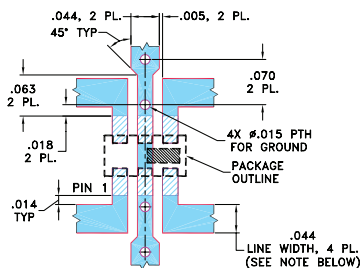
## Outline Drawing



## 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.  
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## Features

- low insertion loss, 0.4 dB typ.
- high isolation, 30 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

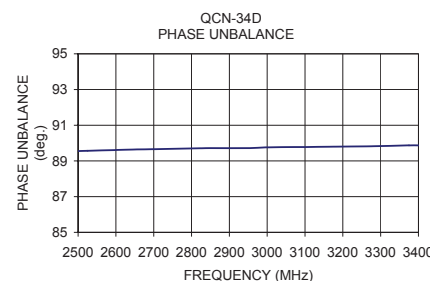
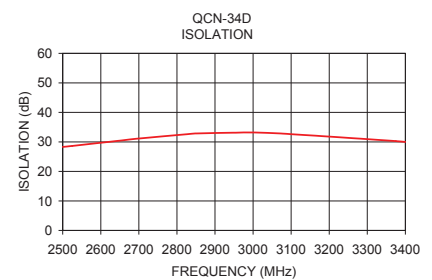
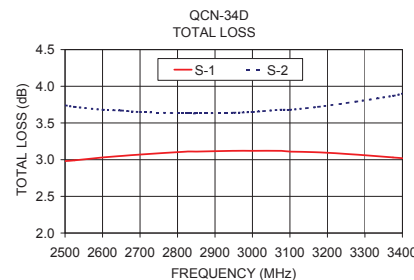
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		VSWR (:1)
	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	
2500-3400									
2500-2800	32	23	0.4	0.6	1	3	0.4	0.9	1.15
2800-3400	26	20	0.5	0.7	1	4	0.5	1.2	1.15

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

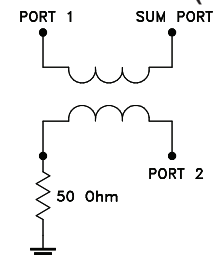
## Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
2500.00	2.98	3.74	0.76	28.30	89.55	1.07	1.08	1.07
2525.00	2.99	3.72	0.73	28.62	89.57	1.07	1.08	1.07
2600.00	3.03	3.68	0.65	29.72	89.61	1.06	1.07	1.05
2650.00	3.05	3.67	0.61	30.42	89.64	1.05	1.06	1.04
2700.00	3.07	3.65	0.58	31.14	89.66	1.04	1.06	1.03
2825.00	3.11	3.63	0.52	32.59	89.71	1.03	1.05	1.02
2850.00	3.11	3.63	0.52	32.87	89.72	1.03	1.05	1.02
2950.00	3.12	3.64	0.52	33.11	89.72	1.02	1.04	1.03
3000.00	3.12	3.65	0.53	33.20	89.76	1.02	1.04	1.03
3075.00	3.12	3.68	0.56	32.83	89.78	1.02	1.03	1.04
3100.00	3.11	3.68	0.57	32.62	89.78	1.02	1.03	1.05
3175.00	3.10	3.72	0.62	32.01	89.80	1.03	1.02	1.05
3275.00	3.07	3.79	0.72	31.16	89.82	1.04	1.02	1.06
3375.00	3.03	3.87	0.84	30.26	89.87	1.05	1.01	1.07
3400.00	3.02	3.90	0.88	29.99	89.87	1.05	1.01	1.08

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



## electrical schematic (Note 1)



For detailed performance specs & shopping online see web site

**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED  
FIRF MICROWAVE COMPONENTS

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

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