

Ultra-Small Ceramic Power Splitter/Combiner

2 Way-90° 50Ω 2500 to 3400 MHz

QCN-34+
QCN-34



Maximum Ratings

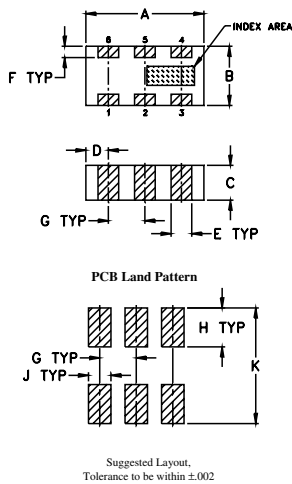
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

* Derate linearly to 7W at 100°C ambient.

Pin Connections

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

Outline Drawing

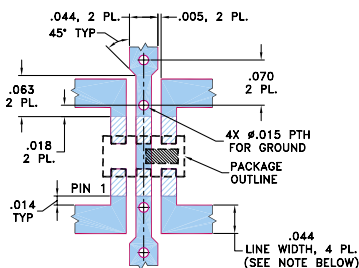


Outline Dimensions (inch/mm)

A	B	C	D	E	F
.126	.063	.037	.024	.022	.012
3.20	1.60	0.94	0.61	0.56	0.30

G	H	J	K	wt
.039	.042	.024	.123	grams
0.99	1.07	0.61	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 $0.020" \pm 0.0015"$; 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

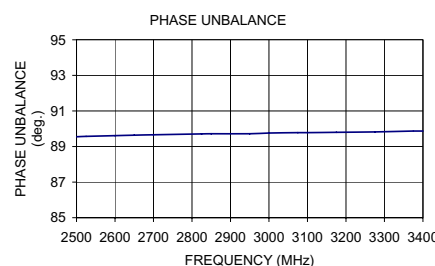
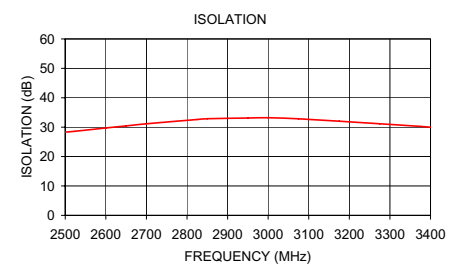
Splitter Electrical Specifications¹

FREQ. RANGE (MHz)	ISOLATION (dB)	INSERTION LOSS (dB) Avg. of Coupled Outputs less 3 dB	PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1)
$f_L - f_U$	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Typ.
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

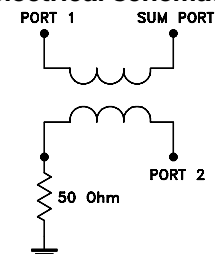
1. For applications requiring DC voltage to be applied to the RF ports, add suffix letter "D" to part no. DC resistance to ground is 100 Mohms min.

Typical Performance Data

Frequency (MHz)	Insertion Loss (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	1.07
2525.00	2.99	3.72	0.73	28.62	89.57	1.07	1.07
2600.00	3.03	3.68	0.65	29.72	89.61	1.06	1.05
2650.00	3.05	3.67	0.61	30.42	89.64	1.05	1.04
2700.00	3.07	3.65	0.58	31.14	89.66	1.04	1.03
2825.00	3.11	3.63	0.52	32.59	89.71	1.03	1.02
2850.00	3.11	3.63	0.52	32.87	89.72	1.03	1.02
2950.00	3.12	3.64	0.52	33.11	89.72	1.02	1.03
3000.00	3.12	3.65	0.53	33.20	89.76	1.02	1.03
3075.00	3.12	3.68	0.56	32.83	89.78	1.02	1.03
3100.00	3.11	3.68	0.57	32.62	89.78	1.02	1.03
3175.00	3.10	3.72	0.62	32.01	89.80	1.03	1.02
3275.00	3.07	3.79	0.72	31.16	89.82	1.04	1.02
3375.00	3.03	3.87	0.84	30.26	89.87	1.05	1.01
3400.00	3.02	3.90	0.88	29.99	89.87	1.05	1.01



electrical schematic



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