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# Ultra-Small Ceramic Power Splitters/Combiners

2 Way-90° 50Ω

330 to 3400 MHz

QCN-SERIES  
patent pending



**BLUE CELL™**

CASE STYLE: FV1206-1

Model	Price	Qty.
QCN	\$3.95	(10-49)
QCN-D	\$4.45	(10-49)

## Maximum Ratings

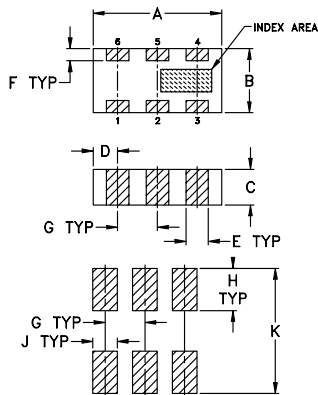
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

\*derate linearly to 7W at 100°C ambient.

## Pin Connections

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

## Outline Drawing



SUGGESTED LAYOUT FOR PCB PATTERN  
PATTERN TO BE WITHIN ±.002

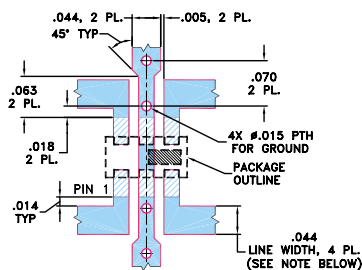
TOLERANCE UNLESS OTHERWISE STATED

2 PLACE DECIMALS: ±.01  
3 PLACE DECIMALS: ±.005

## Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	wt
.126	.063	.035	.024	.022	.012	.039	.042	.024	.123	grams
3.20	1.60	0.89	0.61	0.56	0.30	0.99	1.07	0.61	3.12	.020

## Demo Board MCL P/N: TB-255 Suggested PCB Layout (PL-131)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS .020" ± .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
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

## Features

- low insertion loss, 0.4 dB typ.
- high isolation, 26 dB typ.
- wrap-around terminal for excellent solderability
- ultra small, .12"x.06"x.035"
- patent pending

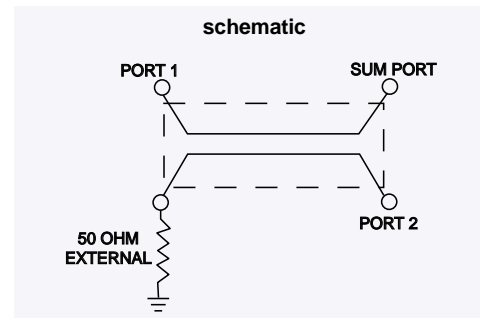
## Applications

- balanced amplifiers
- modulators
- cellular
- UMTS
- PCN
- WCDMA
- ISM

## Splitter Electrical Specifications<sup>1</sup>

MODEL NO.	FREQ. RANGE (MHz) f <sub>L</sub> -f <sub>U</sub>	ISOLATION (dB)		INSERTION LOSS (dB) Avg. of coupled outputs less 3 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		VSWR (:1)
		Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Typ.
<b>New!</b> QCN-5	330-580 330-400 400-525 525-580	23	20	0.3	0.6	2.5	5	0.6	1.1	1.2
QCN-7	425-675 425-550 550-675	17	13	0.4	0.7	2	8	0.5	1.0	1.3
QCN-12	800-1375 800-1000 1000-1375	19	14	0.4	0.8	9	12	0.4	0.9	1.3
<b>New!</b> QCN-12A	800-1250 800-1000 1000-1250	17	15	0.3	0.6	2.5	5	0.2	0.8	1.2
QCN-19	1100-1925 1100-1400 1400-1600 1600-1925	25	19	0.4	0.7	1	3	0.4	1.1	1.15
QCN-25	1350-2450 1350-1950 1950-2200 2200-2450	25	18	0.4	0.7	1	4	0.5	1.0	1.15
QCN-27	1700-2700 1700-1800 1800-2000 2000-2400 2400-2700	21	18	0.4	0.7	3	6	0.5	1.0	1.2
<b>New!</b> QCN-34	2500-3400 2500-2800 2800-3400	32	23	0.4	0.6	1	3	0.4	0.9	1.15
		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.



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