

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

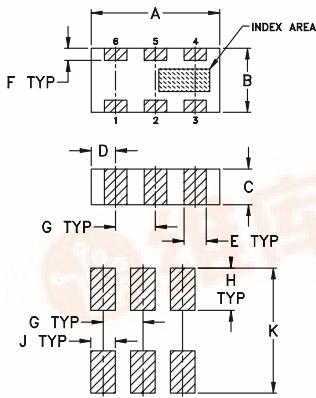
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

*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

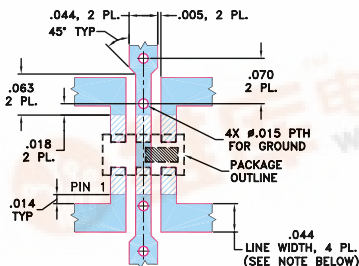
3 PLACE DECIMALS: ±.005

Outline Dimensions (inch/mm)

A	B	C	D	E	F
.126	.063	.035	.024	.022	.012
3.20	1.60	0.89	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)



- 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

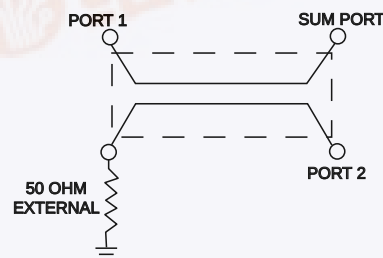
- balanced amplifiers
- modulators
- cellular
- UMTS
- PCN
- WCDMA
- ISM

Splitter Electrical Specifications¹

MODEL NO.	FREQ. RANGE (MHz) f _L -f _U	ISOLATION (dB) Typ. Min.	INSERTION LOSS (dB) Avg. of coupled outputs less 3 dB Typ. Max.	PHASE UNBALANCE (Degrees) Typ. Max.	AMPLITUDE UNBALANCE (dB) Typ. Max.	VSWR (:1) Typ.
New! QCN-5	330-580 330-400 400-525 525-580	23 20 22 17 18 14	0.3 0.6 0.4 0.7 0.6 0.9	2.5 5 2.5 4 1 4	0.6 1.1 0.2 0.5 0.3 1.1	1.2 1.2 1.2
QCN-7	425-675 425-550 550-675	17 13 17 11	0.4 0.7 0.6 1.0	2 8 4 8	0.5 1.0 0.5 1.0	1.3 1.4
QCN-12	800-1375 800-1000 1000-1375	19 14 19 14	0.4 0.8 0.6 1.0	9 12 9 13	0.4 0.9 0.7 1.0	1.3 1.5
New! QCN-12A	800-1250 800-1000 1000-1250	17 15 16 13	0.3 0.6 0.4 0.7	2.5 5 1 3	0.2 0.8 0.5 0.8	1.2 1.2
QCN-19	1100-1925 1100-1400 1400-1600 1600-1925	25 19 26 20 26 20	0.4 0.7 0.4 0.8 0.5 0.9	1 3 2 4 2 4	0.4 1.1 0.5 1.0 0.4 1.1	1.15 1.2 1.2
QCN-25	1350-2450 1350-1950 1950-2200 2200-2450	25 18 25 20 25 18	0.4 0.7 0.4 0.7 0.6 0.9	1 5 1 4 1 4	0.5 1.1 0.5 1.0 0.5 1.1	1.2 1.15 1.2
QCN-27	1700-2700 1700-1800 1800-2000 2000-2400 2400-2700	21 18 22 18 30 20 30 20	0.4 0.7 0.4 0.7 0.4 0.7 0.5 0.9	3 6 2 6 3 6 3 6	0.5 1.0 0.2 0.6 0.2 0.8 0.6 1.0	1.2 1.2 1.2 1.2
New! QCN-34	2500-3400 2500-2800 2800-3400	32 23 26 20	0.4 0.6 0.5 0.7	1 3 1 4	0.4 0.9 0.5 1.2	1.15 1.15

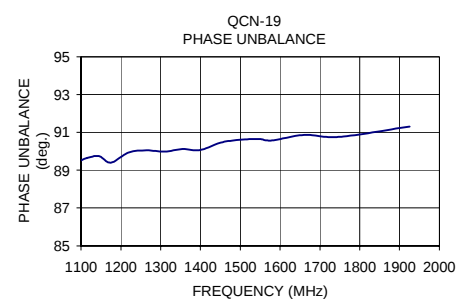
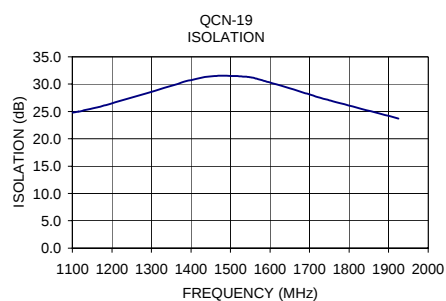
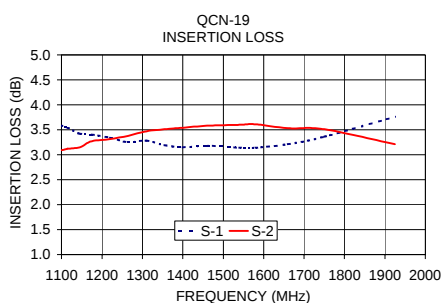
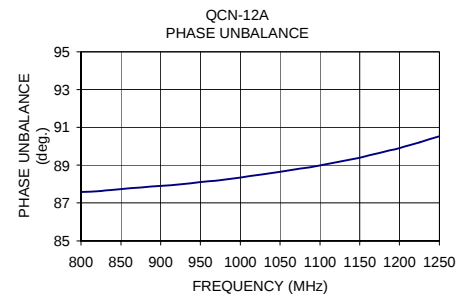
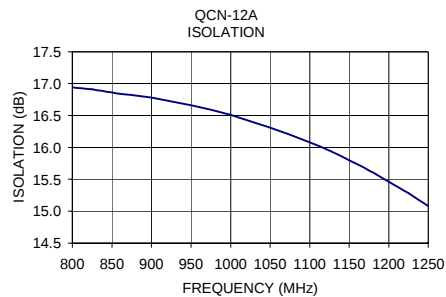
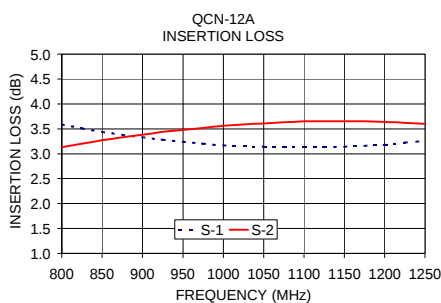
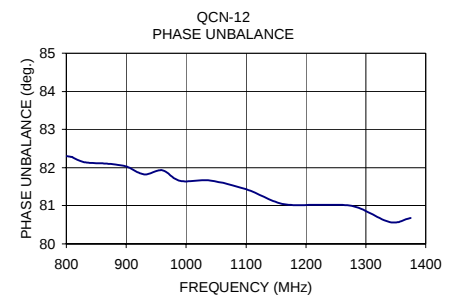
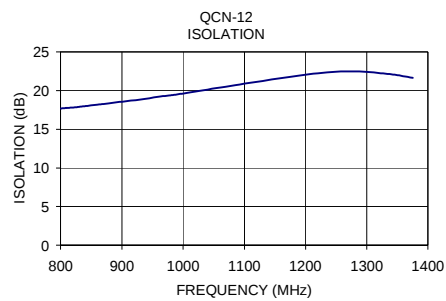
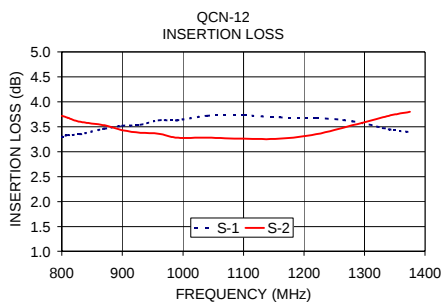
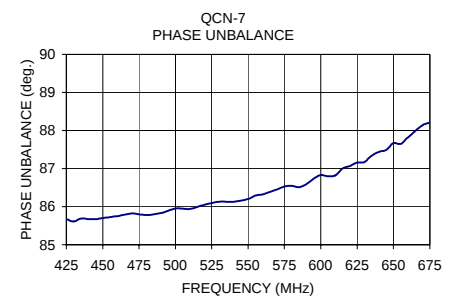
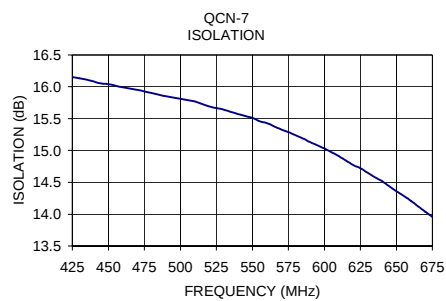
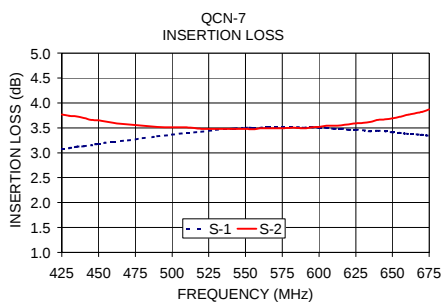
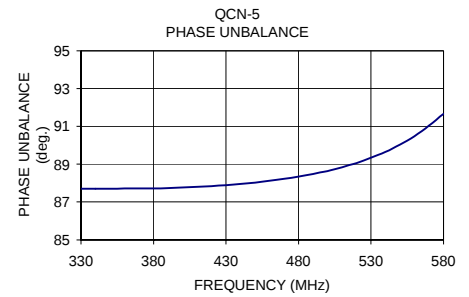
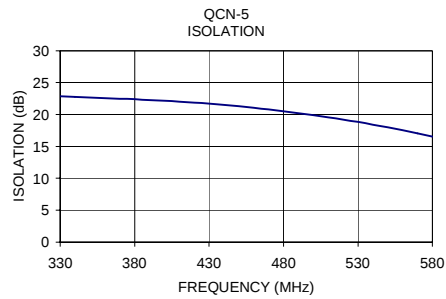
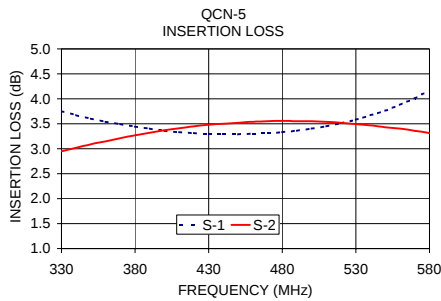
1. For Applications requiring DC voltage to be applied to the RF ports, add suffix letter "D" to part no.
DC resistance to ground is 100 Mohms min.

schematic



REV. C
M996263
QCN-7 ED-10849/1
QCN-12 ED-10849/2
QCN-19 ED-10849/3
QCN-25 ED-10849/4
QCN-27 ED-10849/5
QCN-5 ED-N/A
QCN-34 ED-10885
ED-1164/2

QCN-SERIES



QCN-SERIES

