THE DATASHEET OF

QCN-19+

ULTRA-SMALL CERAMIC

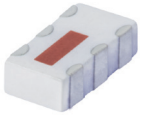
Power Splitter/Combiner

QCN-19+

2 Way-90° 50Ω 1100 to 1925 MHz

FEATURES

- Low insertion loss, 0.4 dB typ.
- High isolation, 26 dB typ.
- Wrap-around terminal for excellent solderability
- Ultra small, 0.12"x0.06"x0.035"
- Patent pending



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

+RoHS Compliant
The +Suffix identifies RoHS Compliance.
See our website for methodologies and qualifications

APPLICATIONS

- Balanced amplifiers
- Modulators
- GPS
- PCS/DCS

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		1100		1925	MHz
Insertion Loss, above 3.0 dB	1100-1400 1400-1600 1600-1925		0.4 0.4 0.5	0.7 0.8 0.9	dB
Isolation	1100-1400 1400-1600 1600-1925	19 20 20	25 26 26		dB
Phase Unbalance	1100-1400 1400-1600 1600-1925		1 2 2	3 4 4	Degree
Amplitude Unbalance	1100-1400 1400-1600 1600-1925		0.4 0.5 0.4	1.1 1.0 1.1	dB
VSWR	1100-1400 1400-1600 1600-1925		1.15 1.2 1.2		(:1)

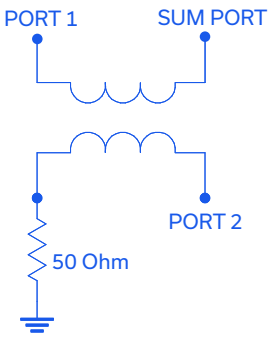
1. For applications requiring DC voltage to be applied to the RF ports, add suffix letter "D" to part no. DC resistance to ground is 100 Mohms min.

MAXIMUM RATINGS

Parameter	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.

ELECTRICAL SCHEMATIC (NOTE 1)



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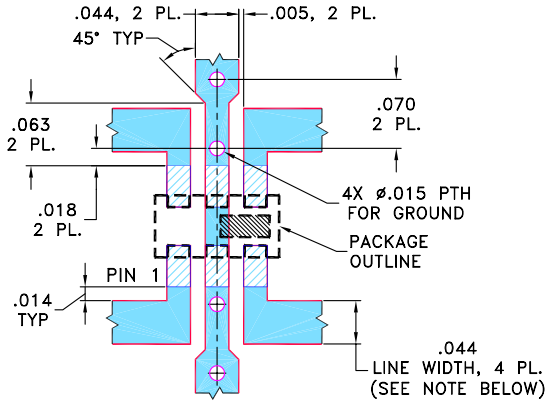
PIN CONNECTIONS

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

PRODUCT MARKING: SC

DEMO BOARD MCL P/N: TB-255
SUGGESTED PCB LAYOUT (PL-131)

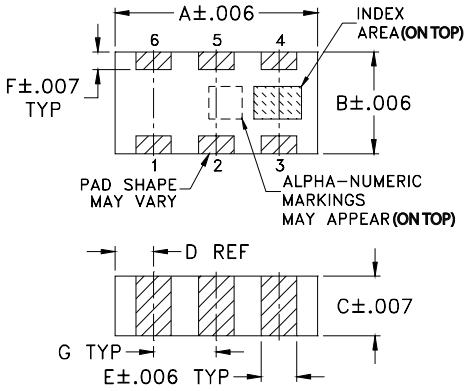


NOTES: 1.TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2.BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

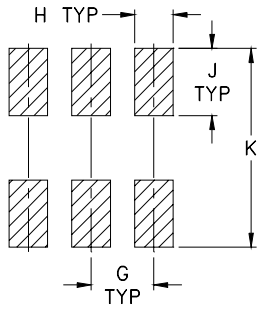
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

OUTLINE DIMENSIONS (Inches / 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

TAPE & REEL INFORMATION: F75

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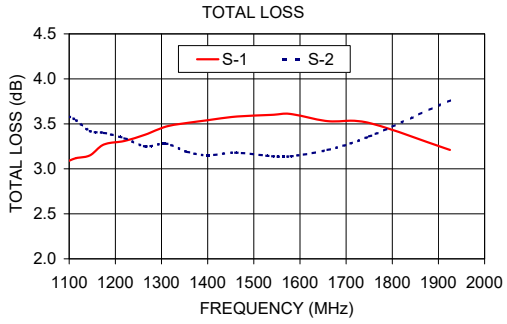
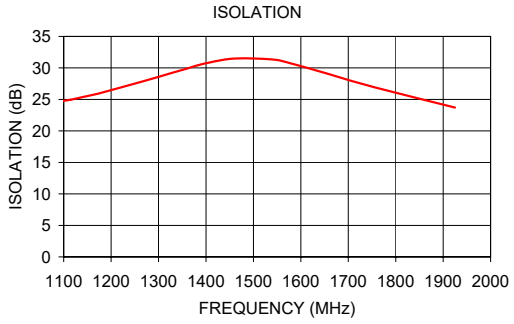
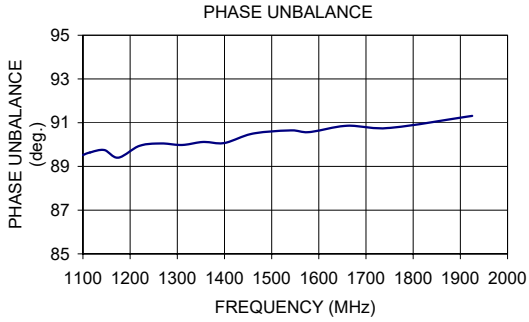
TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
1100.00	3.09	3.58	0.49	24.79	89.52	1.10	1.11	1.15
1115.00	3.12	3.54	0.42	24.96	89.64	1.09	1.10	1.14
1145.00	3.15	3.42	0.27	25.45	89.75	1.08	1.10	1.14
1175.00	3.27	3.40	0.13	25.96	89.40	1.07	1.09	1.13
1220.00	3.31	3.34	0.03	26.88	89.94	1.06	1.08	1.12
1265.00	3.38	3.25	0.13	27.82	90.05	1.05	1.07	1.11
1310.00	3.47	3.28	0.19	28.81	89.98	1.04	1.06	1.10
1355.00	3.51	3.19	0.31	29.78	90.12	1.04	1.05	1.09
1400.00	3.54	3.15	0.39	30.74	90.07	1.04	1.04	1.07
1460.00	3.58	3.18	0.39	31.49	90.50	1.04	1.03	1.06
1540.00	3.60	3.14	0.45	31.34	90.65	1.06	1.02	1.04
1580.00	3.61	3.14	0.46	30.69	90.57	1.07	1.02	1.04
1660.00	3.53	3.21	0.32	28.99	90.86	1.10	1.02	1.02
1750.00	3.51	3.36	0.16	27.04	90.76	1.14	1.03	1.01
1925.00	3.21	3.76	0.55	23.71	91.31	1.21	1.06	1.05

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







NOTES

A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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