

Ultra-Small Ceramic Power Splitter/Combiner

2 Way-90° 50Ω 330 to 580 MHz

QCN-5+



CASE STYLE: FV1206-1

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

Features

- low insertion loss, 0.4 dB typ.
- high isolation, 22 dB typ.
- wrap-around terminal for excellent solderability
- ultra small, 0.12"X0.06"X0.035"

Applications

- balanced amplifiers
- modulators
- VHF
- defense communication

+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

Electrical Specifications

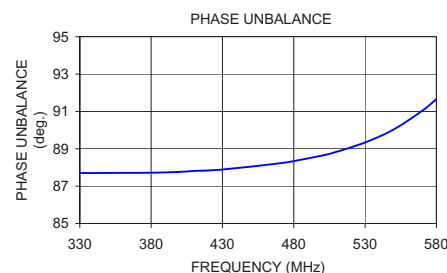
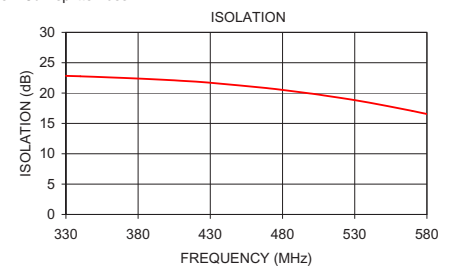
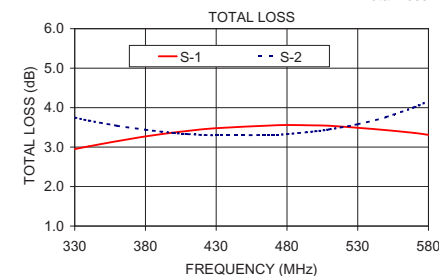
FREQ. RANGE (MHz)	ISOLATION (dB)	INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB	PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1)
$f_L - f_U$	Typ. Min.	Typ. Max.	Typ. Max.	Typ. Max.	Typ.
330-580					
330-400	20 18	0.40 0.6	2.5 5	0.6 1.1	1.2
400-525	20 15	0.55 0.8	2.5 4	0.5 0.9	1.3
525-580	16 12	0.90 1.3	3.0 6	1.4 1.8	1.5

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.

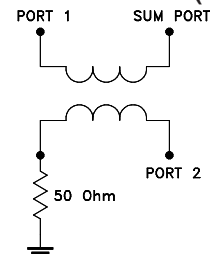
Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1 S-2						
330.00	2.95 3.75	0.81	22.84	87.70	1.15	1.20	1.13
340.00	3.02 3.67	0.66	22.76	87.70	1.15	1.20	1.14
360.00	3.15 3.54	0.39	22.58	87.71	1.15	1.20	1.14
380.00	3.27 3.44	0.17	22.39	87.72	1.15	1.21	1.15
400.00	3.37 3.36	0.01	22.16	87.76	1.15	1.22	1.16
410.00	3.41 3.33	0.08	22.02	87.81	1.15	1.22	1.17
430.00	3.48 3.30	0.18	21.70	87.89	1.16	1.23	1.19
470.00	3.55 3.31	0.24	20.79	88.22	1.17	1.26	1.23
480.00	3.56 3.33	0.22	20.51	88.34	1.18	1.27	1.24
500.00	3.55 3.40	0.15	19.91	88.64	1.20	1.30	1.28
510.00	3.54 3.45	0.08	19.57	88.84	1.21	1.31	1.30
530.00	3.49 3.58	0.09	18.83	89.34	1.23	1.34	1.34
550.00	3.43 3.76	0.33	17.98	90.03	1.26	1.39	1.39
570.00	3.36 4.01	0.66	17.04	91.03	1.31	1.44	1.46
580.00	3.31 4.17	0.85	16.55	91.66	1.33	1.48	1.50

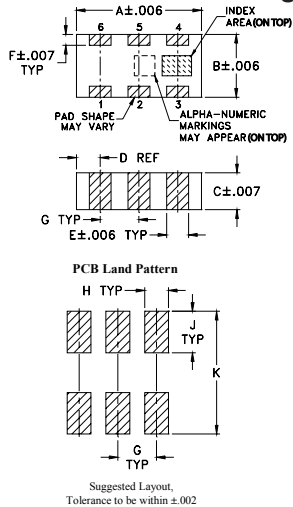
1. Total Loss = Insertion Loss + 3dB splitter loss.



electrical schematic (Note 1)



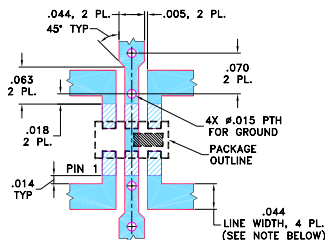
Outline Drawing



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

Notes

- 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.
- 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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