Surface Mount

Power Splitter/Combiner

SCA-4-10+

4 Way-0° 50Ω 5 to 1000 MHz

CASE STYLE: DZ943
PRICE: $6.95 ea. QTY. (10)

+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"	10, 20, 50, 100, 200
13"	500,1000

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.375W max.

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

SUM PORT	3
PORT 1	6
PORT 2	7
PORT 3	9
PORT 4	10
GROUND	1,2,4,5,8

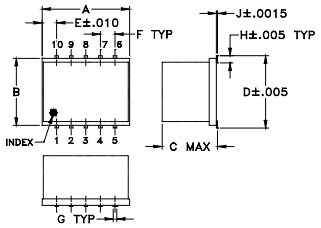
Features

- wideband, 5-1000 MHz
- high isolation, 25 dB typ.
- good matching VSWR, 1.20 typ.
- excellent amplitude unbalance, 0.3 dB typ.

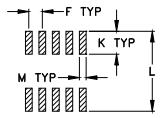
Applications

- cellular
- UHF/VHF receivers/transmitters

Outline Drawing



PCB Land Pattern



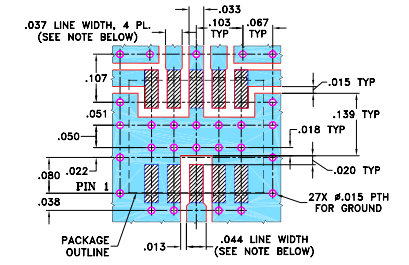
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.30	.250	.190	.266	.050	.050	.012
7.62	6.35	4.83	6.76	1.27	1.27	0.30

H	J	K	L	M	wt
.029	.004	.085	.296	.030	grams
0.74	0.10	2.16	7.52	0.76	0.5

Demo Board MCL P/N: TB-238
Suggested PCB Layout (PL-124)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 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
DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

Electrical Specifications

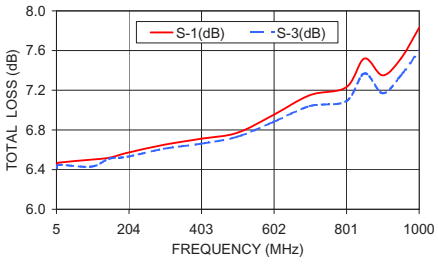
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
f_L-f_U	Typ.	Min.	Typ.	Max.	Max.	Max.
5-1000						
5-400	30	18	0.7	1.3	5	0.8
400-500	25	17	0.8	1.5	6	0.7
500-1000	20	15	1.2	2.5	11	0.9

Typical Performance Data

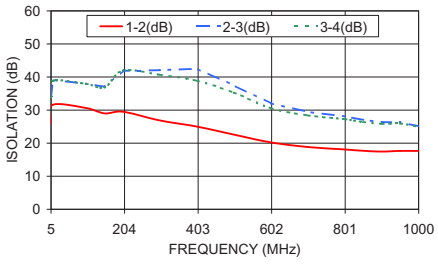
Freq. (MHz)	Total Loss[1] (dB)				Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4
	S-1	S-2	S-3	S-4		1-2	1-3	2-3						
5.00	6.45	6.24	6.42	6.64	0.40	26.19	34.01	33.81	1.29	1.07	1.37	1.31	1.32	1.38
10.00	6.47	6.29	6.45	6.63	0.34	31.60	39.09	38.86	0.13	1.04	1.27	1.22	1.25	1.30
100.00	6.50	6.29	6.43	6.66	0.37	30.63	37.97	37.92	0.15	1.06	1.25	1.21	1.24	1.28
150.00	6.52	6.35	6.51	6.66	0.31	29.01	37.05	36.89	0.44	1.08	1.24	1.20	1.22	1.26
200.00	6.57	6.39	6.53	6.71	0.32	29.49	41.86	41.97	0.24	1.09	1.25	1.21	1.23	1.26
300.00	6.65	6.48	6.61	6.79	0.31	26.87	42.07	40.69	0.32	1.13	1.23	1.21	1.21	1.23
400.00	6.71	6.53	6.66	6.84	0.31	25.00	42.50	38.88	0.55	1.20	1.21	1.20	1.20	1.20
500.00	6.77	6.61	6.73	6.89	0.29	22.58	37.45	35.25	0.71	1.22	1.19	1.20	1.19	1.18
600.00	6.95	6.76	6.88	7.06	0.30	20.22	32.04	30.58	0.90	1.27	1.14	1.16	1.15	1.12
700.00	7.15	6.93	7.04	7.24	0.32	18.85	29.45	28.38	1.14	1.36	1.08	1.13	1.12	1.06
800.00	7.23	6.99	7.09	7.30	0.31	18.09	28.08	27.25	1.36	1.41	1.06	1.15	1.12	1.03
850.00	7.52	7.28	7.37	7.57	0.29	17.68	27.02	26.38	1.88	1.54	1.07	1.17	1.14	1.06
900.00	7.35	7.11	7.17	7.39	0.29	17.46	26.36	25.85	1.56	1.57	1.11	1.19	1.16	1.09
950.00	7.52	7.27	7.35	7.52	0.26	17.66	26.27	25.91	1.88	1.60	1.13	1.24	1.20	1.13
1000.00	7.83	7.57	7.60	7.85	0.29	17.65	25.13	24.92	2.65	1.74	1.20	1.29	1.25	1.19

1. Total Loss = Insertion Loss + 6dB splitter loss.

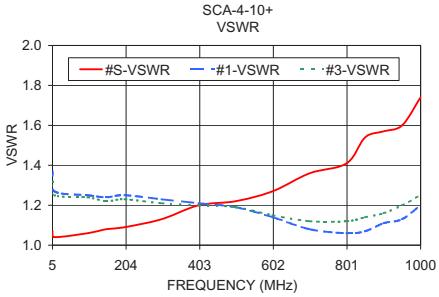
SCA-4-10+
TOTAL LOSS



SCA-4-10+
ISOLATION



SCA-4-10+
VSWR



electrical schematic

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.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp