

Surface Mount

# Power Splitter/Combiner

## SCA-4-10+ SCA-4-10

4 Way-0° 50Ω 5 to 1000 MHz



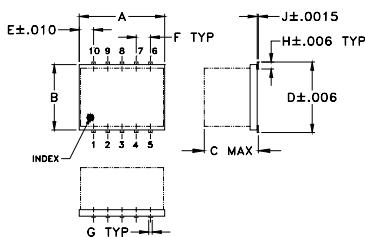
### Maximum Ratings

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.

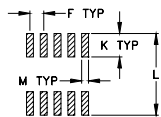
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

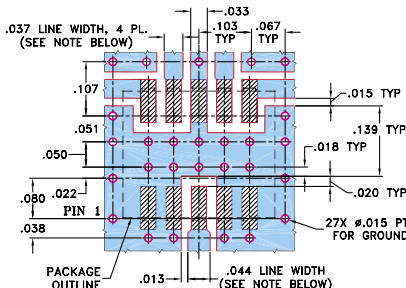


Suggested Layout,  
Tolerance to be within ±0.02

### Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.30	.250	.190	.262	.050	.050	.012
7.62	6.35	4.83	6.66	1.27	1.27	0.30
H	J	K	L	M		wt
.027	.004	.085	.296	.030		grams
0.69	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

### Features

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

### Applications

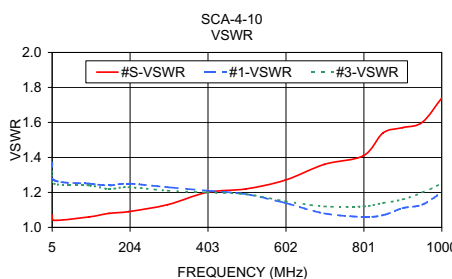
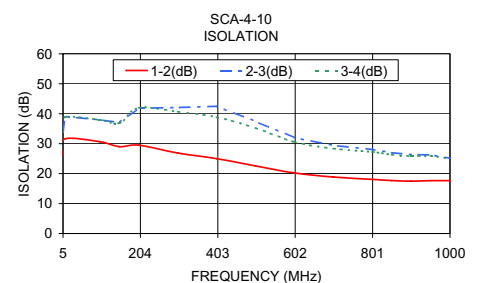
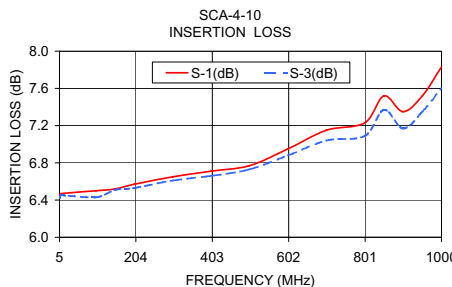
- cellular
- UHF/VHF receivers/transmitters

### Splitter Electrical Specifications

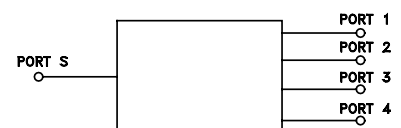
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
	Typ.	Min.	Typ.	Max.	Max.	Max.
5-1000						
5-400	30	20	0.7	1.3	5	0.8
400-600	25	17	0.8	1.5	6	0.7
600-1000	20	15	1.2	2.5	11	0.9

### Typical Performance Data

Freq. (MHz)	Insertion Loss (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



### electrical schematic



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