

# Power Splitter/Combiner

## SCA-4-10-75+

4 Way-0° 75Ω 10 to 1000 MHz



Generic photo used for illustration purposes only  
CASE STYLE: DZ943

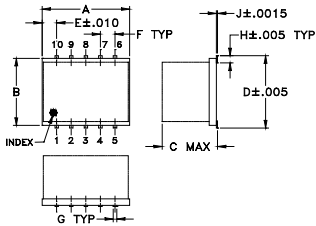
### Maximum Ratings

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.	

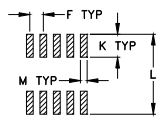
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

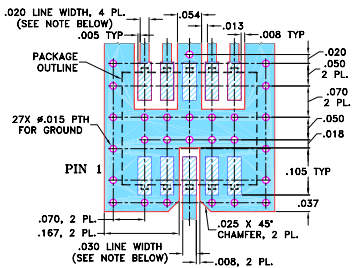


Suggested Layout  
Tolerance to be within ±0.02

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.30	.250	.190	.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-247 Suggested PCB Layout (PL-133)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.030" ± 0.002", COPPER: 1/2 OZ. EACH SIDE.  
2. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

■ DENOTES PCB COPPER LAYOUT  
■ DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

### 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-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- wideband, 10-1000 MHz
- high isolation, 25 dB typ.
- good amplitude unbalance, 0.5 dB typ.

### Applications

- cellular
- UHF/VHF receivers/transmitters

### +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Reel Size	Devices/Reel
7"	10, 20, 50, 100, 200
13"	500, 1000

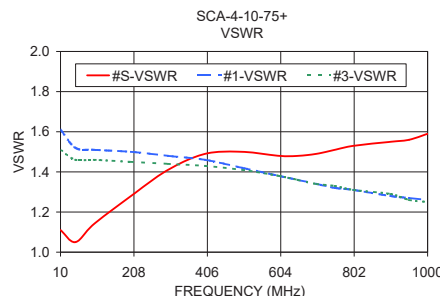
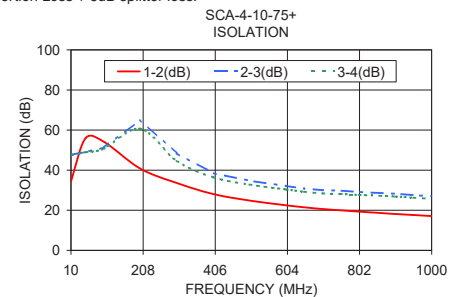
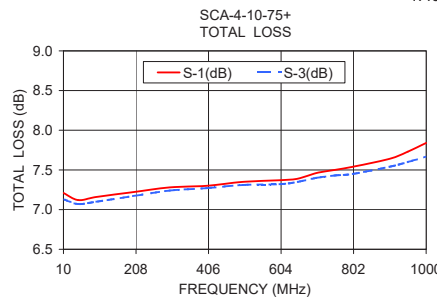
### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)
	Typ.	Min.	Typ.	Max.	Max.	Max.
10-1000						
10-400	30	22	1.2	2.3	6	1.2
400-650	25	18	1.5	2.2	9	0.9
650-1000	20	15	2.0	2.5	10	0.9

### Typical Performance Data

Freq. (MHz)	Total Loss <sup>1</sup> (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						
10.00	7.21	6.78	7.13	7.53	0.74	34.55	47.68	47.34	1.86	1.11	1.61	1.48	1.51	1.64
50.00	7.12	6.75	7.07	7.43	0.68	55.90	49.10	48.97	0.85	1.05	1.52	1.42	1.46	1.57
100.00	7.16	6.77	7.10	7.48	0.71	54.20	51.26	50.69	0.94	1.14	1.51	1.43	1.46	1.55
200.00	7.22	6.87	7.17	7.53	0.66	40.79	65.07	60.68	1.45	1.28	1.50	1.44	1.45	1.52
300.00	7.28	6.95	7.24	7.56	0.61	33.63	48.42	44.66	2.13	1.41	1.48	1.45	1.44	1.49
400.00	7.30	7.01	7.27	7.56	0.55	28.11	38.54	36.47	2.40	1.49	1.46	1.46	1.43	1.45
500.00	7.35	7.03	7.31	7.59	0.56	24.85	34.71	32.80	2.83	1.50	1.42	1.44	1.41	1.41
600.00	7.37	7.02	7.32	7.60	0.58	22.50	32.13	30.41	2.98	1.48	1.38	1.40	1.38	1.36
650.00	7.39	7.04	7.35	7.63	0.59	21.50	30.85	29.23	3.11	1.48	1.36	1.39	1.36	1.34
700.00	7.46	7.11	7.40	7.67	0.56	20.63	30.04	28.44	3.53	1.49	1.34	1.37	1.34	1.33
750.00	7.50	7.14	7.43	7.70	0.56	19.98	29.78	28.11	3.53	1.51	1.32	1.34	1.33	1.31
800.00	7.54	7.15	7.45	7.75	0.59	19.37	29.15	27.66	3.59	1.53	1.31	1.32	1.31	1.30
900.00	7.64	7.26	7.54	7.82	0.56	18.17	28.23	26.83	4.14	1.55	1.28	1.27	1.29	1.29
950.00	7.73	7.31	7.60	7.88	0.57	17.63	27.54	26.25	4.30	1.56	1.27	1.25	1.26	1.29
1000.00	7.84	7.40	7.67	7.98	0.57	17.09	26.99	25.74	4.59	1.59	1.26	1.24	1.25	1.29

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



### electrical schematic

