

# Surface Mount Power Splitter/Combiner

## SC4PS-33+

4 Way-0° 50Ω 300 to 3000 MHz



Generic photo used for illustration purposes only

CASE STYLE: CK1704

**+RoHS Compliant**

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

### Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.20W max.

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

### Pin Connections

SUM PORT	10
PORT 1	1
PORT 2	2
PORT 3	3
PORT 4	4
GROUND	ALL OTHER

### Features

- wideband, 300 to 3000 MHz, useable from 100 to 3600 MHz
- low insertion loss, 1.6 dB typ.
- good isolation, 17 dB typ.
- good amplitude unbalance, 0.4 dB typ.

### Applications

- communication systems
- CATV
- cellular, GPS, PCS
- VHF/UHF/receivers/transmitters

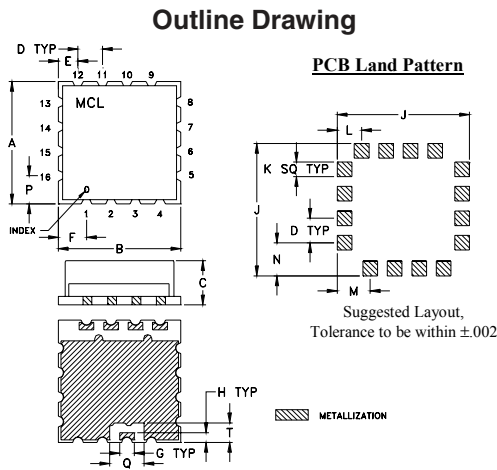
### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
<b>Frequency Range</b>		300	—	3000	MHz
<b>Insertion Loss Above 6.0 dB</b>	300 - 2700 2700 - 3000	—	1.6 2.6	3.1 3.8	dB
<b>Isolation</b>	300 - 3000	12	17	—	dB
<b>Phase Unbalance</b>	300 - 2700 2700 - 3000	—	7 12	15 20	Degree
<b>Amplitude Unbalance</b>	300 - 2700 2700 - 3000	—	0.4 0.7	0.9 1.2	dB
<b>VSWR (Port S)</b>	300 - 3000	—	2.1	—	:1
<b>VSWR (Port 1-4)</b>	300 - 3000	—	1.5	—	:1

### 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	2-3	2-4						
300.0	7.20	7.22	7.09	7.09	0.13	15.56	19.89	16.67	1.15	2.46	1.28	1.28	1.29	1.27
500.0	7.18	7.20	7.06	7.04	0.17	15.90	21.83	17.28	1.71	2.32	1.31	1.31	1.33	1.31
700.0	7.26	7.28	7.11	7.07	0.21	16.14	24.40	17.66	2.06	2.29	1.38	1.38	1.41	1.38
900.0	7.43	7.44	7.27	7.21	0.23	16.28	27.19	17.78	2.29	2.34	1.47	1.47	1.52	1.48
1100.0	7.60	7.60	7.42	7.36	0.25	16.48	30.54	17.90	2.55	2.39	1.57	1.57	1.62	1.58
1300.0	7.71	7.67	7.49	7.43	0.28	17.02	34.52	18.43	2.93	2.35	1.65	1.65	1.71	1.66
1500.0	7.62	7.58	7.40	7.33	0.29	18.04	29.99	19.63	3.31	2.16	1.70	1.67	1.74	1.70
1700.0	7.48	7.33	7.18	7.13	0.35	20.26	23.77	22.45	3.84	1.82	1.66	1.62	1.71	1.67
1900.0	7.32	7.06	6.96	6.90	0.41	24.66	19.55	28.42	4.71	1.41	1.57	1.52	1.60	1.56
2100.0	7.29	6.94	6.90	6.84	0.45	35.91	16.89	31.12	5.70	1.12	1.48	1.41	1.50	1.45
2300.0	7.54	7.12	7.14	7.08	0.46	32.14	15.43	24.09	7.01	1.37	1.46	1.34	1.45	1.39
2500.0	7.96	7.46	7.52	7.48	0.51	25.62	14.83	20.89	8.66	1.71	1.46	1.33	1.44	1.38
2700.0	8.48	7.89	7.95	7.89	0.59	22.85	14.80	19.22	10.64	2.00	1.47	1.32	1.43	1.36
2900.0	8.95	8.25	8.26	8.18	0.77	21.31	15.32	18.31	12.58	2.21	1.47	1.29	1.40	1.33
3000.0	9.14	8.39	8.38	8.28	0.86	20.49	15.86	17.91	13.44	2.26	1.48	1.28	1.39	1.33

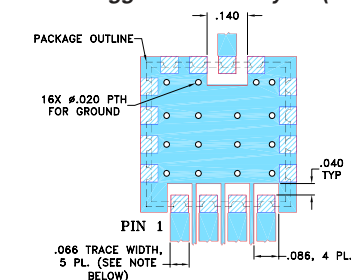
1. Total Loss = Insertion Loss + 6dB splitter loss.



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.500	.500	.180	.100	.080	.115	.060	.040	.540
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72
K	L	M	N	P	Q	T	wt.	
.060	.100	.135	.135	.115	.140	.080	grams	
1.52	2.54	3.43	3.43	2.92	3.56	2.03	1.0	

### Demo Board MCL P/N: TB-652+ Suggested PCB Layout (PL-368)

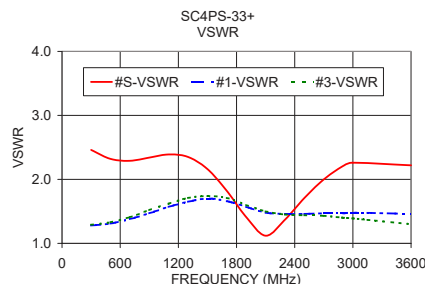
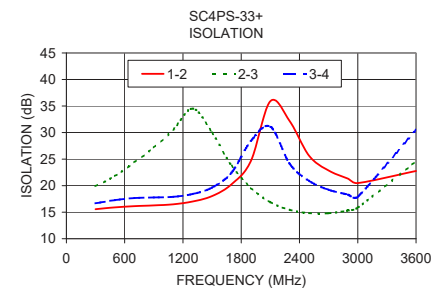
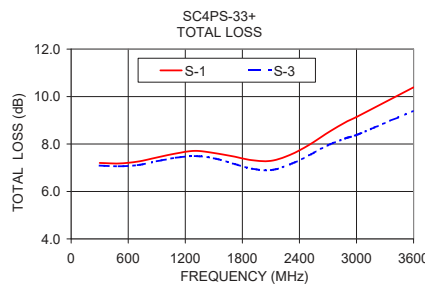


- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.  
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

### Notes

- 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.  
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### electrical schematic



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[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 [sales@minicircuits.com](mailto:sales@minicircuits.com)

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