

Surface Mount Power Splitter/Combiner

4 Way-0° 50Ω 300 to 3000 MHz

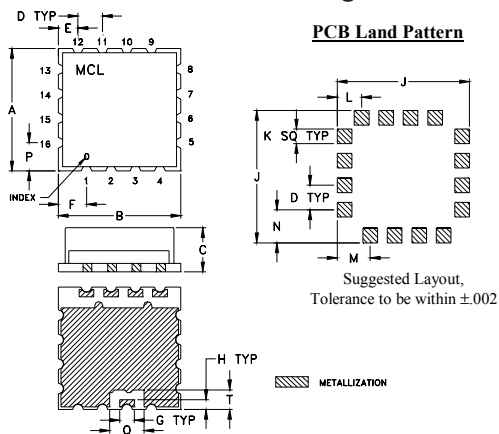
Maximum Ratings

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

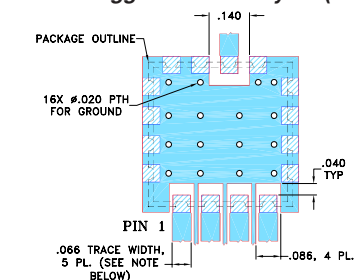
Outline Drawing



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	grams	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. 16X .020 PTH FOR GROUND. .040 TYP. .066 TRACE WIDTH, 5 PL. (SEE NOTE BELOW). 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.
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

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

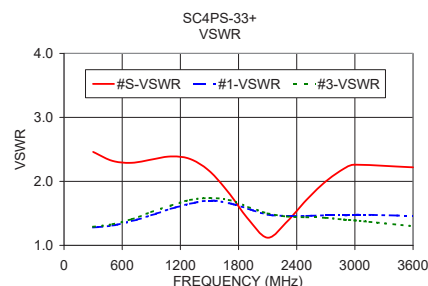
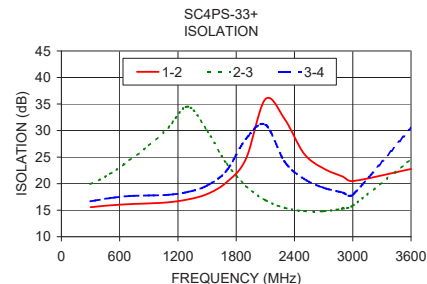
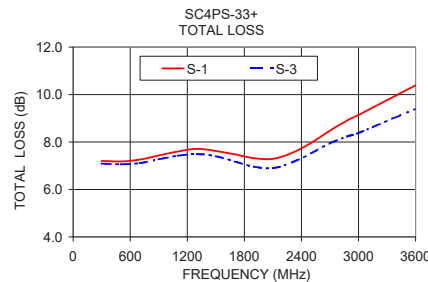
Electrical Specifications at 25°C

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

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	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.



electrical schematic



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CASE STYLE: CK1704

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