

Surface Mount Power Splitter/Combiner

AD3PS-1+

3 Way-0° 50Ω 1 to 300 MHz

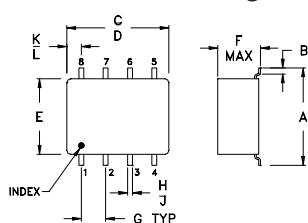
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.25W max.
Permanent damage may occur if any of these limits are exceeded.	

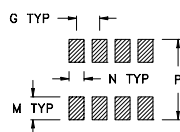
Pin Connections

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

Outline Drawing



PCB Land Pattern

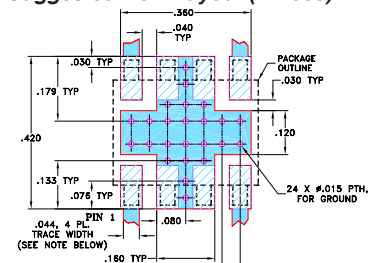


Suggested Layout,
Tolerance to be within ±0.002

Outline Dimensions (inch mm)

A	B	C	D	E	F	G
.397	.032	.385	.435	.310	.215	.100
10.08	0.81	9.78	11.05	7.87	5.46	2.54
H	J	K	L	M	N	P
.015	.025	.035	.075	.120	.060	.420
0.38	0.64	0.89	1.91	3.05	1.52	10.67
						grams
						0.45

Demo Board MCL P/N: TB-83 Suggested PCB Layout (PL-063)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. 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-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

Features

- wideband, 1 to 300 MHz
- high isolation, 35 dB typ.
- good input port matching VSWR, 1.12 typ.
- good output port matching VSWR, 1.14 typ.
- small surface mount package

Applications

- VHF-TV
- aircraft communications

Electrical Specifications

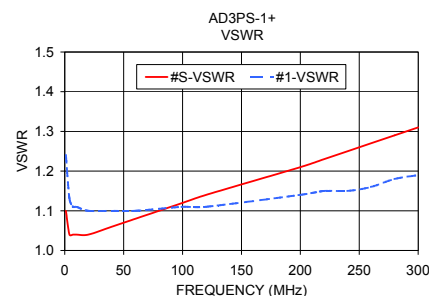
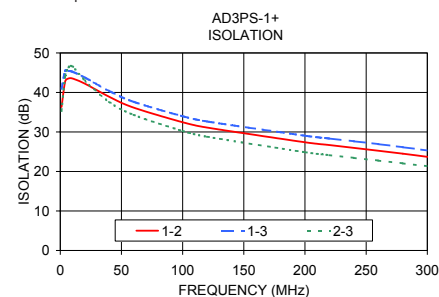
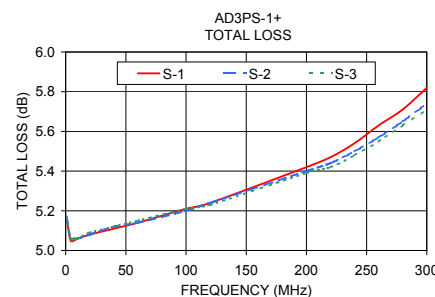
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 4.8 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L	M	U	L	M	U	L	M	U	L	M	U
f _L -f _U	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Max.	Typ.	Max.	Max.
1-300	40	23	35	20	27	18	0.3	0.8	0.4	1.0	0.8	1.5

L = 1-10 MHz M = 10-150 MHz U = 150-300 MHz

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
	S-1	S-2	S-3		1-2	1-3	2-3					
1.00	5.15	5.16	5.17	0.01	36.32	40.91	35.31	0.04	1.10	1.24	1.26	1.25
4.00	5.05	5.06	5.06	0.01	42.83	45.40	44.11	0.04	1.04	1.13	1.13	1.13
7.00	5.05	5.06	5.06	0.01	43.56	45.44	46.46	0.09	1.04	1.11	1.12	1.12
10.00	5.06	5.06	5.06	0.01	43.53	45.25	46.58	0.11	1.04	1.11	1.11	1.11
20.00	5.08	5.08	5.09	0.01	42.24	43.79	43.05	0.16	1.04	1.10	1.10	1.11
40.00	5.11	5.12	5.12	0.00	38.90	40.37	37.60	0.35	1.06	1.10	1.10	1.10
60.00	5.14	5.14	5.15	0.01	36.16	37.63	34.33	0.51	1.08	1.10	1.11	1.11
100.00	5.21	5.20	5.21	0.00	32.45	33.97	30.23	0.89	1.12	1.11	1.12	1.12
120.00	5.24	5.24	5.23	0.01	31.12	32.66	28.79	1.05	1.14	1.11	1.12	1.12
200.00	5.42	5.40	5.39	0.03	27.39	29.05	24.87	1.69	1.21	1.14	1.16	1.15
220.00	5.47	5.44	5.42	0.05	26.68	28.34	24.14	1.84	1.23	1.15	1.17	1.16
240.00	5.54	5.50	5.48	0.06	25.96	27.65	23.43	1.93	1.25	1.15	1.18	1.17
260.00	5.63	5.57	5.55	0.08	25.24	26.92	22.74	2.15	1.27	1.16	1.19	1.18
280.00	5.71	5.65	5.63	0.09	24.50	26.14	22.04	2.25	1.29	1.18	1.21	1.19
300.00	5.82	5.74	5.71	0.11	23.71	25.31	21.33	2.39	1.31	1.19	1.23	1.21

1. Total Loss = Insertion Loss + 4.8dB splitter loss.



electrical schematic



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