

Power Splitter/Combiner

SYPS-3-142W+

3 Way-0° 50Ω 5 to 1450 MHz

Maximum Ratings

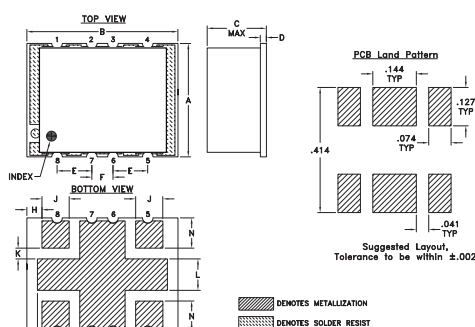
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.
Internal Dissipation	0.15W max.

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

Pin Connections

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

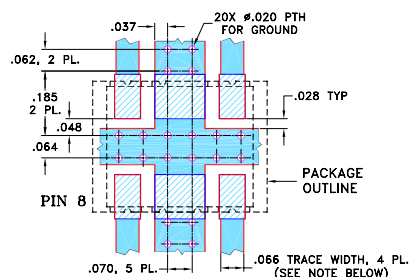
Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H
.38	.50	.25	.020	.115	.070	.035	.050
9.65	12.70	6.35	0.51	2.92	1.78	0.89	1.27
J	K	L	M	N	wt		
.090	.040	.105	.140	.095	grams		
2.29	1.02	2.67	3.56	2.41	0.80		

Demo Board MCL P/N: TB-364
Suggested PCB Layout (PL-231)



NOTES:

1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" $\pm$.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.

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/MC_Store/terms is



Generic photo used for illustration purposes only

CASE STYLE: AH202

+RoHS Compliant

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



**Available Tape and Reel
at no extra cost**

Reel Size	Devices/Reel
13"	200

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		5		1450	MHz
Insertion Loss Above 4.8 dB	5-400	—	0.7	1.3	dB
	400-1200	—	1.5	2.4	
	1200-1450	—	2.2	3.3	
Isolation	5-400	17	24	—	dB
	400-1200	15	20	—	
	1200-1450	13	19	—	
Phase Unbalance	5-400	—	—	2.0	Degree
	400-1200	—	—	5.0	
	1200-1450	—	—	9.0	
Amplitude Unbalance	5-400	—	—	0.3	dB
	400-1200	—	—	0.7	
	1200-1450	—	—	0.9	
VSWR (Port S)	5-400	—	1.20	—	:1
	400-1200	—	1.65	—	
	1200-1450	—	1.65	—	
VSWR (Port 1-3)	5-400	—	1.10	—	:1
	400-1200	—	1.20	—	
	1200-1450	—	1.20	—	

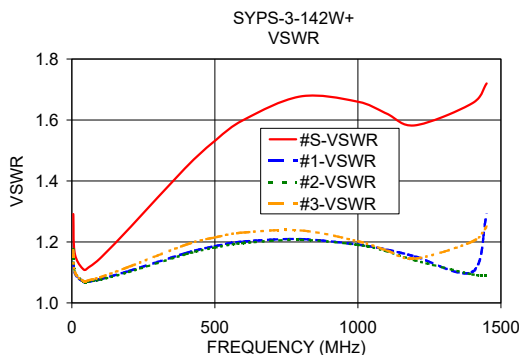
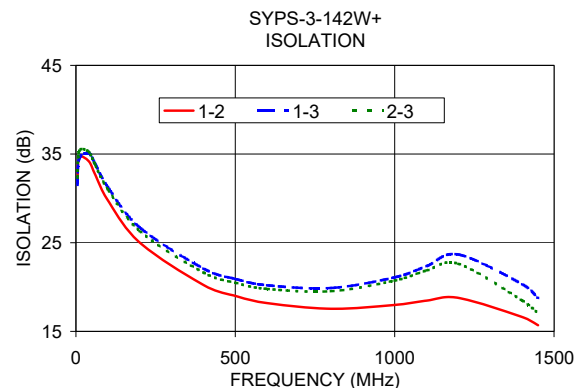
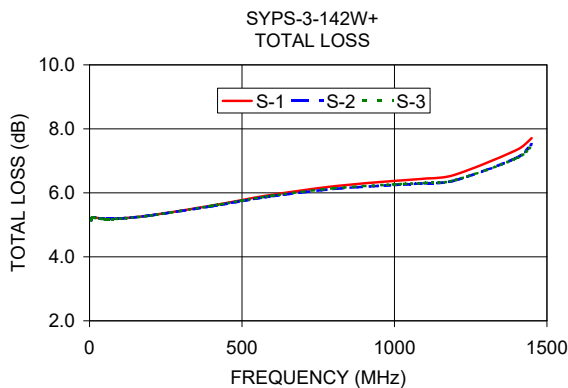
Electrical Schematic



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					
5.00	5.15	5.15	5.14	0.01	31.98	31.52	32.33	0.04	1.29	1.17	1.18	1.17
10.00	5.23	5.23	5.22	0.01	34.60	34.45	35.32	0.03	1.16	1.10	1.10	1.10
40.00	5.20	5.19	5.19	0.01	34.20	35.08	35.25	0.03	1.11	1.07	1.07	1.07
60.00	5.19	5.18	5.18	0.01	32.72	33.92	33.79	0.04	1.12	1.07	1.07	1.07
100.00	5.20	5.20	5.19	0.01	29.79	31.28	31.02	0.04	1.15	1.08	1.08	1.08
200.00	5.30	5.29	5.29	0.00	25.02	26.73	26.32	0.14	1.24	1.10	1.10	1.12
400.00	5.60	5.58	5.59	0.02	20.24	22.09	21.64	0.29	1.45	1.16	1.16	1.19
500.00	5.78	5.74	5.76	0.03	19.00	20.92	20.48	0.35	1.53	1.19	1.18	1.21
600.00	5.94	5.90	5.91	0.05	18.19	20.20	19.79	0.48	1.60	1.20	1.20	1.23
800.00	6.20	6.12	6.14	0.08	17.55	19.89	19.53	0.98	1.68	1.21	1.21	1.24
1000.00	6.37	6.25	6.26	0.13	17.98	21.09	20.73	1.61	1.66	1.19	1.19	1.20
1100.00	6.45	6.30	6.31	0.14	18.47	22.36	21.87	2.14	1.62	1.17	1.17	1.17
1200.00	6.57	6.39	6.40	0.18	18.78	23.67	22.63	2.76	1.58	1.15	1.14	1.15
1400.00	7.34	7.09	7.08	0.26	16.62	20.33	18.49	4.89	1.66	1.10	1.09	1.20
1450.00	7.71	7.52	7.46	0.26	15.69	18.76	17.06	5.31	1.72	1.29	1.09	1.25

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



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