Surface Mount

Power Splitter/Combiner

SYPS-3-142W+

3 Way-0° 50Ω 5 to 1450 MHz

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

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

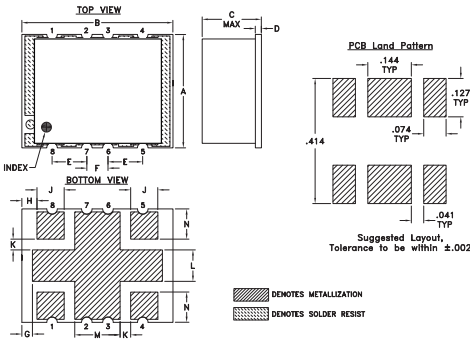
Features

- low insertion loss 1.5, dB typ. at midband
- wide frequency band, 5 to 1450 MHz
- low amplitude unbalance, 0.3 dB typ.

Applications

- VHF/UHF CATV
- cellular
- GPS
- satellite distribution

Outline Drawing

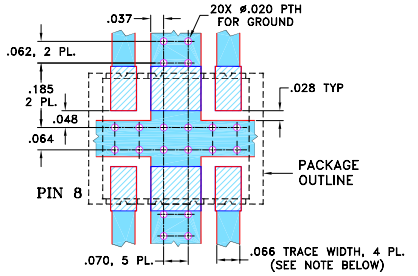


Outline Dimensions (inch / mm)

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" ± .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.

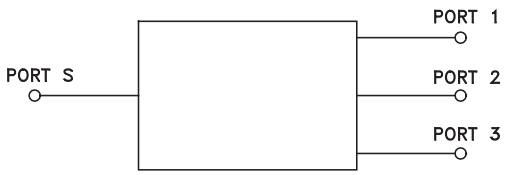
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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

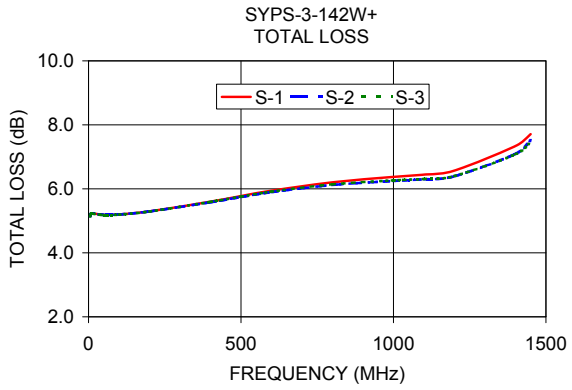


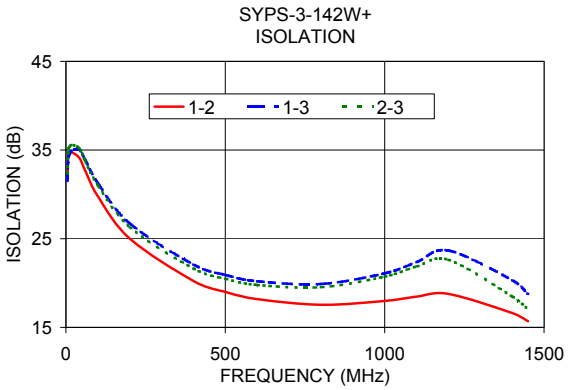
Notes
A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's 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

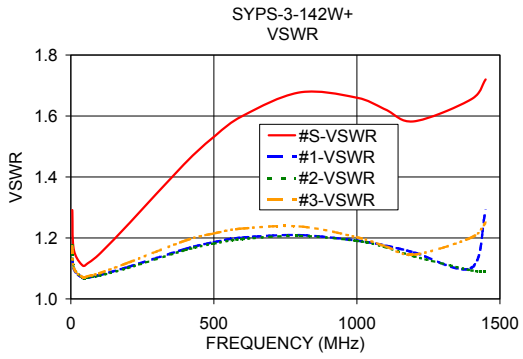
Typical Performance Data

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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