Surface Mount Power Splitter/Combiner SXPS-4-13-75+

4 Wav-0° 75Ω 5 to 1300 MHz

The Big Deal

- Wideband, 5 to 1300 MHz
- High isolation, 24 dB
- Low insertion loss, 1.5 dB
- Low unbalance, 0.25 dB, 1.0°



CASE STYLE: HF1485

Product Overview

Mini-Circuits' SXPS-4-15-75+ is a 75 Ω 4-way 0° surface-mount power splitter/combiner covering the 5 to 1300 MHz frequency range, supporting bandwidth requirements for DOCSIS® 3.1 systems and equipment, as well as other broadband applications. This model can handle up to 0.25W RF input power as a splitter, and provides low insertion loss and low phase and amplitude unbalance. It comes housed in a miniature, shielded package (0.44 x 0.74 x 0.19") with wraparound terminations for excellent solderability.

Key Features

Feature	Advantages
Wideband, 5 to 1300 MHz	Suitable for many broadband applications including DOCSIS $\ensuremath{\mathbb{B}}$ 3.1 systems and equipment, VHF/UHF, CATV, cellular, and more.
Low insertion loss, 1.5 dB	The combination of 0.25W power handling and low insertion loss makes it a suitable candidate for distributing signals while maintaining signal power.
Good isolation, 24 dB	Minimizes interference between ports
Low unbalance: • 0.25 dB amplitude unbalance • 1.0° phase unbalance	This model produces nearly equal output signals, making it ideal for use in parallel path /multichannel systems.
Good VSWR, 1.2:1 typ.	Provides excellent thru-path transmission with low signal reflection.

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 and ard limited warranty and terms and conditions (collectivity, "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



Surface Mount Power Splitter/Combiner

SXPS-4-13-75+

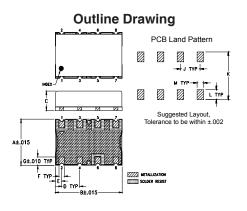
4 Way-0° 75Ω 5 to 1300 MHz

Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.25W max.
Internal Dissipation	0.15W max.
Permanent damage may occur if any of	these limits are exceeded.

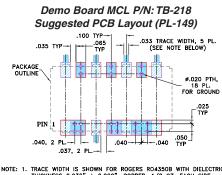
Pin Connections

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



Outline Dimensions (inch)

A	B	C	D	E	F	G
.440	. 740	.19	.200	.07	. 060	.080
11.18	18.80	4.83	5.08	1.78	1.52	2.03
H	J	K	L	M		wt
-	.200	.480	. 100	. 065		grams
-	5.08	12.19	2.54	1.65		2.50



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; COPPER: 1/2 0Z 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

Features

- high isolation, 24 dB typ.
- excellent input matching, VSWR 1.15 typ.
- very good output matching VSWR, 1.20 typ.
 excellent amplitude unbalance, 0.25 dB typ
- excellent amplitude
 aqueous washable
- aqueous washable
 shielded case

Applications

- DOCSIS 3.1 systems
- catv
- VHF/UHF
- communication systems
 instrumentation

C Mini-Circuite

Generic photo used for illustration purposes only CASE STYLE: HF1485

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

Electrical Specifications at 25°C									
Parameter	Frequency (MHz)	Min.	Тур.	Max.	Unit				
Frequency Range		5		1300	MHz				
Insertion Loss	5 - 1300	_	1.5	2.3	dB				
(above theoretical 6.0 dB)	5 - 1218	_	1.2	2.1	uв				
	5 - 1300	15	22	_	dB				
Isolation	50 - 1218	18	24	_	aв				
Phase Unbalance	5 - 1300	-	1.0	6.0	Dermo				
Phase Unbalance	5 - 1218	_	1.0	5.0	Degree				
	5 - 1300	_	0.25	0.6	dB				
Amplitude Unbalance	5 - 1218	_	0.15	0.5	dВ				
VSWR (Port S)	5 - 1300	_	1.15	1.3	:1				
VEWB (Port 1.4)	5 - 1300	_	1.5	1.95					
VSWR (Port 1-4)	50 - 1218	_	1.2	1.45	:1				

Electrical Schematic



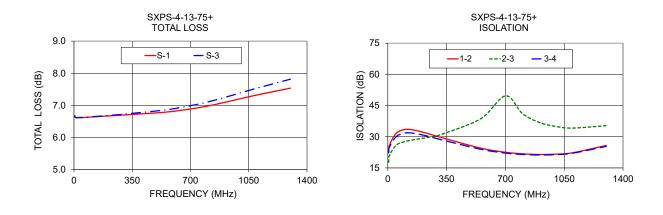
REV. OR M131119 SXPS-4-13-75+ ED-13920 JC/CP/AM 200924 Page 2 of 3

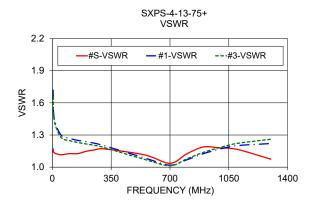


					туріса			ance						
Freq. (MHz)	Total Loss ¹ (dB)			Amp. Isolation Unbal. (dB) (dB)			Phase Unbal. (deg.)	VSWR S	VSWR 1	VSWR 2	VSWR 3	VSWR 4		
	S-1	S-2	S-3	S-4	()	1-2	2-3	3-4	(***)					
5.0	6.67	6.68	6.68	6.68	0.01	22.52	17.71	22.23	0.01	1.17	1.72	1.72	1.71	1.70
10.0	6.62	6.62	6.62	6.63	0.01	26.03	21.09	25.07	0.03	1.13	1.46	1.46	1.44	1.44
50.0	6.62	6.63	6.62	6.63	0.01	31.68	25.95	30.06	0.04	1.12	1.30	1.30	1.28	1.28
100.0	6.63	6.65	6.64	6.65	0.01	33.49	27.65	31.79	0.09	1.13	1.27	1.27	1.25	1.25
150.0	6.65	6.66	6.66	6.67	0.02	33.28	28.50	31.72	0.14	1.13	1.25	1.25	1.23	1.23
200.0	6.67	6.68	6.68	6.68	0.01	32.37	29.18	30.98	0.20	1.15	1.24	1.24	1.22	1.22
250.0	6.68	6.70	6.70	6.70	0.02	31.27	29.86	30.02	0.25	1.16	1.22	1.22	1.20	1.20
300.0	6.70	6.72	6.72	6.72	0.03	30.05	30.62	28.94	0.31	1.17	1.20	1.20	1.19	1.19
550.0	6.79	6.82	6.86	6.83	0.07	24.58	38.52	24.03	0.56	1.11	1.09	1.09	1.07	1.08
700.0	6.89	6.93	6.99	6.93	0.10	22.54	49.66	22.16	0.73	1.04	1.02	1.00	1.01	1.01
800.0	6.97	7.03	7.10	7.02	0.13	21.81	41.23	21.49	0.78	1.12	1.07	1.06	1.08	1.05
900.0	7.09	7.15	7.24	7.13	0.15	21.48	36.92	21.22	0.84	1.19	1.13	1.12	1.14	1.10
1000.0	7.21	7.29	7.39	7.25	0.18	21.63	34.94	21.41	0.93	1.18	1.17	1.17	1.18	1.14
1100.0	7.32	7.41	7.54	7.37	0.21	22.29	34.17	22.10	1.00	1.17	1.20	1.22	1.22	1.19
1300.0	7.53	7.66	7.81	7.58	0.28	25.81	35.33	25.37	1.28	1.07	1.22	1.25	1.26	1.21

Typical Performance Data

Total Loss = Insertion Loss + 6 dB splitter theoretical loss





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 (collective), "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

Mini-Circuits