

Surface Mount

Power Splitter/Combiner

SRSC-4-63+

4 Way-0° Resistive 50Ω DC to 6000 MHz

The Big Deal

- Wideband, DC to 6000 MHz
- Low insertion loss, 0.5 dB
- Good matching VSWR, 1.3:1
- Low amplitude unbalance, 0.4 dB



CASE STYLE: CK1704-2

Product Overview

Mini-Circuits' SRSC-4-63+ is a surface-mount 4-way 0° resistive splitter/combiner covering the DC to 6000 MHz frequency range, supporting bandwidth requirements for a wide range of RF/microwave systems. This model can handle up to 0.2W RF input power as a splitter and provides high isolation, good VSWR and low amplitude unbalance. The unit comes housed in a miniature shielded package (0.5 x 0.5 x 0.185") with wrap-around terminations for excellent solderability.

Key Features

Feature	Advantages
Wideband, DC to 6000 MHz	Resistive design enables very wideband coverage down to DC, making the splitter/combiner suitable for a wide variety of broadband applications.
Low insertion loss, 0.5 dB	Supports a wide variety of power requirements.
(above 12 dB theoretical loss)	The combination of 0.2W power handling and low insertion loss makes this model a suitable candidate for distributing signals while maintaining excellent transmission of signal power.
Good matching VSWR, 1.2:1	Provides excellent thru-path transmission with low signal reflection.
Low amplitude unbalance, 0.4 dB	Low amplitude unbalance makes this splitter/combiner Ideal for parallel path/multichannel systems.

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



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SRSC-4-63+

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Generic photo used for illustration purposes only
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+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

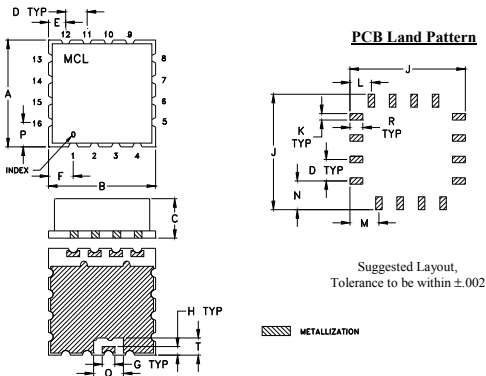
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.2W max.
Internal Dissipation	0.15W max.

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

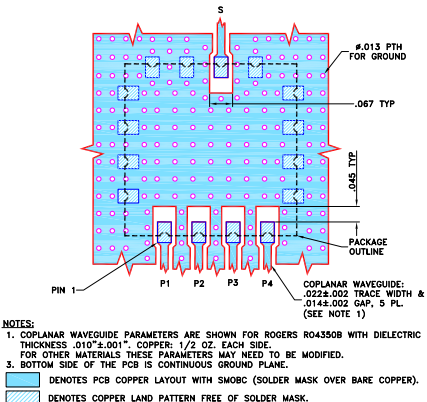
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.500	.500	.185	.100	.080	.115	.030	.040	.540
12.70	12.70	4.70	2.54	2.03	2.92	0.76	1.02	13.72
K	L	M	N	P	Q	R	T	wt.
.030	.100	.135	.135	.115	.140	.060	.080	grams
0.76	2.54	3.43	3.43	2.92	3.56	1.52	2.03	1.0

Demo Board MCL P/N: TB-816+ Suggested PCB Layout (PL-445)



NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROEGERS RO4350B WITH DIELECTRIC THICKNESS .017±.001". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS THESE PARAMETERS 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.

Features

- wideband, DC to 6000 MHz,
- good matching VSWR 1.3:1 typ.
- good amplitude unbalance, 0.4 dB typ.

Applications

- communication systems
- CATV
- cellular, GPS, PCS
- VHF/UHF/receivers/transmitters

Electrical Specifications at 25°C

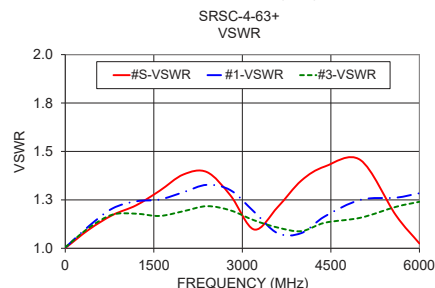
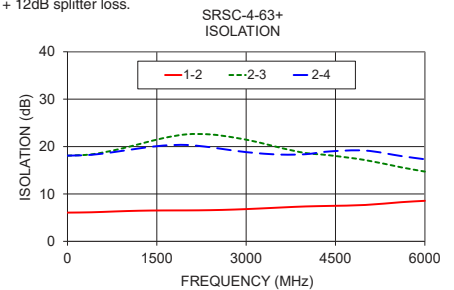
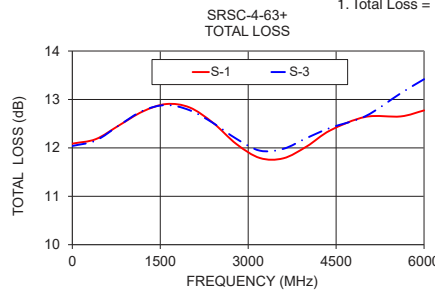
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		DC	—	6000	MHz
Insertion Loss, including 12 dB	DC - 3600 3600 - 6000	11.5 11.5	12.0 12.5	13.2 14.0	dB
Isolation	DC - 6000	—	7	—	dB
Phase Unbalance	DC - 3600 3600 - 6000	—	3 8	8 14	Degree
Amplitude Unbalance	DC - 3600 3600 - 6000	—	0.4 0.7	0.8 1.2	dB
VSWR (Port S)	DC - 6000	—	1.35	1.65	:1
VSWR (Port 1-4)	DC - 6000	—	1.30	1.60	:1

This is a resistive power divider to enable frequency coverage from DC to the highest rated frequency. Since resistive power divider do not provide a high degree of isolation (basically isolation equals the insertion loss between ports).

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						
1	12.09	12.08	12.04	12.04	0.05	6.06	18.08	18.09	0.30	1.00	1.00	1.00	1.01	1.01
400	12.18	12.18	12.15	12.16	0.03	6.13	18.35	18.26	0.44	1.10	1.11	1.11	1.11	1.10
800	12.47	12.50	12.47	12.49	0.04	6.31	19.27	18.87	1.25	1.17	1.21	1.19	1.17	1.17
1200	12.75	12.83	12.77	12.79	0.08	6.46	20.50	19.60	2.18	1.22	1.24	1.21	1.18	1.19
1600	12.90	13.00	12.88	12.85	0.15	6.52	21.76	20.20	3.10	1.30	1.25	1.19	1.17	1.19
2000	12.83	12.96	12.78	12.66	0.31	6.53	22.58	20.34	3.41	1.38	1.29	1.23	1.19	1.24
2400	12.52	12.72	12.51	12.29	0.43	6.58	22.56	19.85	3.28	1.39	1.33	1.28	1.22	1.28
2800	12.08	12.34	12.19	11.91	0.43	6.71	21.90	19.13	2.97	1.27	1.30	1.27	1.20	1.24
3200	11.79	12.03	11.94	11.68	0.34	6.91	20.91	18.59	3.06	1.10	1.19	1.23	1.14	1.15
3600	11.78	12.07	11.98	11.80	0.28	7.15	19.66	18.30	3.81	1.21	1.08	1.13	1.11	1.10
4000	12.03	12.39	12.20	12.13	0.36	7.37	18.63	18.39	4.85	1.35	1.08	1.12	1.09	1.11
4400	12.36	12.71	12.41	12.39	0.35	7.48	18.16	18.97	5.91	1.42	1.17	1.11	1.13	1.17
5000	12.64	12.95	12.65	12.56	0.39	7.68	17.15	19.15	7.06	1.46	1.25	1.12	1.16	1.21
5600	12.65	13.05	13.13	12.63	0.49	8.26	15.62	18.00	8.66	1.17	1.26	1.21	1.21	1.17
6000	12.77	13.11	13.42	12.73	0.68	8.55	14.72	17.32	8.39	1.02	1.28	1.29	1.24	1.18

1. Total Loss = Insertion Loss + 12dB splitter loss.



electrical schematic



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