

Ultra-Small Ceramic

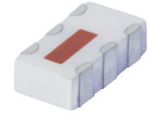
Power Splitter/Combiner

SCN-2-10+

2 Way-0° 50Ω 600 to 1000 MHz

The Big Deal

- Industry leading combination of size/power handling



CASE STYLE: FV1206-1

Product Overview

Mini-Circuits new LTCC 0° Power Splitter, model SCN-2-10+, offers industry leading combination of operating performance and size; in a miniature EIA-1206 form factor. The outstanding phase and amplitude unbalance make this component a versatile building block for use in a variety of systems and sub-system designs.

Key Features

Feature	Advantages
Small Size	Offered in the EIA-1206 package size, SCN-2-10+ offers an industry leading combination of size, power handling, and frequency. The small footprint (3.2 mm x 1.6 mm) allows for reduced parasitics in systems with improved performance and simplified layout.
Low Phase and Amplitude Unbalance	Supporting 2 deg. and 0.1 dB unbalance make this 0° hybrid applicable for use in higher level integrated components such as image reject mixers and I & Q modulators.

Notes

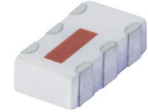
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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Generic photo used for illustration purposes only
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Maximum Ratings

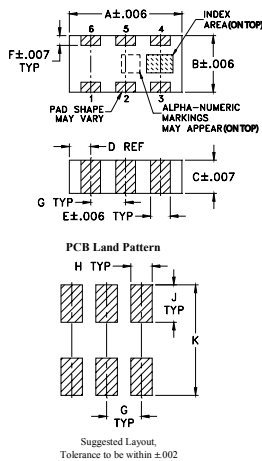
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	1W max.

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

Pin Connections

SUM PORT	2
PORT 1	6
PORT 2	4
GROUND	1,3,5
PORT 1-2	resistor external 100 OHMS

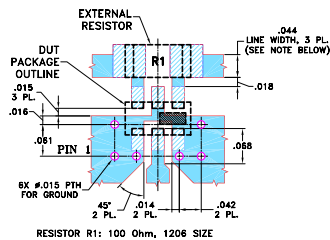
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	
.126	.063	.035	.024	.022	.011	
3.20	1.60	0.89	0.61	0.56	0.28	
G	H	J	K			wt
.039	.024	.042	.123			grams
0.99	0.61	1.07	3.12			.020

Demo Board MCL P/N: TB-252 Suggested PCB Layout (PL-129)



- 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.
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
■ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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Features

- isolation resistor, external 100 ohms
- low insertion loss, 0.5 dB typ.
- high isolation, 15 dB typ.
- small size, 0.12"X0.06"X0.035"
- ESD non-sensitive
- temperature stable LTCC technology
- wrap around terminations for excellent solderability
- low cost

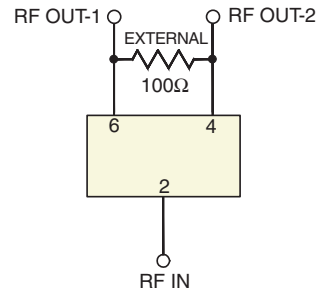
Applications

- GSM
- ISM
- cellular
- LTE

Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		600		1000	MHz
Insertion Loss Above 3.0 dB	600-1000	—	0.5	1.3	dB
Isolation	600-1000	11	15	—	dB
Phase Unbalance	600-1000	—	1.7	3.0	Degree
Amplitude Unbalance	600-1000	—	0.1	0.4	dB
Return Loss Input	600-1000	9.5	14	—	dB
Return Loss Output	600-1000	14	19	—	dB

Electrical Schematic



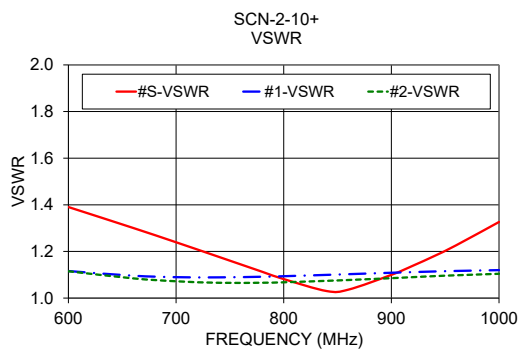
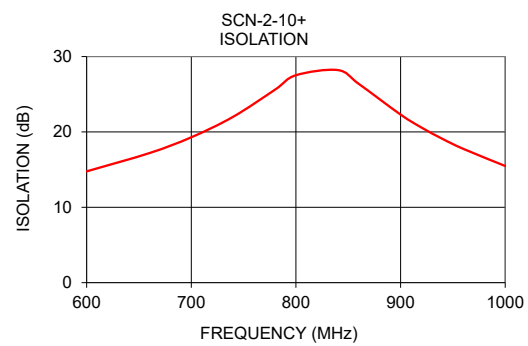
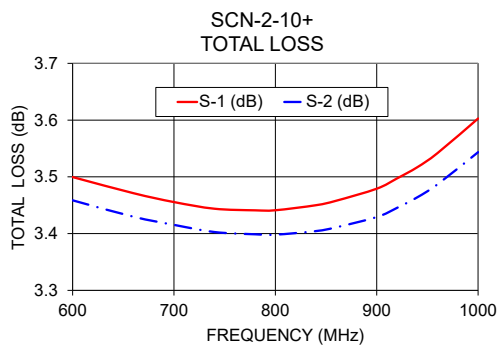
+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Available Tape and Reel at no extra cost
Reel Size Devices/Reel
7" 20, 50, 100, 200, 500, 1000, 3000

Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
600	3.50	3.46	0.04	14.77	0.44	1.39	1.12	1.12
660	3.47	3.43	0.04	17.19	0.54	1.30	1.10	1.08
700	3.46	3.42	0.04	19.29	0.62	1.24	1.09	1.07
740	3.44	3.40	0.04	22.01	0.68	1.18	1.09	1.07
780	3.44	3.40	0.04	25.60	0.76	1.11	1.09	1.07
800	3.44	3.40	0.04	27.52	0.79	1.08	1.09	1.07
840	3.45	3.40	0.05	28.21	0.86	1.03	1.10	1.07
860	3.46	3.41	0.05	26.38	0.89	1.04	1.10	1.08
900	3.48	3.43	0.05	22.30	0.96	1.10	1.11	1.09
920	3.50	3.45	0.05	20.58	1.00	1.14	1.11	1.09
940	3.52	3.46	0.05	19.08	1.03	1.18	1.11	1.09
960	3.54	3.49	0.06	17.75	1.07	1.23	1.12	1.10
1000	3.60	3.54	0.06	15.48	1.12	1.33	1.12	1.10

1. Total Loss = Insertion Loss + 3dB splitter theoretical loss.



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