



ULTRA-SMALL CERAMIC

Power Splitter/Combiner

SCN-2-10+

Mini-Circuits

2 Way-0° 50Ω 600 to 1000 MHz

THE BIG DEAL

- Industry leading combination of size/power handling
- 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



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

+RoHS Compliant

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

APPLICATIONS

- GSM
- ISM
- Cellular
- LTE

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.





ELECTRICAL SPECIFICATIONS AT 25°C

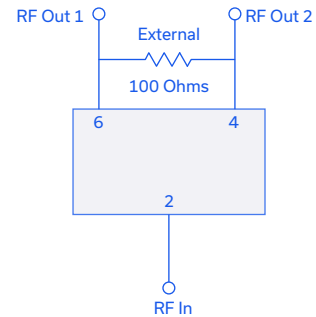
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		600		1000	MHz
Insertion Loss, above 3.0 dB	600-1000	–	0.5	1.3	dB
Isolation	600-1000	11	15	–	dB
Phase Unbalance	600-1000	–	1.7	3.0	Degree
Amplitude Unbalance	600-1000	–	0.1	0.4	dB
Return Loss (Input)	600-1000	9.5	14	–	dB
Return Loss (Output)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

MAXIMUM RATINGS

Parameter	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.

ELECTRICAL SCHEMATIC



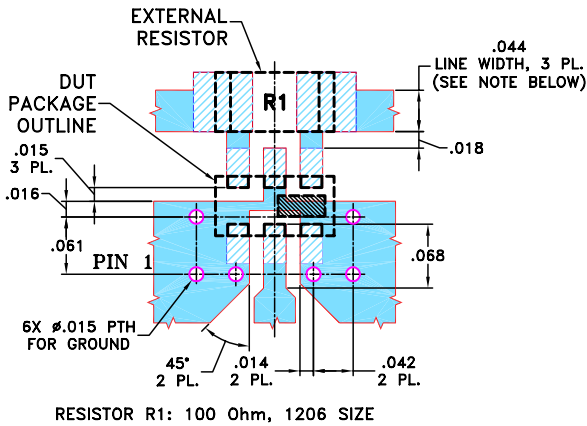


PIN CONNECTIONS

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

PRODUCT MARKING: SV

DEMO BOARD MCL P/N: TB-252
SUGGESTED PCB LAYOUT (PL-129)

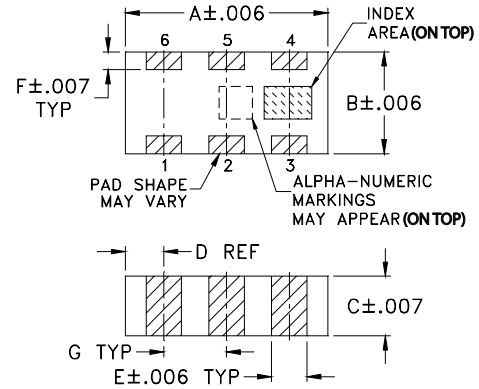


NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS $0.020" \pm 0.0015"$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

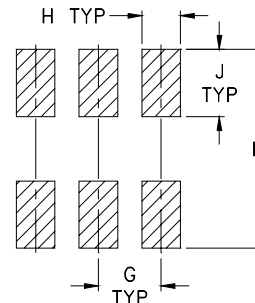
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ± 0.02

OUTLINE DIMENSIONS (Inches/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	

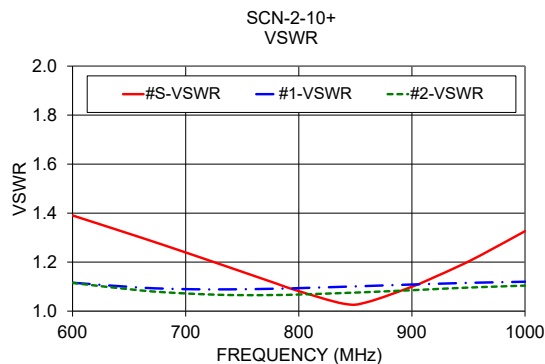
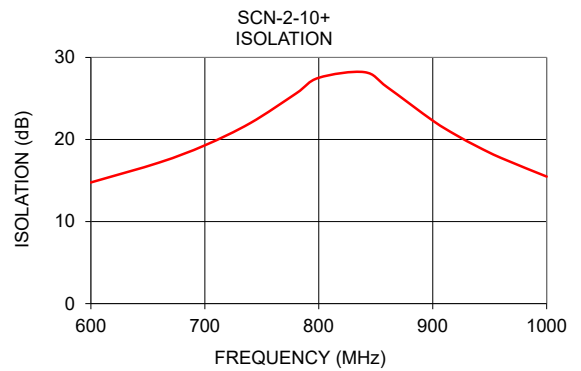
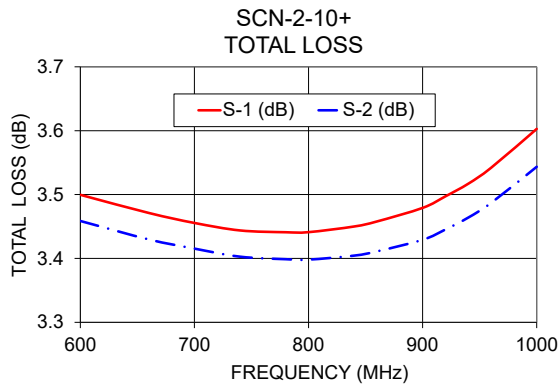
TAPE & REEL INFORMATION: F75



TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	Return Loss (dB)		
	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 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 (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

