



Mini-Circuits®

ULTRA-SMALL CERAMIC

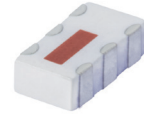
Power Splitter/Combiner

SCN-2-27+

2 Way-0° 50Ω 2225 to 2700 MHz

FEATURES

- Isolation resistor, external 100 ohms
- Low insertion loss, 0.4 dB typ.
- Excellent amplitude unbalance, 0.4 dB typ.
- Excellent phase unbalance, 2.5 deg. typ.
- High isolation, 23 dB typ.
- Excellent power handling, 20W as splitter
- Small size, 0.12"X0.06"X0.035"
- ESD non-sensitive
- Temperature stable LTCC technology
- Wrap around terminations for excellent solderability
- Low cost
- Protected by US patent 6,967,544



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

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

APPLICATIONS

- ISM
- MMDS
- WLAN

ELECTRICAL SPECIFICATIONS AT 25°C

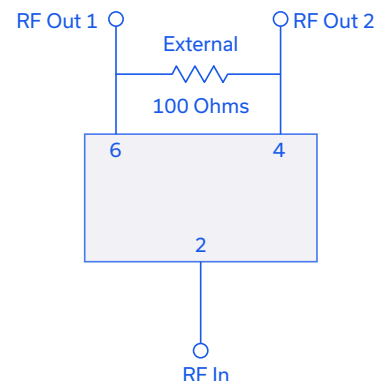
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		2225		2700	MHz
Insertion Loss, above 3.0 dB	2225-2700		0.5	1.1	dB
	2325-2600		0.4	1.0	
Isolation	2225-2700	17	21		dB
	2325-2600	20	23		
Phase Unbalance	2225-2700		3.5	6.0	Degree
	2325-2600		2.5	6.0	
Amplitude Unbalance	2225-2700		0.6	0.8	dB
	2325-2600		0.4	0.7	
Return Loss (Input)	2225-2700		19		dB
	2325-2600		17		
Return Loss (Output)	2225-2700		20		dB
	2325-2600		17		

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W* max.

*Derate linearly to 6W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

ELECTRICAL SCHEMATIC



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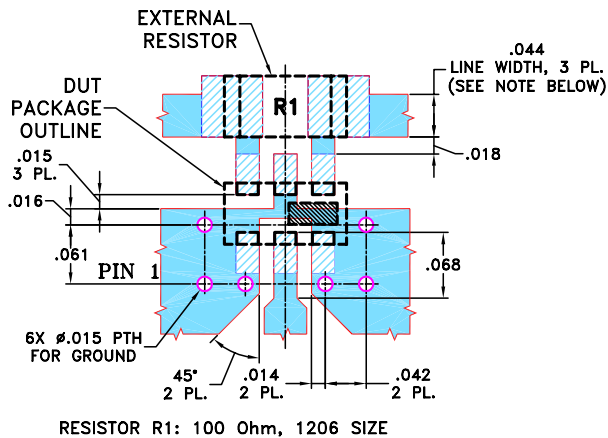
Power Splitter/Combiner

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PIN CONNECTIONS

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

PRODUCT MARKING: SD

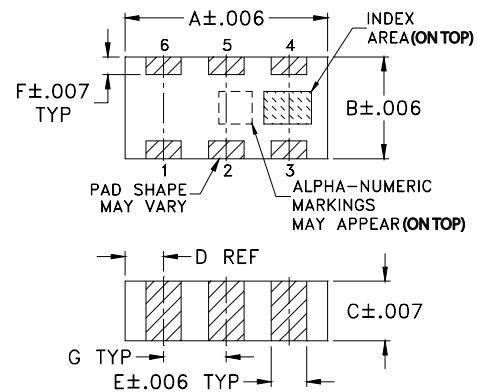
DEMO BOARD MCL P/N: TB-252
SUGGESTED PCB LAYOUT (PL-129)


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.

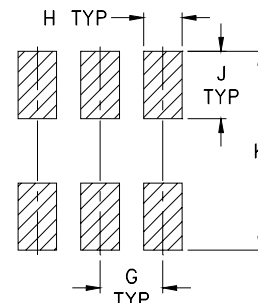
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

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

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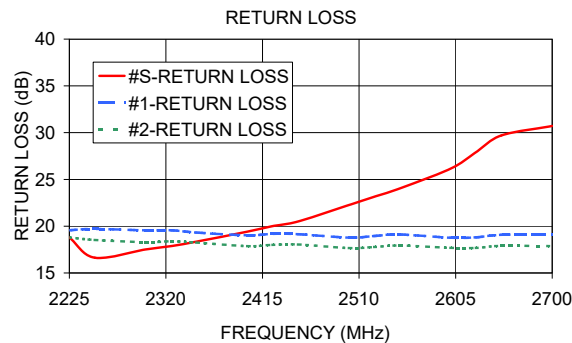
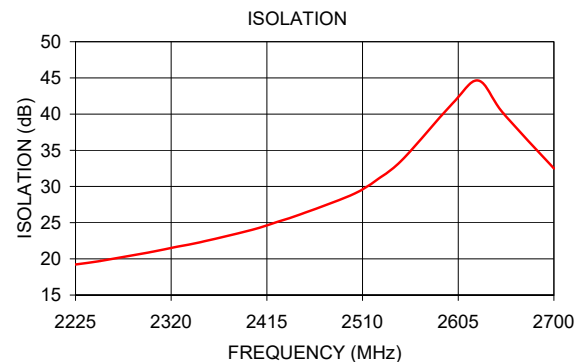
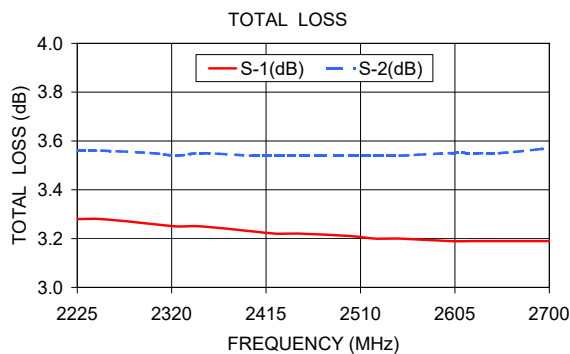
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TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	Return Loss (dB)		
	S-1	S-2				S	1	2
2225.00	3.28	3.56	0.28	19.22	1.19	18.80	19.57	18.80
2250.00	3.28	3.56	0.28	19.72	1.20	16.63	19.71	18.53
2300.00	3.26	3.55	0.29	20.95	1.23	17.52	19.55	18.29
2325.00	3.25	3.54	0.29	21.66	1.25	17.87	19.57	18.38
2350.00	3.25	3.55	0.30	22.34	1.26	18.35	19.32	18.25
2400.00	3.23	3.54	0.31	24.00	1.29	19.42	19.03	17.87
2425.00	3.22	3.54	0.32	25.09	1.31	20.01	19.18	18.00
2450.00	3.22	3.54	0.32	26.24	1.32	20.51	19.15	18.04
2500.00	3.21	3.54	0.33	28.89	1.35	22.26	18.78	17.67
2525.00	3.20	3.54	0.34	30.99	1.36	23.15	18.95	17.77
2550.00	3.20	3.54	0.34	33.77	1.38	24.04	19.11	17.94
2600.00	3.19	3.55	0.36	41.56	1.40	26.15	18.77	17.69
2625.00	3.19	3.55	0.36	44.63	1.41	27.91	18.81	17.68
2650.00	3.19	3.55	0.36	40.07	1.44	29.70	19.08	17.90
2700.00	3.19	3.57	0.38	32.50	1.46	30.72	19.11	17.87

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