



ULTRA-SMALL CERAMIC

Power Splitter/Combiner

SCN-2-15+

Mini-Circuits

2 Way-0° 50Ω 1100 to 1450 MHz

FEATURES

- Isolation resistor, external 100 ohms
- Low insertion loss, 0.4 dB typ.
- Excellent amplitude unbalance, 0.2 dB typ.
- Excellent phase unbalance, 1.5 deg. typ.
- High isolation, 25 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 Compliant

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

APPLICATIONS

- Satellite distribution
- GPS

ELECTRICAL SPECIFICATIONS AT 25°C

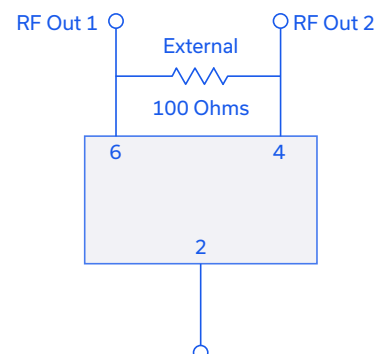
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		1100		1450	MHz
Insertion Loss, above 3.0 dB	1100-1450		0.5	0.8	dB
	1200-1375		0.4	0.7	
Isolation	1100-1450	17	23		dB
	1200-1375	20	25		
Phase Unbalance	1100-1450		1.5	3.0	Degree
	1200-1375		1.5	3.0	
Amplitude Unbalance	1100-1450		0.25	0.4	dB
	1200-1375		0.2	0.3	
Return Loss (Input)	1100-1450		15		dB
	1200-1375		17.5		
Return Loss (Output)	1100-1450		16		dB
	1200-1375		18		

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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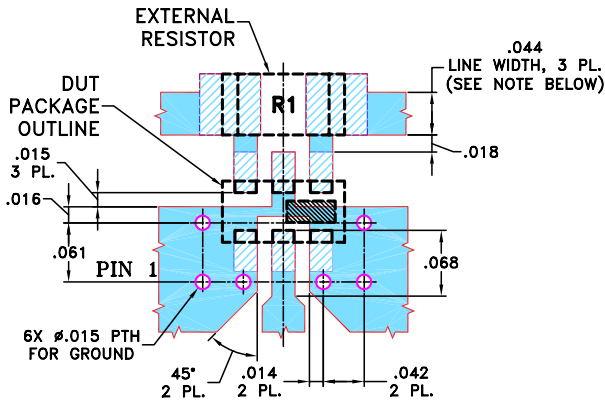


PIN CONNECTIONS

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

PRODUCT MARKING: N/A

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

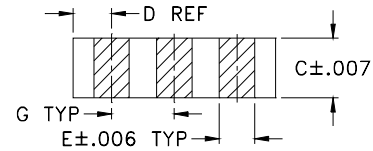
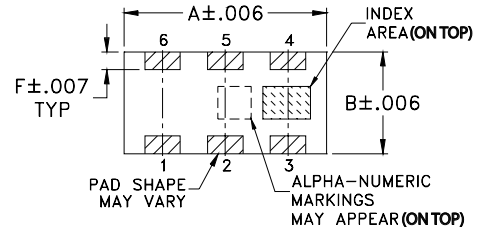


NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS $0.020" \pm 0.0015"$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

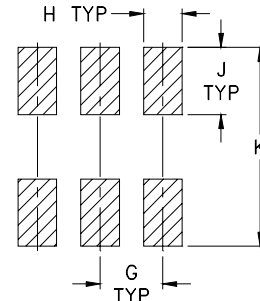
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- 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)

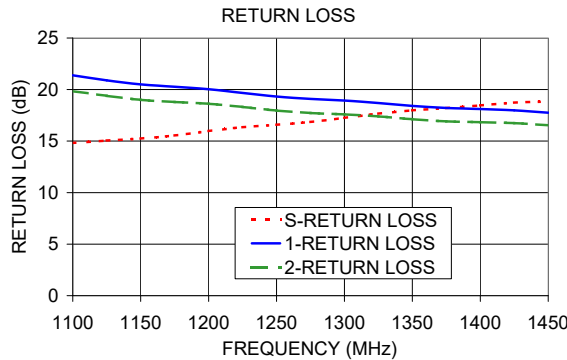
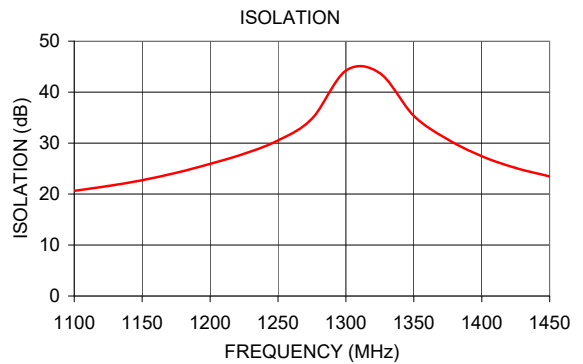
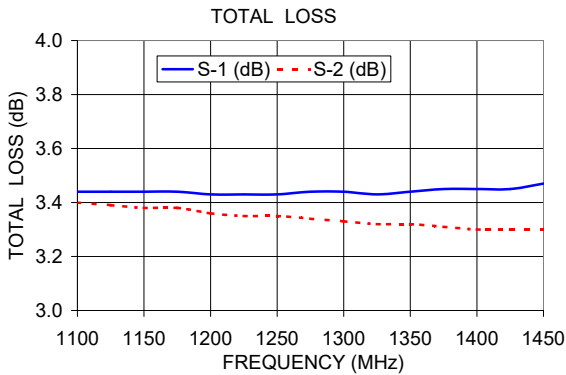
A	B	C	D	E	F
.126	.063	.035	.024	.022	.011
3.20	1.60	0.89	0.61	0.56	0.28
G	H	J	K	wt	
.039	.024	.042	.123	grams	
0.99	0.61	1.07	3.12	.020	



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
1100.00	3.44	3.40	0.04	20.64	0.93	14.81	21.38	19.84
1125.00	3.44	3.39	0.05	21.59	0.94	15.05	20.89	19.39
1150.00	3.44	3.38	0.06	22.71	0.95	15.24	20.50	19.00
1175.00	3.44	3.38	0.06	24.17	0.97	15.54	20.27	18.79
1200.00	3.43	3.36	0.07	25.92	1.01	15.97	20.03	18.62
1225.00	3.43	3.35	0.08	27.91	1.02	16.34	19.67	18.31
1250.00	3.43	3.35	0.08	30.52	1.05	16.58	19.32	17.96
1275.00	3.44	3.34	0.10	34.80	1.07	16.85	19.09	17.72
1300.00	3.44	3.33	0.11	44.22	1.10	17.25	18.93	17.59
1325.00	3.43	3.32	0.11	43.71	1.11	17.66	18.69	17.39
1350.00	3.44	3.32	0.12	35.34	1.15	17.98	18.41	17.12
1375.00	3.45	3.31	0.14	30.72	1.17	18.20	18.21	16.91
1400.00	3.45	3.30	0.15	27.43	1.18	18.46	18.11	16.83
1425.00	3.45	3.30	0.15	25.13	1.20	18.73	17.98	16.74
1450.00	3.47	3.30	0.17	23.47	1.25	18.83	17.75	16.53

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.
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