



ULTRA-SMALL CERAMIC

Power Splitter/Combiner

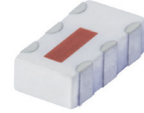
SCN-2-22+

Mini-Circuits

2 Way-0° 50Ω 1850 to 2200 MHz

FEATURES

- Isolation resistor, external 100 ohms
- Low insertion loss, 0.5 dB typ.
- Excellent amplitude unbalance, 0.2 dB typ.
- Good phase unbalance, 2.0 deg. typ.
- High isolation, 24 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

- PCS
- DCS
- UMTS

ELECTRICAL SPECIFICATIONS AT 25°C

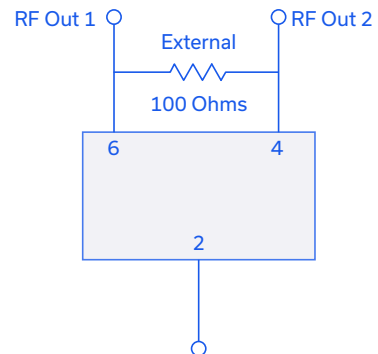
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		1850		2200	MHz
Insertion Loss, above 3.0 dB	1850-2200		0.5	0.9	dB
	1900-2100		0.5	0.9	
Isolation	1850-2200	17	22		dB
	1900-2100	20	24		
Phase Unbalance	1850-2200		2.0	5.0	Degree
	1900-2100		2.0	5.0	
Amplitude Unbalance	1850-2200		0.25	0.4	dB
	1900-2100		0.2	0.4	
Return Loss (Input)	1850-2200		16		dB
	1900-2100		16		
Return Loss (Output)	1850-2200		19		dB
	1900-2100		19		

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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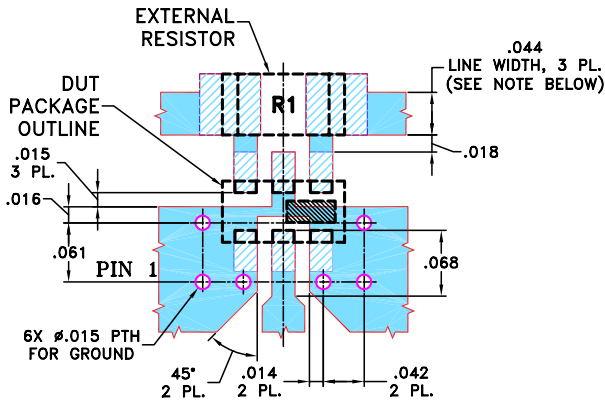


PIN CONNECTIONS

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

PRODUCT MARKING: C

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

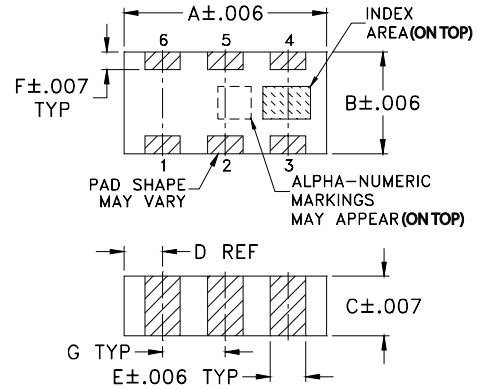


NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS $0.020" \pm 0.0015"$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

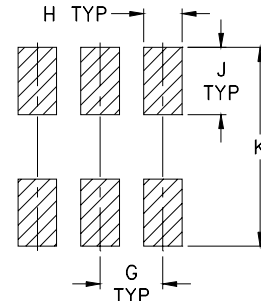
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- 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 ± 0.002

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	

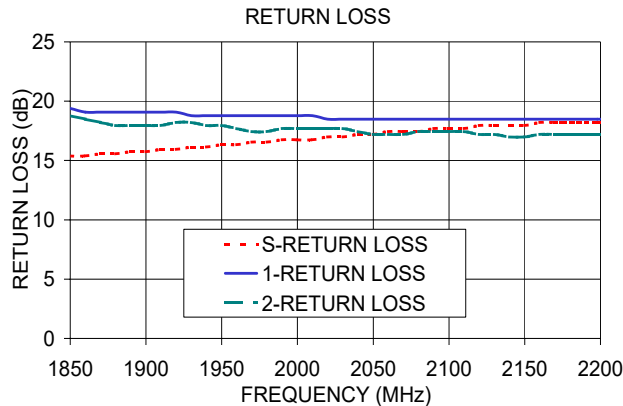
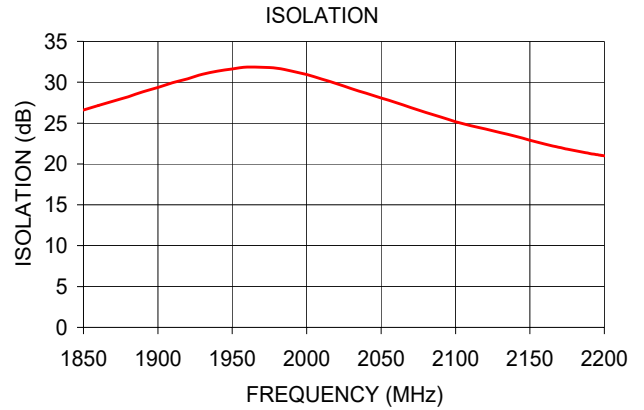
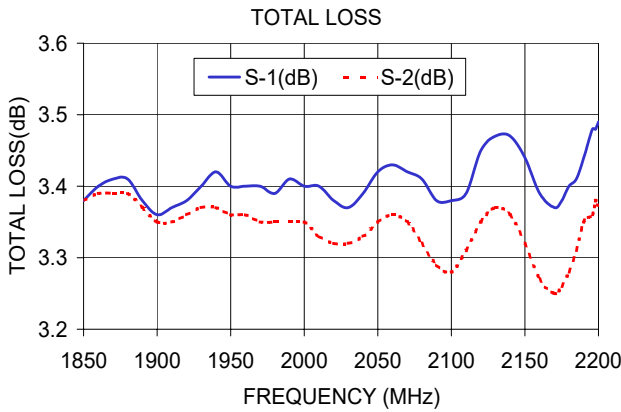
TAPE & REEL INFORMATION: F75



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
1850.00	3.38	3.38	0.00	26.59	1.79	15.38	19.40	18.78
1880.00	3.41	3.39	0.02	28.23	1.77	15.56	19.08	17.95
1900.00	3.36	3.35	0.01	29.36	1.82	15.75	19.08	17.95
1930.00	3.40	3.37	0.03	30.97	1.80	16.13	18.78	18.22
1950.00	3.40	3.36	0.04	31.63	1.84	16.33	18.78	17.95
1980.00	3.39	3.35	0.04	31.70	1.82	16.54	18.78	17.45
2000.00	3.40	3.35	0.06	30.96	1.82	16.75	18.78	17.69
2030.00	3.37	3.32	0.05	29.22	2.01	16.98	18.49	17.69
2050.00	3.42	3.35	0.07	28.07	1.96	17.21	18.49	17.21
2080.00	3.41	3.32	0.09	26.32	1.82	17.45	18.49	17.45
2100.00	3.38	3.28	0.10	25.17	2.05	17.69	18.49	17.45
2130.00	3.47	3.37	0.09	23.83	1.97	17.95	18.49	17.21
2150.00	3.44	3.32	0.12	22.91	1.93	17.95	18.49	16.98
2180.00	3.40	3.28	0.12	21.63	2.11	18.22	18.49	17.21
2200.00	3.49	3.37	0.12	20.99	2.02	18.22	18.49	17.21

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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