



ULTRA-SMALL CERAMIC

Power Splitter/Combiner

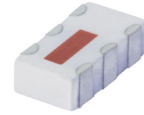
SCN-2-65+

Mini-Circuits

2 Way-0° 50Ω 5500 to 6500 MHz

FEATURES

- Isolation resistor, external 100 ohms
- Low insertion loss, 0.5 dB typ.
- Excellent amplitude unbalance, 0.1 dB typ.
- Excellent phase unbalance, 2.0 deg. typ.
- High isolation, 17 dB typ.
- Excellent power handling, 4W 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

- WLAN
- ISM

ELECTRICAL SPECIFICATIONS AT 25°C

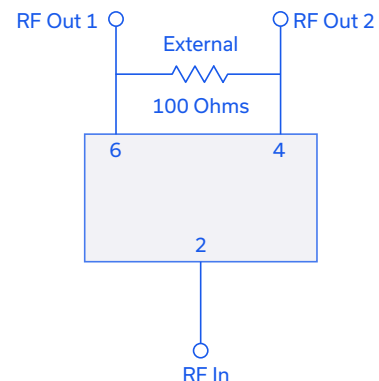
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		5500		6500	MHz
Insertion Loss, above 3.0 dB	5500-6500		0.8	1.1	dB
	5700-5900		0.5	1.0	
Isolation	5500-6500	11	17		dB
	5700-5900	11	17		
Phase Unbalance	5500-6500		3	5	Degree
	5700-5900		2	4	
Amplitude Unbalance	5500-6500		0.1	0.4	dB
	5700-5900		0.1	0.3	
Return Loss (Input)	5500-6500		18		dB
	5700-5900		16		
Return Loss (Output)	5500-6500		22		dB
	5700-5900		16		

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	4W* max.

*Derate linearly to 1.3W at 100°C ambient, power input as combiner is limited by rating of external 100Ω Resistor. Permanent damage may occur if any of these limits are exceeded.

ELECTRICAL SCHEMATIC



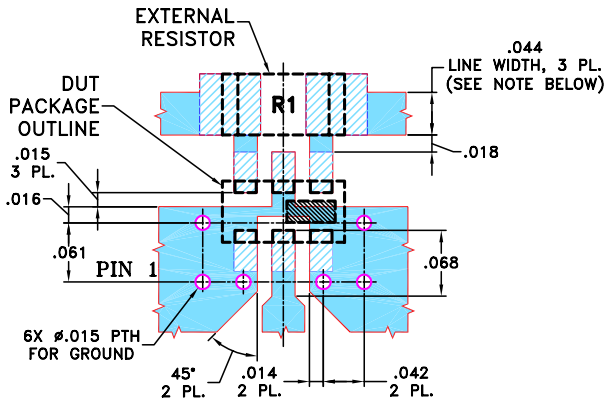


PIN CONNECTIONS

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

PRODUCT MARKING: PB

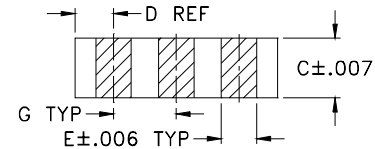
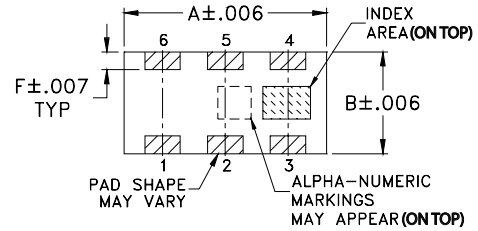
DEMO BOARD MCL P/N: TB-252
SUGGESTED PCB LAYOUT (PL-129)



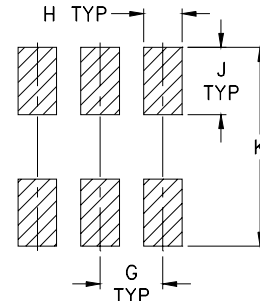
NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS $0.020" \pm 0.0015"$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- 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	

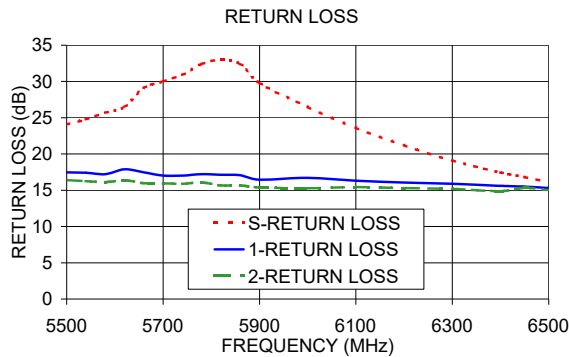
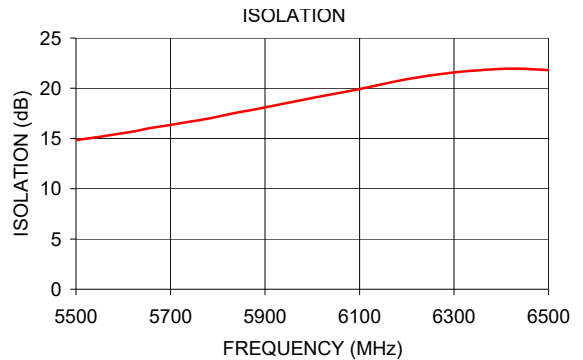
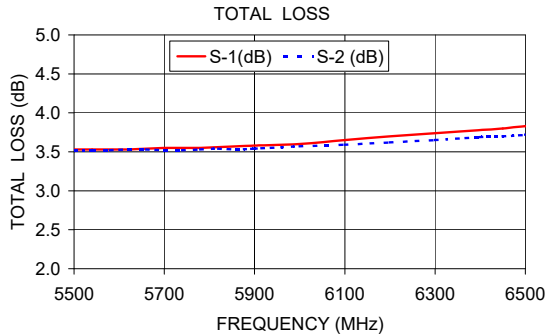
TAPE & REEL INFORMATION: F75



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
5500.00	3.53	3.52	0.00	14.85	1.24	24.06	17.48	16.39
5540.00	3.53	3.52	0.01	15.10	1.15	24.77	17.41	16.27
5580.00	3.53	3.52	0.01	15.40	1.13	25.71	17.22	16.12
5700.00	3.55	3.52	0.03	16.35	0.93	30.00	17.02	15.95
5740.00	3.55	3.52	0.03	16.68	0.93	30.92	17.03	15.90
5780.00	3.55	3.53	0.03	16.98	0.94	32.42	17.21	16.07
5860.00	3.57	3.53	0.03	17.74	0.83	32.43	17.07	15.68
5900.00	3.58	3.54	0.04	18.11	0.83	29.79	16.46	15.38
6000.00	3.60	3.57	0.04	19.05	0.81	26.48	16.70	15.27
6100.00	3.65	3.59	0.07	19.93	0.70	23.61	16.33	15.44
6200.00	3.70	3.62	0.07	20.91	0.69	21.21	16.06	15.30
6300.00	3.74	3.65	0.08	21.59	0.72	19.11	15.88	15.18
6400.00	3.78	3.69	0.09	21.94	0.67	17.43	15.62	14.88
6450.00	3.80	3.70	0.10	21.93	0.65	16.81	15.51	15.32
6500.00	3.83	3.72	0.11	21.81	0.68	16.15	15.29	15.03

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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