



ULTRA-SMALL CERAMIC

Power Splitter/Combiner

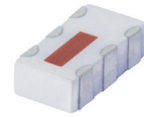
SCN-3-13+

Mini-Circuits

3 Way-0° 50Ω 750 to 1325 MHz

FEATURES

- Isolation resistor, external 100 ohms
- Low insertion loss, 1.0 dB typ.
- Excellent amplitude unbalance, 0.3 dB typ.
- Excellent phase unbalance, 1 deg. typ.
- High isolation, 12 dB typ.
- Excellent power handling, 15W 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



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

- DSS
- GSM, GPS
- WLAN
- ISM applications
- Satellite communication
- Defense applications

ELECTRICAL SPECIFICATIONS AT 25°C

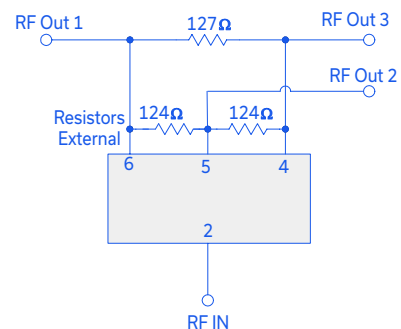
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		750		1325	MHz
Insertion Loss, above 4.8 dB	750-1325		1.0	1.5	dB
	850-1000		0.4	0.8	
Isolation	750-1325	10	12		dB
	850-1000	12	16		
Phase Unbalance	750-1325		1.0	3.0	Degree
	850-1000		0.5	3.0	
Amplitude Unbalance	750-1325		0.3	0.7	dB
	850-1000		0.2	0.5	
Return Loss (Input)	750-1325		12		dB
	850-1000		20		
Return Loss (Output)	750-1325		15		dB
	850-1000		20		

MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* 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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REV. G
ECO-010710
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AD/TD/CP/AM
220929

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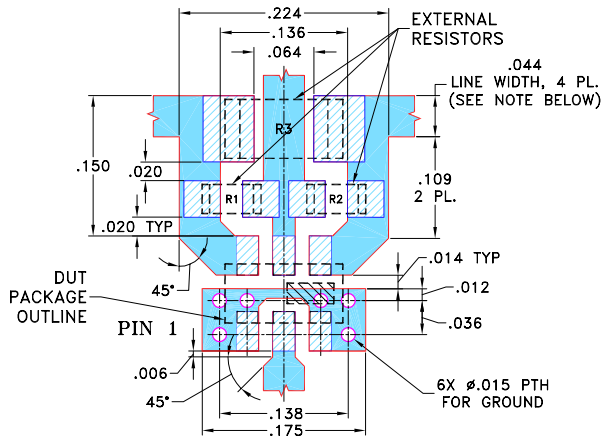


PIN CONNECTIONS

SUM PORT	2
PORT 1	6
PORT 2	5
PORT 3	4
GROUND	1,3
PORT 1-2, 2-3	resistor external 124 ohms
PORT 1-3	resistor external 127 ohms

PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-303 SUGGESTED PCB LAYOUT (PL-171)



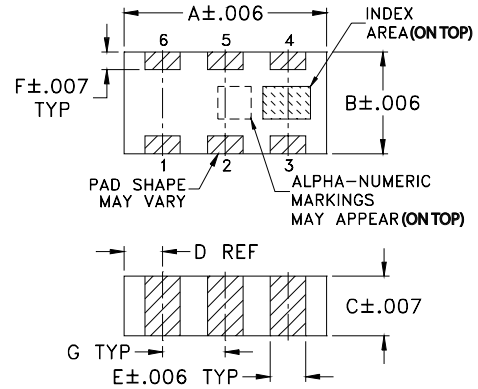
RESISTORS: R1-R2: 124 Ohm, 0603 SIZE; R3: 127 Ohm, 1206 SIZE.

NOTE:

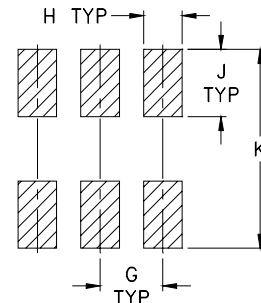
1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS: .020 ± .0015; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. RESISTOR LAND PATTERNS ARE SHOWN AS PER IPC-SM-782A.
3. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

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	

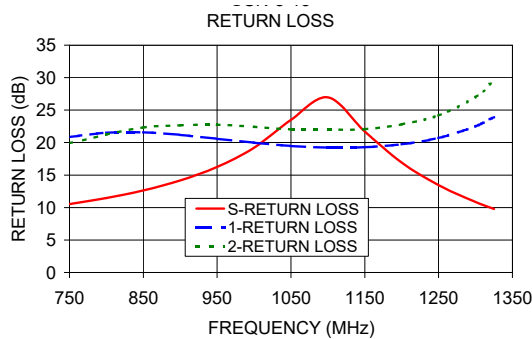
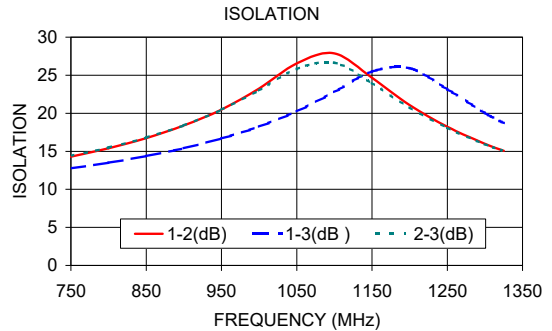
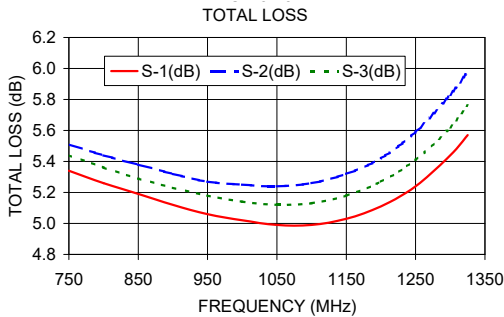
TAPE & REEL INFORMATION: F75



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-3		1-2	1-3	2-3		S	1	2
750.00	5.34	5.51	5.44	0.17	14.30	12.76	14.40	0.91	10.53	20.85	19.89
800.00	5.26	5.44	5.36	0.17	15.41	13.51	15.51	1.02	11.47	21.53	21.25
850.00	5.19	5.38	5.29	0.19	16.74	14.37	16.81	1.07	12.65	21.58	22.33
900.00	5.12	5.32	5.23	0.20	18.39	15.41	18.41	1.20	14.17	21.18	22.67
950.00	5.06	5.27	5.18	0.22	20.49	16.67	20.45	1.30	16.24	20.59	22.75
1000.00	5.02	5.25	5.14	0.23	23.24	18.24	23.00	1.39	19.19	19.97	22.41
1050.00	4.99	5.24	5.12	0.25	26.57	20.24	25.81	1.45	23.51	19.48	22.03
1100.00	4.99	5.26	5.13	0.27	27.86	22.80	26.64	1.54	26.97	19.24	22.00
1150.00	5.03	5.32	5.18	0.29	24.65	25.48	23.98	1.61	21.70	19.28	22.07
1200.00	5.11	5.42	5.27	0.32	21.07	25.93	20.77	1.64	16.90	19.74	22.80
1250.00	5.24	5.59	5.41	0.35	18.22	23.16	18.08	1.73	13.45	20.72	24.18
1300.00	5.44	5.83	5.62	0.39	16.00	20.05	15.93	1.79	10.86	22.51	27.00
1325.00	5.57	5.98	5.76	0.41	15.07	18.71	15.03	1.81	9.77	23.94	29.65

1. Total Loss = Insertion Loss + 4.8 dB 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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