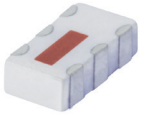
Ultra-Small Ceramic

Power Splitter/Combiner

3 Way-0° 50Ω 750 to 1325 MHz

SCN-3-13+
SCN-3-13



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

+RoHS Compliant

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

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500,1000, 3000

Maximum 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.

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

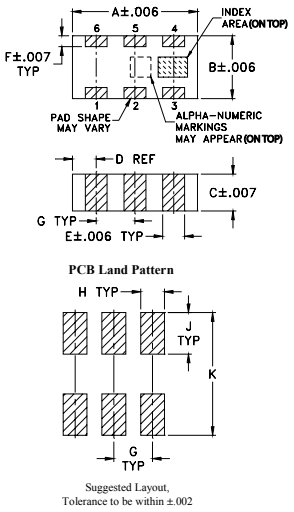
Features

- isolation resistors, external
- low insertion loss, 1.0 dB typ.
- excellent amplitude unbalance, 0.3 dB typ.
- very good 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

Applications

- DSS
- WLAN
- satellite communicati
- GSM, GPS
- ISM applications
- defense applications

Outline Drawing

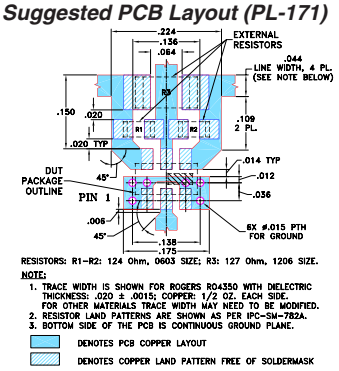


Outline Dimensions (inch / mm)

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

Demo Board MCL P/N: TB-303
Suggested PCB Layout (PL-171)



Electrical Specifications

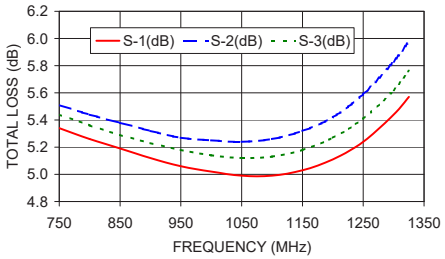
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 4.8 dB		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		RETURN LOSS (dB)	
f_L-f_U	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	INPUT Typ.	OUTPUT Typ.
750-1325	**12**	**10**	**1.0**	**1.5**	**1.0**	**3.0**	**0.3**	**0.7**	**12**	**20**
850-1000	16	12	0.4	0.8	0.5	3.0	0.2	0.5	15	20

Typical Performance Data

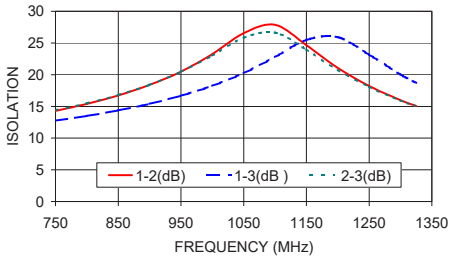
Freq. (MHz)	Total Loss[1] (dB)			Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	Return Loss (dB)		
	S-1	S-2	S-3		1-2	1-3	2-3		S	1	2
750.00	5.34	5.51	5.44	0.17	14.30	12.76	14.40	0.91	10.53	20.85	19.89
800.00	5.26	5.44	5.36	0.17	15.41	13.51	15.51	1.02	11.47	21.53	21.25
850.00	5.19	5.38	5.29	0.19	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 + 4.8dB splitter loss.

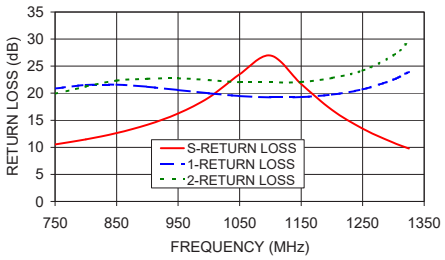
SCN-3-13
TOTAL LOSS



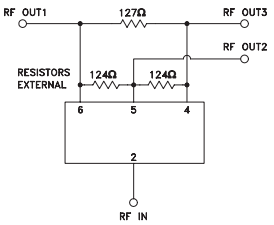
SCN-3-13
ISOLATION



SCN-3-13
RETURN LOSS



electrical schematic



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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