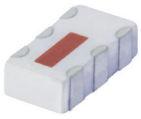
Ultra-Small Ceramic

Power Splitter/Combiner

3 Way-0° 50Ω 1600 to 2800 MHz

SCN-3-28+
SCN-3-28



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

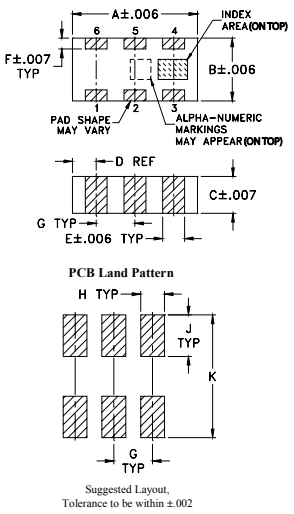
Features

- isolation resistors, external
- low insertion loss, 0.8 dB typ.
- excellent amplitude unbalance, 0.2 dB typ.
- very good phase unbalance, 5 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

- PSC, DECT
- DSS
- WLAN
- satellite communication
- line of sight communication
- ISM applications
- WLL
- defense applications

Outline Drawing

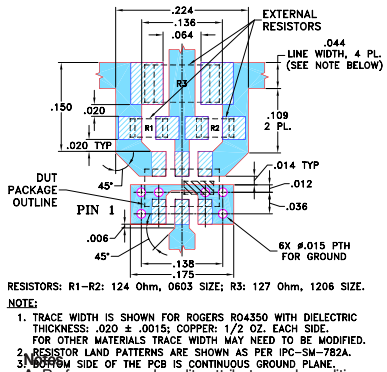


Outline Dimensions (inch / mm)

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)



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.

Electrical Specifications

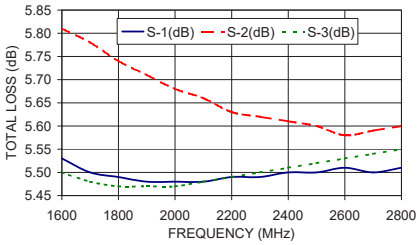
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 4.8		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		RETURN LOSS (dB)	
f_L-f_U	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	INPUT Typ.	OUTPUT Typ.
1600-2800	**12**	**10**	**0.8**	**1.2**	**5**	**8**	**0.2**	**0.6**	**10**	**12**
1800-2000	14	12	0.8	1.2	5	8	0.2	0.6	10	13
2000-2200	16	13	0.8	1.2	5	8	0.2	0.5	11	12
2400-2500	20	17	0.8	1.2	5	8	0.2	0.5	11	12

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
1600.00	5.53	5.81	5.50	0.31	15.27	12.43	16.36	3.29	9.44	18.66	22.27
1700.00	5.50	5.78	5.48	0.29	16.66	13.09	17.87	3.64	9.73	17.30	22.33
1800.00	5.49	5.74	5.47	0.27	18.38	13.86	19.78	3.99	9.99	15.95	20.89
1900.00	5.48	5.71	5.47	0.24	20.57	14.75	22.29	4.31	10.23	14.71	19.12
2000.00	5.48	5.68	5.47	0.21	23.60	15.80	25.98	4.62	10.44	13.73	17.52
2100.00	5.48	5.66	5.48	0.18	28.40	17.05	32.67	4.79	10.63	12.94	16.11
2200.00	5.49	5.63	5.49	0.15	39.20	18.57	45.10	4.99	10.78	12.30	14.93
2300.00	5.49	5.62	5.50	0.12	33.16	20.43	29.60	5.06	10.95	11.85	14.05
2400.00	5.50	5.61	5.51	0.11	25.77	22.80	24.16	5.14	11.12	11.56	13.33
2500.00	5.50	5.60	5.52	0.09	21.75	25.66	20.80	5.14	11.30	11.41	12.83
2600.00	5.51	5.58	5.53	0.08	18.99	28.11	18.37	5.02	11.49	11.33	12.54
2700.00	5.50	5.59	5.54	0.08	16.91	27.40	16.50	4.88	11.65	11.46	12.34
2800.00	5.51	5.60	5.55	0.09	15.25	24.44	14.98	4.68	11.79	11.72	12.35

1. Total Loss = Insertion Loss + 4.8dB splitter loss.

SCN-3-28
TOTAL LOSS



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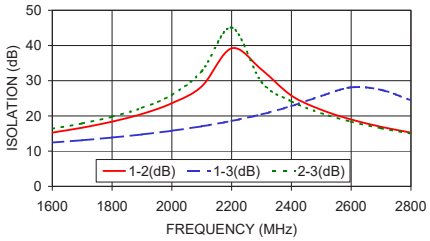
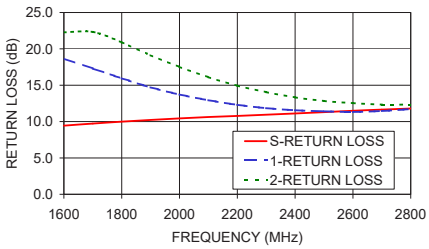
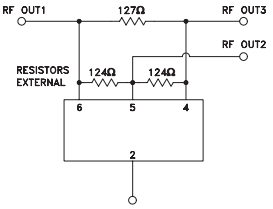
ISOLATION



SCN-3-28
RETURN LOSS



electrical schematic



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