

Ultra-Small Ceramic Power Splitter/Combiner

SCN-3-28+ SCN-3-28

3 Way-0° 50Ω 1600 to 2800 MHz



Maximum Ratings

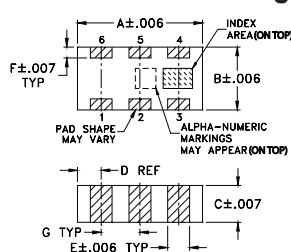
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	15W* max.

* Derate linearly to 6W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

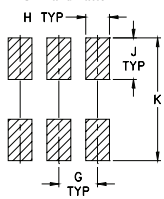
Pin Connections

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

Outline Drawing



PCB Land Pattern

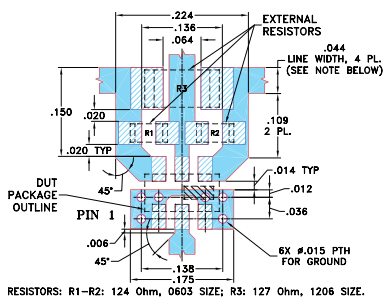


Suggested Layout, Tolerance to be within ±.002

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.

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

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

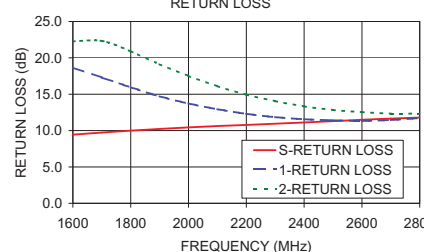
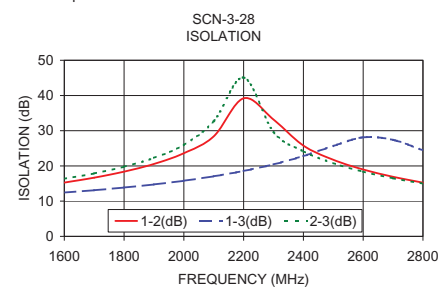
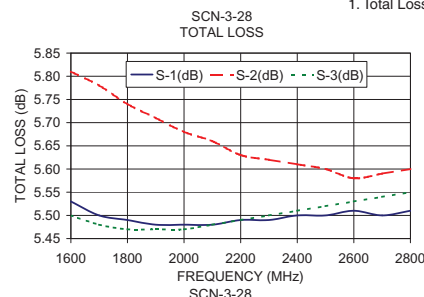
Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 4.8		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		RETURN LOSS (dB)	
	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	INPUT Typ.	OUTPUT Typ.
f _i -f _u										
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

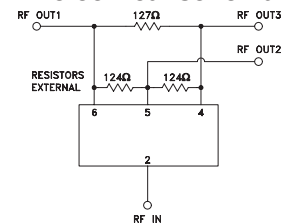
Typical Performance Data

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.



electrical schematic



For detailed performance specs & shopping online see web site

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