

# Power Splitter/Combiner

**SCN-2-22+**  
**SCN-2-22**

2 Way-0° 50Ω 1850 to 2200 MHz



## Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	20W* max.

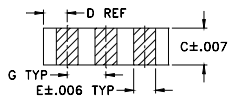
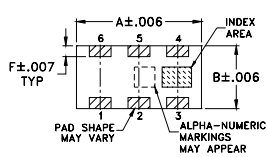
\*Derate linearly to 6W at 100°C ambient.  
Permanent damage may occur if any of these limits are exceeded.

## Pin Connections

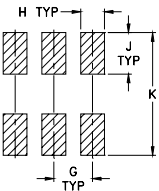
SUM PORT	2
PORT 1	6
PORT 2	4
GROUND	1,3,5
PORT 1-2	resistor external 100 OHMS

## Product Marking: C

### Outline Drawing



### PCB Land Pattern

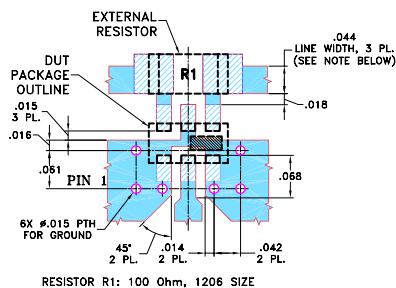


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	wt
.126	.063	.035	.024	.022	.011	.039	.024	.042	.123	grams
3.20	1.60	0.89	0.61	0.56	0.28	0.99	0.61	1.07	3.12	.020

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" ± 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

## Features

- isolation resistor, external 100 ohms
- low insertion loss, 0.5 dB typ.
- excellent amplitude unbalance, 0.2 dB typ.
- good phase unbalance, 2.0 deg. typ.
- high isolation, 24 dB typ.
- excellent power handling, 20W 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

## Applications

- PCS
- DCS
- UMTS

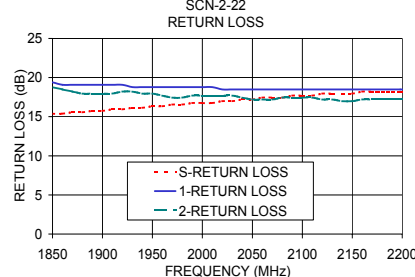
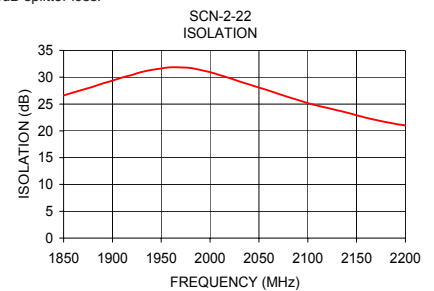
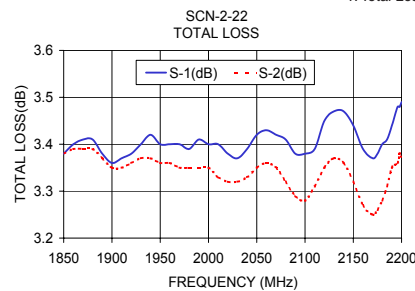
## Electrical Specifications

FREQUENCY (MHz)	INSERTION LOSS (dB) ABOVE 3.0 dB		ISOLATION (dB)		PHASE UNBALANCE (Degrees)		AMPLITUDE UNBALANCE (dB)		RETURN LOSS (dB)	
	Typ.	Max.	Typ.	Min.	Typ.	Max.	Typ.	Max.	INPUT Typ.	OUTPUT Typ.
1850-2200	0.5	0.9	22	17	2.0	5.0	0.25	0.4	16	19
1900-2100	0.5	0.9	24	20	2.0	5.0	0.2	0.4	16	19

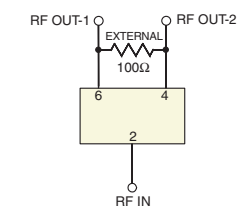
## Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	Return Loss (dB)		
	S-1	S-2				S	1	2
1850.00	3.38	3.38	0.00	26.59	1.79	15.38	19.40	18.78
1880.00	3.41	3.39	0.02	28.23	1.77	15.56	19.08	17.95
1900.00	3.36	3.35	0.01	29.36	1.82	15.75	19.08	17.95
1930.00	3.40	3.37	0.03	30.97	1.80	16.13	18.78	18.22
1950.00	3.40	3.36	0.04	31.63	1.84	16.33	18.78	17.95
1980.00	3.39	3.35	0.04	31.70	1.82	16.54	18.78	17.45
2000.00	3.40	3.35	0.06	30.96	1.82	16.75	18.78	17.69
2030.00	3.37	3.32	0.05	29.22	2.01	16.98	18.49	17.69
2050.00	3.42	3.35	0.07	28.07	1.96	17.21	18.49	17.21
2080.00	3.41	3.32	0.09	26.32	1.82	17.45	18.49	17.45
2100.00	3.38	3.28	0.10	25.17	2.05	17.69	18.49	17.45
2130.00	3.47	3.37	0.09	23.83	1.97	17.95	18.49	17.21
2150.00	3.44	3.32	0.12	22.91	1.93	17.95	18.49	16.98
2180.00	3.40	3.28	0.12	21.63	2.11	18.22	18.49	17.21
2200.00	3.49	3.37	0.12	20.99	2.02	18.22	18.49	17.21

1. Total Loss = Insertion Loss + 3dB splitter loss.



## electrical schematic



For detailed performance specs & shopping online see web site

**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

IF/RF MICROWAVE COMPONENTS

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at [minicircuits.com](http://minicircuits.com)

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