

# Ultra-Small Ceramic Power Splitter/Combiner

## SCN-2-45+ SCN-2-45

2 Way-0° 50Ω

3700 to 4200 MHz



CASE STYLE: FV1206-1  
PRICE: \$ 2.50 ea. QTY (10-49)  
\$ 0.99 ea. QTY (100)

### Maximum Ratings

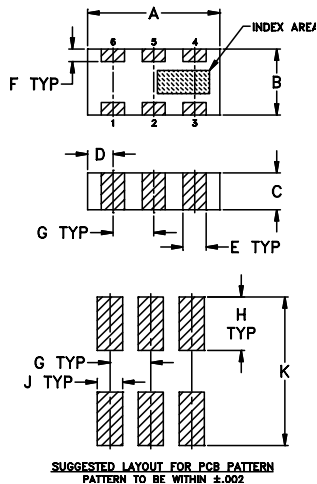
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	4W* max.

\*derate linearly to 1.3W at 100°C ambient, power input as combiner is limited by rating of external 100 Ω resistor.

### Pin Connections

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

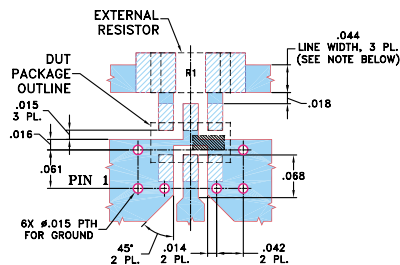
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J	K	wt
										grams
.126	.063	.037	.024	.022	.012	.039	.042	.024	.123	.020
3.20	1.60	0.94	0.61	0.56	0.30	0.99	1.07	0.61	3.12	

### Demo Board MCL P/N: TB-252 Suggested PCB Layout (PL-129)



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. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

### Features

- isolation resistor, external 100 ohms
- low insertion loss, 0.7 dB typ.
- excellent amplitude unbalance, 0.2 dB typ.
- excellent phase unbalance, 1.5 deg. typ.
- high isolation, 22 dB typ.
- excellent power handling, 4W 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
- patent pending

### Applications

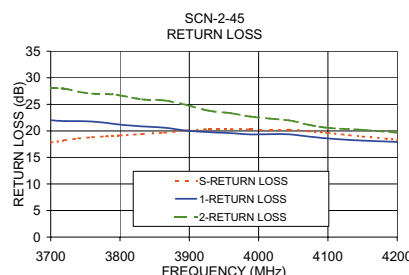
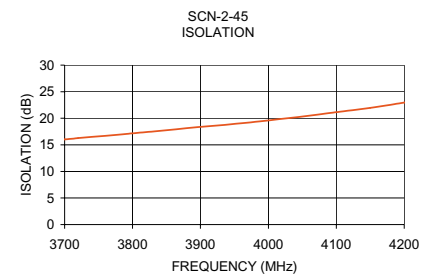
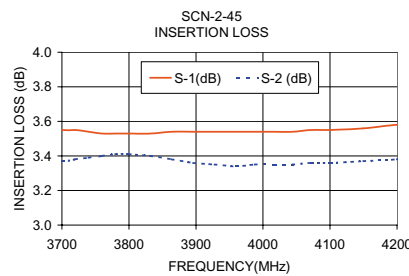
- maritime mobile

### Splitter Electrical Specifications

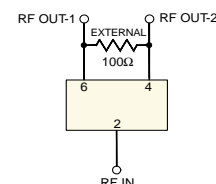
MODEL NO.	FREQUENCY (MHz)	INSERTION LOSS (dB)		ISOLATION (dB)	PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)		RETURN LOSS (dB)	
		ABOVE 3.0 dB				INPUT	OUTPUT		
		Typ.	Max.		Typ. <th>Max.</th> <th>Typ.</th> <th>Max.</th> <td></td>	Max.	Typ.	Max.	
SCN-2-45(+)	3700-4200 3800-4100	0.7	1.0	20 13 22 15	1.5 4 1.5 4	0.2	0.4	14 17 16 17	
		0.7	1.0			0.2	0.4		

### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	Return Loss (dB)		
	S-1	S-2				S	1	2
3700.00	3.55	3.37	0.18	16.04	1.57	17.81	22.02	28.10
3720.00	3.55	3.38	0.17	16.28	1.65	18.21	21.85	27.94
3740.00	3.54	3.39	0.15	16.49	1.66	18.58	21.83	27.36
3760.00	3.53	3.40	0.13	16.69	1.60	18.81	21.77	27.02
3780.00	3.53	3.41	0.12	16.91	1.46	18.96	21.52	26.95
3800.00	3.53	3.41	0.12	17.16	1.31	19.12	21.17	26.69
3864.00	3.54	3.38	0.16	17.92	1.09	19.67	20.59	25.75
3896.00	3.54	3.36	0.18	18.33	1.16	20.06	20.04	24.89
3960.00	3.54	3.34	0.19	19.05	1.26	20.35	19.56	23.33
4016.00	3.54	3.35	0.19	19.83	1.35	20.24	19.39	22.30
4044.00	3.54	3.35	0.19	20.24	1.35	20.20	19.35	21.98
4072.00	3.55	3.36	0.19	20.68	1.35	19.94	18.95	21.14
4100.00	3.55	3.36	0.19	21.14	1.38	19.60	18.59	20.57
4150.00	3.56	3.37	0.19	21.95	1.40	18.95	18.16	20.17
4200.00	3.58	3.38	0.19	22.97	1.44	18.34	17.92	19.66



### electrical schematic



**Mini-Circuits**

INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified



REV. A  
M98898  
SCN-2-45  
ED-11378C/2  
AD/TD/CP  
051107