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)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

See our web site for RoHS Compliance methodologies and qualifications.

Maximum Ratings

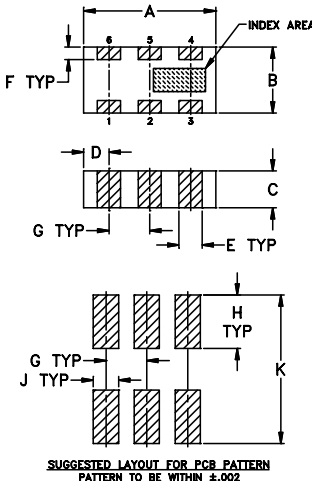
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	4W* max.

**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

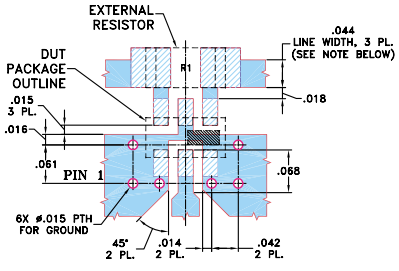


Outline Dimensions (inch / mm)

A	B	C	D	E	F
.126	.063	.037	.024	.022	.012
3.20	1.60	0.94	0.61	0.56	0.30

G	H	J	K	wt
.039	.042	.024	.123	grams
0.99	1.07	0.61	3.12	.020

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



NOTE:
1. RESISTOR R1: 100 Ohm, 1206 SIZE
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

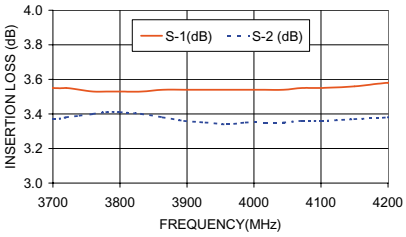
Splitter Electrical Specifications

MODEL NO.	FREQUENCY (MHz)	INSERTION LOSS (dB) 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.
SCN-2-45(+)	**3700-4200**	**0.7**	**1.0**	**20**	**13**	**1.5**	**4**	**0.2**	**0.4**	**14**	**17**
	3800-4100	0.7	1.0	22	15	1.5	4	0.2	0.4	16	17

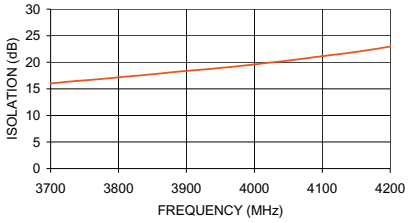
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) S-1	Insertion Loss (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	Return Loss (dB) S	Return Loss (dB) 1	Return Loss (dB) 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

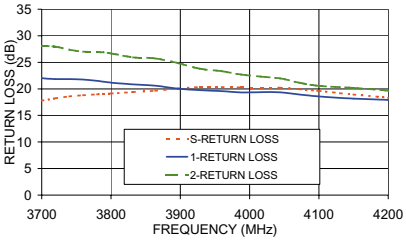
SCN-2-45
INSERTION LOSS



SCN-2-45
ISOLATION



SCN-2-45
RETURN LOSS



electrical schematic