

# Surface Mount Power Splitter/Combiner

## SP-2C1+

2 Way-0° 50Ω

640 to 1100 MHz



### Maximum Ratings

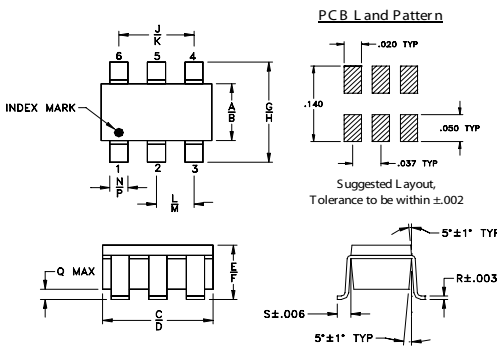
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation	0.75W max.

Permanent damage may occur if any of these limits are exceeded.

### Pin Connections

SUM PORT	5
PORT 1	1
PORT 2	3
GROUND	2,4,6

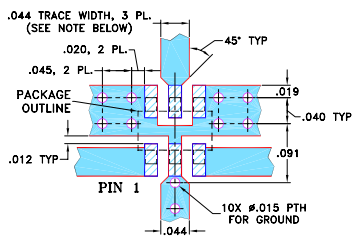
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H	J
.052	.067	.106	.122	.035	.064	.087	.118	.067
1.32	1.70	2.69	3.10	0.89	1.63	2.21	3.00	1.70
K	L	M	N	P	Q	R	S	wt
.083	.033	.042	.012	.020	.012	.006	.018	grams
2.11	0.84	1.07	0.30	0.51	0.30	0.15	0.46	0.020

### Demo Board MCL P/N: TB-374 Suggested PCB Layout (PL-232)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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 WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- Denotes COPPER LAND PATTERN FREE OF SOLDER MASK

### Features

- wide bandwidth
- good isolation, 20 dB typ.
- excellent VSWR, 1.25:1 typ.
- excellent power handling, 1.5W
- small size
- aqueous washable

### Applications

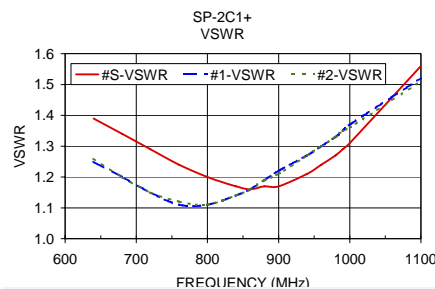
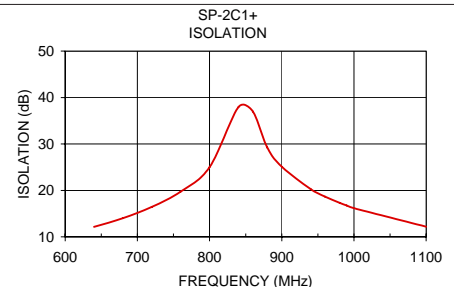
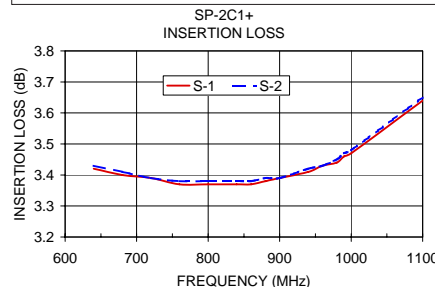
- cellular
- GSM
- Land Mobile
- ISM
- PDC

### Electrical Specifications

FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1)	
	Typ.	Min.	Typ.	Max.			S-Port Typ.	Output Ports Typ.
640-1100	20	10	0.4	1.0	2	0.2	1.25	1.25

### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
640.00	3.42	3.43	0.01	12.16	0.05	1.39	1.25	1.26
680.00	3.40	3.41	0.01	14.02	0.05	1.34	1.20	1.20
720.00	3.39	3.39	0.01	16.44	0.05	1.29	1.15	1.15
760.00	3.37	3.38	0.01	19.75	0.04	1.24	1.11	1.12
800.00	3.37	3.38	0.01	24.99	0.04	1.20	1.11	1.11
840.00	3.37	3.38	0.01	37.94	0.04	1.17	1.14	1.14
860.00	3.37	3.38	0.01	36.99	0.04	1.16	1.16	1.16
880.00	3.38	3.39	0.01	29.21	0.04	1.17	1.19	1.19
900.00	3.39	3.39	0.01	25.08	0.04	1.17	1.22	1.21
940.00	3.41	3.42	0.01	20.29	0.03	1.21	1.27	1.27
960.00	3.43	3.43	0.01	18.66	0.02	1.24	1.30	1.30
980.00	3.44	3.45	0.01	17.32	0.03	1.27	1.33	1.33
990.00	3.46	3.47	0.01	16.73	0.03	1.29	1.35	1.35
1000.00	3.47	3.48	0.01	16.18	0.03	1.31	1.37	1.36
1100.00	3.64	3.65	0.01	12.18	0.04	1.56	1.52	1.51



### electrical schematic



### ESD Rating

Human Body Model (HBM): Class 1A (250 v to <500 v) in accordance with ANSI/ESD STM 5.1 - 2001  
Machine Model (MM): Class M1 (< 100 v) in accordance with ANSI/ESD STM 5.2 - 1999 (pass 50V)

For detailed performance specs & shopping online see web site

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

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