

# Surface Mount Power Splitter/Combiner

## SP-2U2+

2 Way-0° 50Ω 1720 to 2850 MHz



### Maximum Ratings

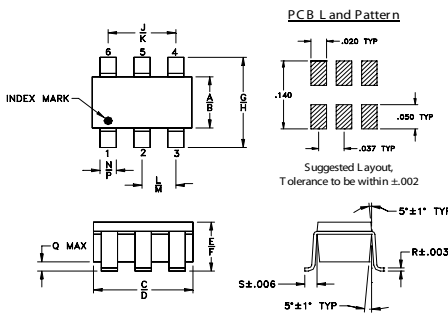
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation	0.75W max.

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

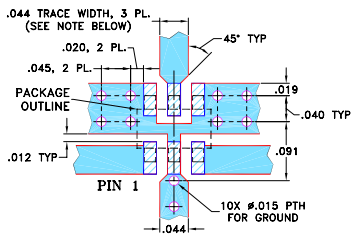
### Outline Drawing



### 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
- low insertion loss, 0.5 dB typ.
- good isolation, 17 dB typ.
- good output VSWR, 1.26:1 typ.
- excellent power handling, 1.5W
- small size
- aqueous washable

### Applications

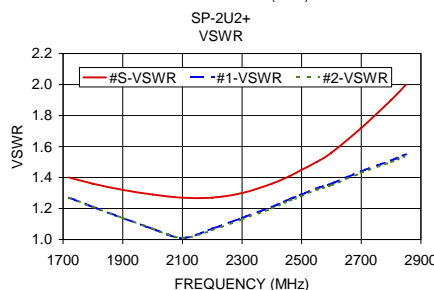
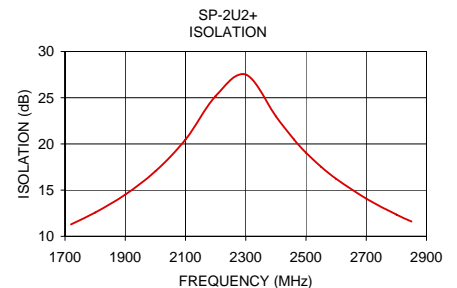
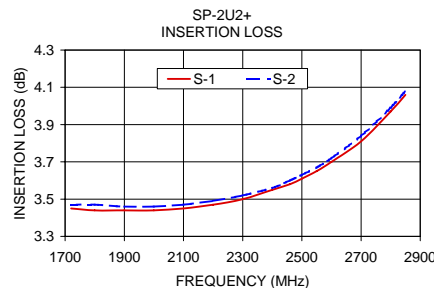
- bluetooth
- WCDMA
- IEEE 802.11b, g
- PCS
- Wi-Fi

### 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	Output Ports
1720-2850	17	9	0.5	1.4	3	0.2	1.5	1.26

### 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						
1720.00	3.45	3.47	0.02	11.30	0.66	1.40	1.27	1.27
1800.00	3.44	3.47	0.02	12.57	0.68	1.36	1.21	1.21
1900.00	3.44	3.46	0.02	14.52	0.66	1.32	1.14	1.14
2000.00	3.44	3.46	0.02	17.04	0.62	1.29	1.07	1.07
2100.00	3.45	3.47	0.02	20.47	0.74	1.27	1.01	1.01
2200.00	3.47	3.49	0.02	25.19	0.73	1.27	1.07	1.06
2300.00	3.50	3.52	0.02	27.51	0.73	1.30	1.14	1.13
2400.00	3.55	3.56	0.01	22.99	0.75	1.36	1.21	1.20
2460.00	3.58	3.60	0.02	20.48	0.81	1.41	1.26	1.25
2500.00	3.61	3.63	0.02	19.05	0.83	1.45	1.29	1.28
2550.00	3.65	3.67	0.02	17.52	0.83	1.50	1.33	1.32
2600.00	3.70	3.72	0.02	16.23	0.82	1.56	1.36	1.35
2700.00	3.81	3.84	0.02	14.07	0.84	1.72	1.44	1.43
2800.00	3.97	3.99	0.02	12.36	0.85	1.90	1.51	1.50
2850.00	4.06	4.08	0.02	11.61	0.80	2.00	1.55	1.54



### 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)



P.O. Box 35888, Brooklyn, New York 11235-0088 (718) 338-4800 Fax (718) 338-4801 For detailed performance specs & shipping rates see Mini-Circuits web site  
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IF/RF MICROWAVE COMPONENTS

REV. A  
M107210  
ED-12348C/3+  
SP-2U2+  
RS/LC/CP/AM  
090129