

# Surface Mount Power Splitter/Combiner

## BP4U+

4 Way-0° 50Ω 2100 to 2500 MHz



### Maximum Ratings

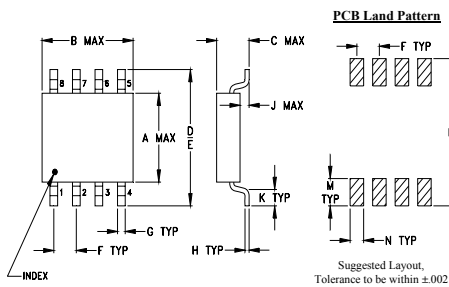
Operating Temperature	-40°C to 85°C
Storage Temperature	-65°C to 150°C
Power Input (as a splitter)	1.5W max.
Internal Dissipation	0.375W max.

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

### Pin Connections

SUM PORT	2
PORT 1	1
PORT 2	8
PORT 3	5
PORT 4	4
GROUND	3,6,7

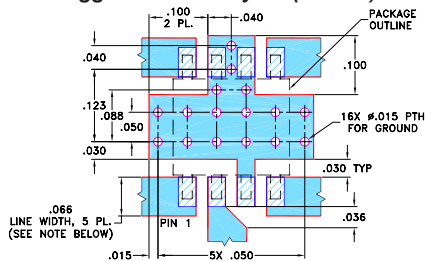
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.163	.210	.077	.250	.220	.050	.017
4.14	5.33	1.96	6.35	5.59	1.27	0.43
H	J	K	M	N	P	wt
.009	.025	.030	.050	.030	.270	grams
0.23	0.64	0.76	1.27	0.76	6.86	0.10

### Demo Board MCL P/N: TB-231 Suggested PCB Layout (PL-113)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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

- low insertion loss, 0.7 dB typ
- excellent isolation, 23 dB typ.
- excellent VSWR, 1.15:1 typ.
- umplitude unbalance, 0.6 dB typ.
- aqueous washable
- excellent power handling, 1.5W

### Applications

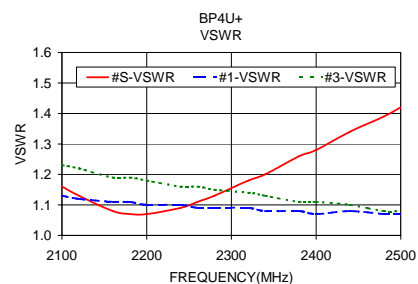
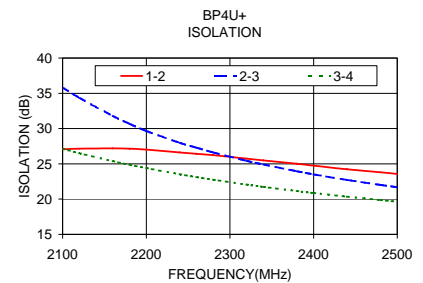
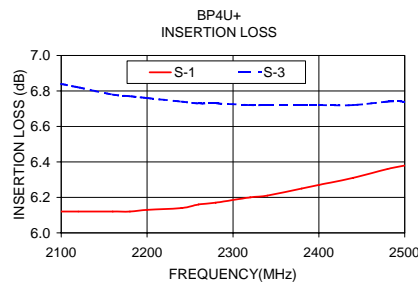
- bluetooth
- IEEE 802.11b, g

### Electrical Specifications

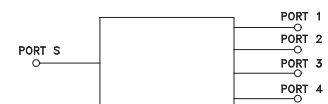
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 6 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1) Typ.	
	Typ.	Min.	Typ.	Max.			Ports S	Ports 1,2,3,4
$f_L$ - $f_U$					Max.	Max.		
2100-2500	23	17	0.7	1.2	20	1.1	1.15	1.15

### Typical Performance Data

Freq. (MHz)	Insertion Loss (dB)				Amp. Unbal. (dB)	Isolation (dB)			Phase Unbal. (deg.)	VSWR				
	S-1	S-2	S-3	S-4		1-2	2-3	3-4		S	1	2	3	4
2100.00	6.12	6.78	6.84	6.82	0.72	27.06	35.82	27.14	8.09	1.16	1.13	1.24	1.23	1.30
2120.00	6.12	6.76	6.82	6.80	0.70	27.15	34.37	26.51	8.47	1.13	1.12	1.23	1.22	1.29
2160.00	6.12	6.73	6.78	6.78	0.66	27.19	31.79	25.38	9.15	1.08	1.11	1.21	1.19	1.27
2180.00	6.12	6.72	6.77	6.78	0.65	27.14	30.68	24.87	9.52	1.07	1.11	1.21	1.19	1.27
2200.00	6.13	6.70	6.76	6.77	0.64	27.02	29.67	24.40	9.88	1.07	1.10	1.20	1.18	1.26
2240.00	6.14	6.69	6.74	6.76	0.62	26.61	27.99	23.53	10.62	1.09	1.10	1.18	1.16	1.24
2260.00	6.16	6.68	6.73	6.76	0.61	26.42	27.29	23.12	11.00	1.11	1.09	1.18	1.16	1.24
2280.00	6.17	6.67	6.73	6.76	0.60	26.23	26.62	22.75	11.37	1.13	1.09	1.17	1.15	1.23
2320.00	6.20	6.67	6.72	6.77	0.57	25.74	25.43	22.06	12.10	1.18	1.09	1.15	1.14	1.22
2340.00	6.21	6.67	6.72	6.77	0.56	25.49	24.91	21.74	12.46	1.20	1.08	1.15	1.13	1.21
2380.00	6.25	6.67	6.72	6.78	0.54	25.01	23.96	21.14	13.17	1.26	1.08	1.13	1.11	1.20
2400.00	6.27	6.67	6.72	6.79	0.53	24.75	23.51	20.86	13.53	1.28	1.07	1.13	1.11	1.20
2440.00	6.31	6.68	6.72	6.82	0.51	24.23	22.72	20.34	14.30	1.34	1.08	1.12	1.10	1.19
2480.00	6.36	6.70	6.74	6.84	0.48	23.80	22.02	19.86	15.02	1.39	1.07	1.11	1.08	1.17
2500.00	6.38	6.70	6.74	6.85	0.47	23.57	21.69	19.64	15.39	1.42	1.07	1.10	1.08	1.17



### 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)

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ISO 9001 ISO 14001 AS 9100 CERTIFIED

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