



**SURFACE MOUNT**

# Power Splitter/Combiner

## SP-2L+

2 Way-0° 50Ω 2700 to 4000 MHz

### FEATURES

- Low insertion loss, 0.75 dB typ.
- Good isolation, 18 dB typ.
- Good output VSWR, 1.3:1 typ.
- Excellent power handling, 1.5W
- Small size
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: CA531

### +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our website for methodologies and qualifications

### APPLICATIONS

- WIMAX
- WIMAX local oscillator

### ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		2700		4000	MHz
Insertion Loss (above 3.0 dB)	2700-4000	—	0.75	14	dB
Isolation	2700-4000	10	18	—	dB
Amplitude Unbalance	2700-4000	—	—	0.3	dB
Phase Unbalance	2700-4000	—	—	8	deg.
VSWR (Port S)	2700-4000	—	1.5	—	:1
VSWR (Port 1)	2700-4000	—	1.3	—	:1
VSWR (Port 2)	2700-4000	—	1.3	—	:1

### MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40 °C to +85 °C
Storage Temperature	-65 °C to +150 °C
Input Power (as a splitter)	0.75 W max.
Internal Dissipation	0.375W max.

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

### ELECTRICAL SCHEMATIC





# SURFACE MOUNT

# Power Splitter/Combiner

# SP-2L+

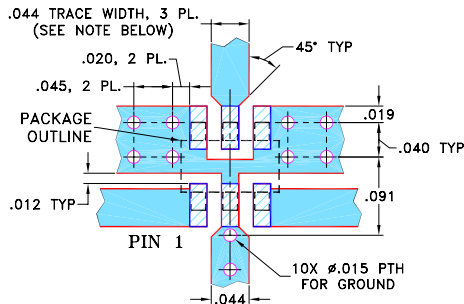
2 Way-0° 50Ω 2700 to 4000 MHz

### PIN CONNECTIONS

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

PRODUCT MARKING: N/A

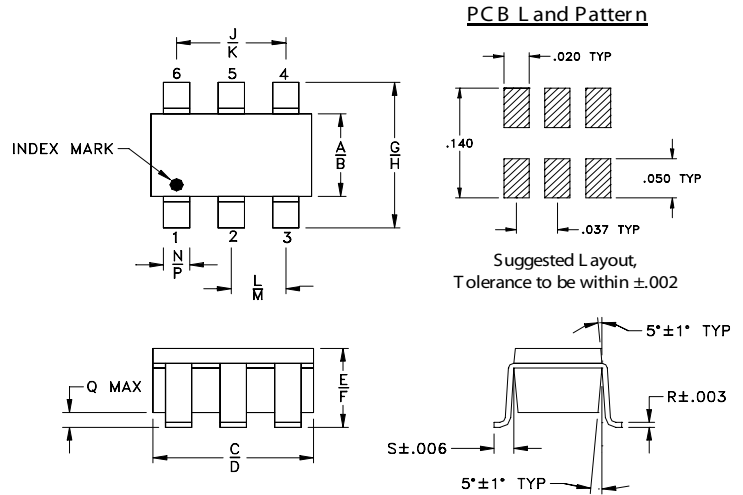
DEMOBOARD MCL P/N: TB-374  
SUGGESTED PCB LAYOUT (PL-232)



- 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

### 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

TAPE & REEL INFORMATION: F31



SURFACE MOUNT

# Power Splitter/Combiner

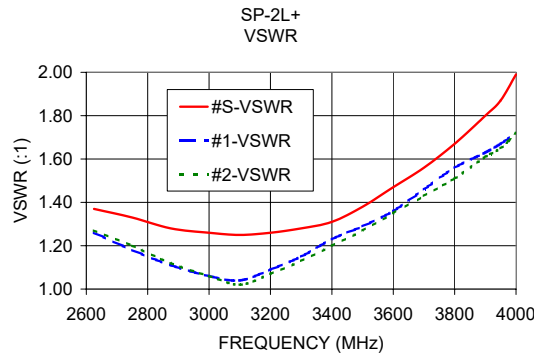
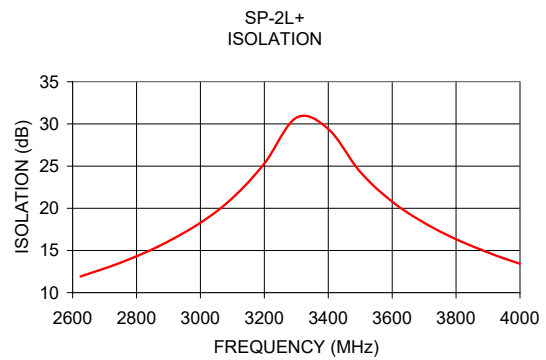
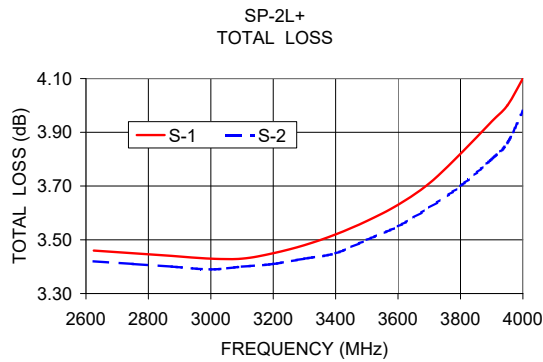
## SP-2L+

2 Way-0° 50Ω 2700 to 4000 MHz

### TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
2625.00	3.46	3.42	0.03	11.91	0.85	1.37	1.26	1.27
2750.00	3.45	3.41	0.04	13.55	0.95	1.33	1.18	1.20
2875.00	3.44	3.40	0.04	15.61	0.96	1.28	1.11	1.12
3000.00	3.43	3.39	0.03	18.28	0.93	1.26	1.06	1.06
3100.00	3.43	3.40	0.02	21.21	1.01	1.25	1.04	1.02
3200.00	3.45	3.41	0.04	25.31	1.07	1.26	1.09	1.07
3300.00	3.48	3.43	0.05	30.74	1.11	1.28	1.15	1.13
3400.00	3.52	3.45	0.06	29.40	1.11	1.31	1.23	1.20
3500.00	3.57	3.50	0.07	24.32	1.15	1.38	1.29	1.27
3600.00	3.63	3.55	0.08	20.79	1.26	1.47	1.36	1.35
3700.00	3.71	3.62	0.10	18.28	1.33	1.56	1.46	1.43
3800.00	3.82	3.70	0.12	16.33	1.25	1.67	1.56	1.51
3900.00	3.94	3.80	0.14	14.76	1.12	1.80	1.63	1.61
3950.00	4.00	3.86	0.13	14.06	0.97	1.87	1.67	1.65
4000.00	4.10	3.98	0.13	13.43	0.99	1.99	1.72	1.72

1. Total Loss = Insertion Loss + 3dB splitter loss.



#### 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)

#### NOTES

- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
- C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)

