SURFACE MOUNT

Power Splitter/Combiner SP-2W1+

2 Way-0° 50Ω 2875 to 4200 MHz

FEATURES

- Widebandwidth
- Low insertion loss, 0.8 dB typ.
- Good isolation, 20 dB typ.
- Good output VSWR, 1.3:1 typ.
- 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
- Satellite receivers
- Defense radar
- Line-of-sight links

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		2875		4200	MHz
Insertion Loss (above 3.0 dB)	2875-4200	—	0.8	1.4	dB
Isolation	2875-4200	10	20	—	dB
Amplitude Unbalance	2875-4200	—	—	0.2	dB
Phase Unbalance	2875-4200	—	—	8	deg.
VSWR (Port S)	2875-4200	—	1.4	—	:1
VSWR (Port 1)	2875-4200	—	1.3	—	:1
VSWR (Port 2)	2875-4200	—	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

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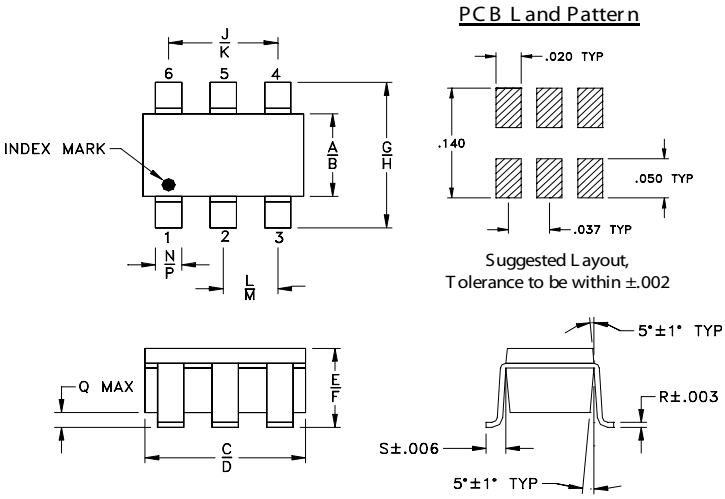
PIN CONNECTIONS

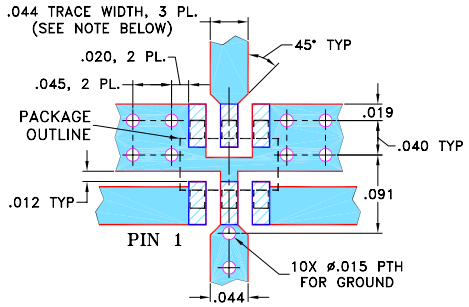
SUM PORT	5
PORT 1	1
PORT 2	3
GROUND	2,4,6

OUTLINE DRAWING



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 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

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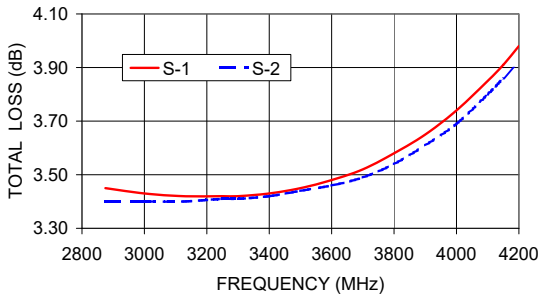
TYPICAL PERFORMANCE DATA AND CHARTS

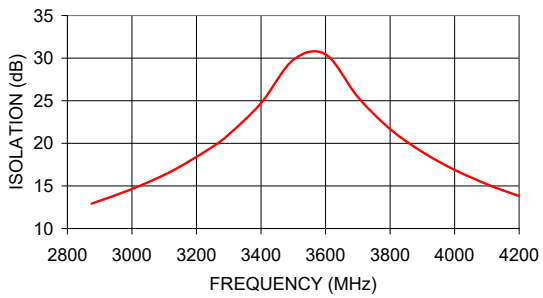
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
2875.00	3.45	3.40	0.04	12.92	1.27	1.31	1.28	1.27
3000.00	3.43	3.40	0.03	14.64	1.27	1.26	1.21	1.21
3125.00	3.42	3.40	0.02	16.77	1.28	1.22	1.13	1.14
3250.00	3.42	3.41	0.01	19.60	1.27	1.19	1.07	1.08
3300.00	3.42	3.41	0.01	21.04	1.26	1.18	1.04	1.06
3400.00	3.43	3.42	0.01	24.72	1.24	1.18	1.03	1.01
3500.00	3.45	3.44	0.01	29.80	1.21	1.20	1.08	1.05
3600.00	3.48	3.46	0.02	30.44	1.17	1.24	1.14	1.10
3700.00	3.52	3.49	0.03	25.44	1.16	1.30	1.20	1.16
3800.00	3.58	3.54	0.03	21.67	1.15	1.38	1.27	1.22
3900.00	3.65	3.61	0.04	18.98	1.17	1.47	1.34	1.29
4000.00	3.74	3.69	0.04	16.88	1.17	1.59	1.42	1.37
4100.00	3.85	3.80	0.05	15.20	1.19	1.72	1.51	1.45
4150.00	3.91	3.86	0.05	14.48	1.18	1.79	1.55	1.49
4200.00	3.98	3.92	0.06	13.81	1.20	1.87	1.59	1.53

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

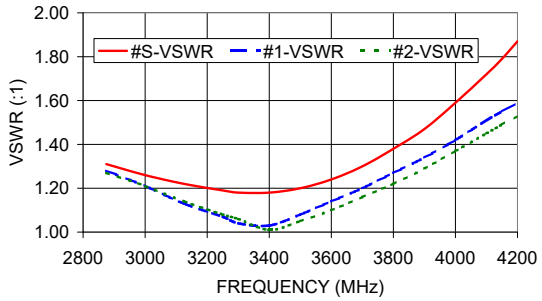
SP-2W1+
TOTAL LOSS



SP-2W1+
ISOLATION



SP-2W1+
VSWR



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-Circuit's 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