SURFACE MOUNT

Power Splitter/Combiner SP-2P1+

2 Way-0° 50Ω 1350 to 2250 MHz

FEATURES

- Wide Bandwidth
- Low Insertion Loss, 0.5 dB Typ.
- Good Isolation, 20 dB Typ.
- Excellent Output VSWR, 1.2:1 Typ.
- Excellent Power Handling, 1.5 W
- 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

- PCS/DCS
- Communication Systems
- Mobile
- PDC
- GPS
- GSM

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		1350		2250	MHz
Insertion Loss (Above 3.0 dB)	1350-2250		0.5	1.1	dB
Isolation	1350-2250	9	20		dB
Amplitude Unbalance	1350-2250			0.2	dB
Phase Unbalance	1350-2250			4	deg.
VSWR (Port S)	1350-2250		1.3		:1
VSWR (Port 1)	1350-2250		1.2		:1
VSWR (Port 2)	1350-2250		1.2		:1

ABSOLUTE MAXIMUM RATINGS

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

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

ELECTRICAL SCHEMATIC



REV. D
ECO-015048
SP-2P1+
MCL NY
250904

SURFACE MOUNT

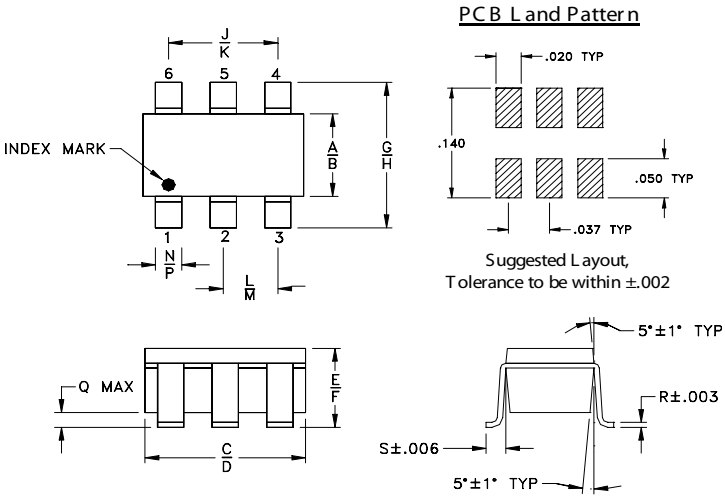
Power Splitter/Combiner SP-2P1+

2 Way-0° 50Ω 1350 to 2250 MHz

PIN CONNECTIONS

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

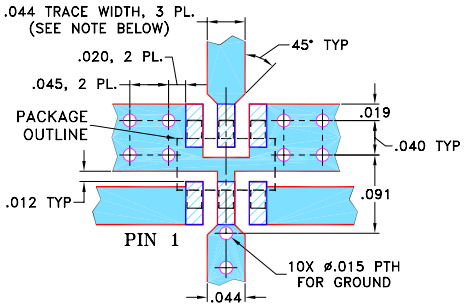
OUTLINE DRAWING



PRODUCT MARKING: N/A

DEMOBOARD MCL P/N: TB-SP-2P1+

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

SURFACE MOUNT

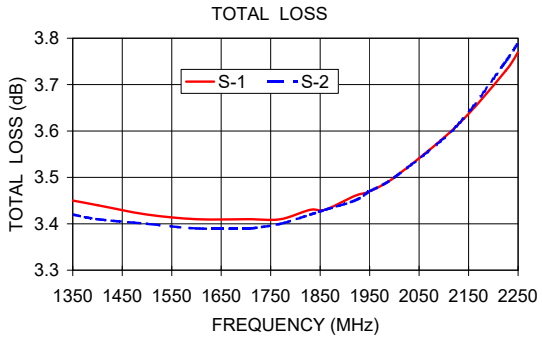
Power Splitter/Combiner SP-2P1+

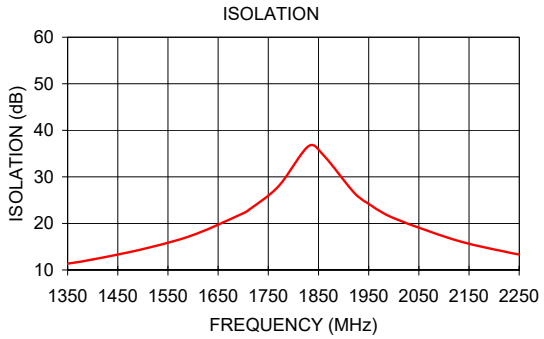
2 Way-0° 50Ω 1350 to 2250 MHz

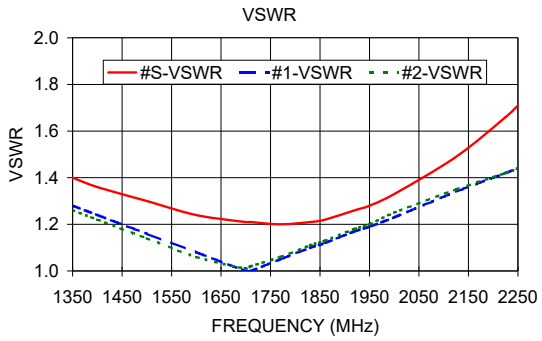
TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
1350	3.45	3.42	0.03	11.34	0.43	1.40	1.28	1.26
1400	3.44	3.41	0.03	12.25	0.42	1.36	1.24	1.22
1500	3.42	3.40	0.02	14.49	0.42	1.30	1.16	1.14
1600	3.41	3.39	0.02	17.51	0.42	1.24	1.08	1.06
1700	3.41	3.39	0.01	22.19	0.43	1.21	1.00	1.01
1710	3.41	3.39	0.01	22.82	0.43	1.21	1.00	1.02
1770	3.41	3.40	0.01	27.94	0.44	1.20	1.05	1.06
1830	3.43	3.42	0.01	36.58	0.47	1.21	1.10	1.11
1860	3.43	3.43	0.01	34.67	0.48	1.22	1.12	1.13
1920	3.46	3.45	0.00	26.70	0.50	1.26	1.17	1.18
1950	3.47	3.47	0.00	24.20	0.52	1.28	1.19	1.20
2000	3.50	3.50	0.00	21.14	0.55	1.33	1.23	1.25
2125	3.61	3.61	0.01	16.35	0.65	1.49	1.34	1.35
2225	3.73	3.75	0.01	13.84	0.75	1.66	1.42	1.42
2250	3.77	3.79	0.01	13.32	0.74	1.71	1.44	1.44

1. Total Loss = Insertion Loss + 3 dB 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 50 V)

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