



SURFACE MOUNT

Power Splitter/Combiner

SP-2C+

2 Way-0° 50Ω 780 to 960 MHz

FEATURES

- Low insertion loss, 0.4 dB typ.
- Good isolation, 28 dB typ.
- Excellent VSWR, 1.20:1 typ.
- Excellent power handling, 1.5W
- Small size
- Aqueous washable



Generic photo used for illustration purposes only

CASE STYLE: CA531

APPLICATIONS

- Cellular
- GSM
- Land Mobile
- ISM
- PDC

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

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Units
Frequency Range		780		960	MHz
Insertion Loss (above 3.0 dB)	780-960	—	0.4	0.6	dB
Isolation	780-960	17	28	—	dB
Amplitude Unbalance	780-960	—	—	0.2	dB
Phase Unbalance	780-960	—	—	2	deg.
VSWR (Port S)	780-960	—	1.20	—	:1
VSWR (Port 1)	780-960	—	1.20	—	:1
VSWR (Port 2)	780-960	—	1.20	—	:1

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	0.75W max.

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

ELECTRICAL SCHEMATIC





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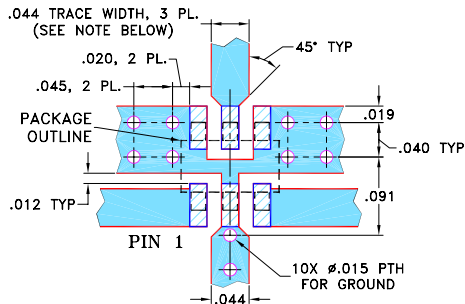
2 Way-0° 50Ω 780 to 960 MHz

PIN CONNECTIONS

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

PRODUCT MARKING: N/A

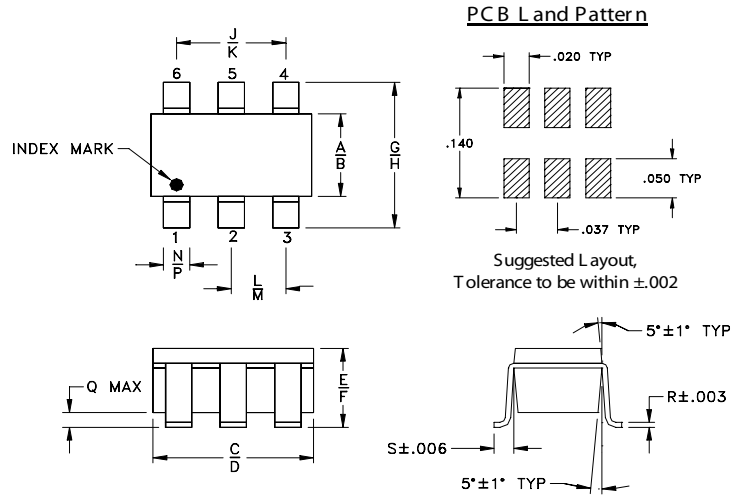
DEMOBOARD MCL P/N: TB-374
SUGGESTED PCB LAYOUT (PL-232)



- NOTES:**
- 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.
 - 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



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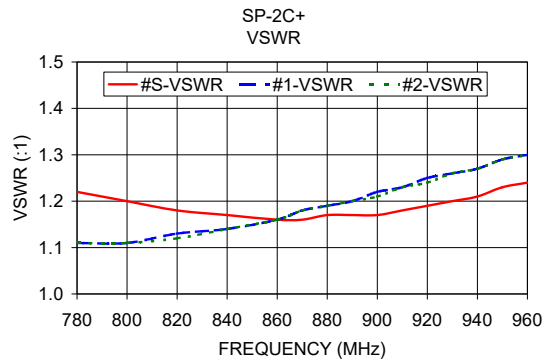
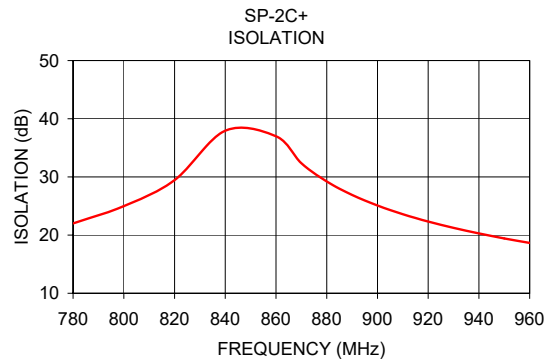
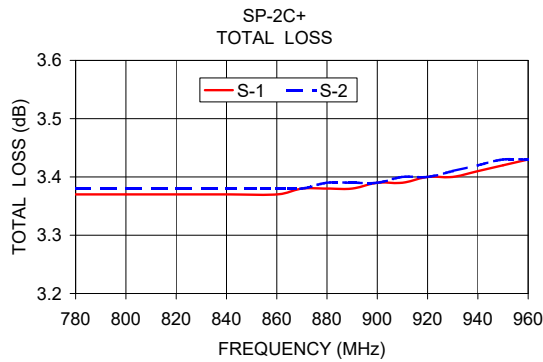
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TYPICAL PERFORMANCE DATA AND CHARTS

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
780.00	3.37	3.38	0.01	22.00	0.05	1.22	1.11	1.11
800.00	3.37	3.38	0.01	24.99	0.04	1.20	1.11	1.11
820.00	3.37	3.38	0.01	29.45	0.04	1.18	1.13	1.12
840.00	3.37	3.38	0.01	37.94	0.04	1.17	1.14	1.14
860.00	3.37	3.38	0.01	36.99	0.04	1.16	1.16	1.16
870.00	3.38	3.38	0.01	32.35	0.04	1.16	1.18	1.18
880.00	3.38	3.39	0.01	29.21	0.04	1.17	1.19	1.19
890.00	3.38	3.39	0.01	26.90	0.05	1.17	1.20	1.20
900.00	3.39	3.39	0.01	25.08	0.04	1.17	1.22	1.21
910.00	3.39	3.40	0.01	23.59	0.04	1.18	1.23	1.23
920.00	3.40	3.40	0.01	22.33	0.04	1.19	1.25	1.24
930.00	3.40	3.41	0.01	21.24	0.03	1.20	1.26	1.26
940.00	3.41	3.42	0.01	20.29	0.03	1.21	1.27	1.27
950.00	3.42	3.43	0.01	19.43	0.02	1.23	1.29	1.29
960.00	3.43	3.43	0.01	18.66	0.02	1.24	1.30	1.30

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-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

