Surface Mount

Power Splitter/Combiner

SP-2U1+

2 Way-0° 50Ω 2300 to 2500 MHz

Generic photo used for illustration purposes only

CASE STYLE: CA531

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

Available Tape and Reel at no extra cost

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500,1000

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	0.75W max.

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

Pin Connections

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

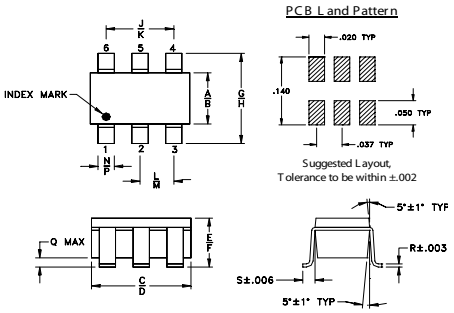
Features

- low insertion loss, 0.5 dB typ.
- good isolation, 22 dB typ.
- excellent output VSWR, 1.2:1 typ.
- excellent power handling, 1.5W
- small size
- aqueous washable

Applications

- bluetooth
- WCDMA
- IEEE 802.11b, g
- Wi-Fi
- ISM

Outline Drawing

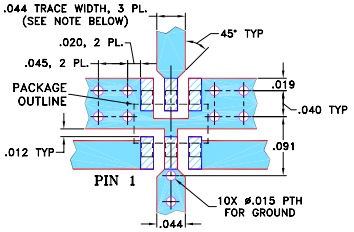


Outline Dimensions (inch / mm)

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

Demo Board 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

Electrical Specifications

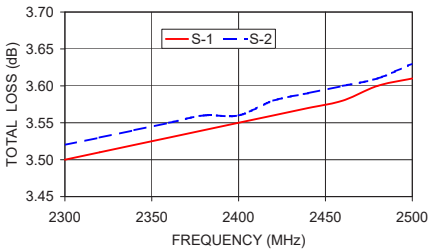
FREQ. RANGE (MHz)	ISOLATION (dB)		INSERTION LOSS (dB) ABOVE 3.0 dB		PHASE UNBALANCE (Degrees)	AMPLITUDE UNBALANCE (dB)	VSWR (:1)	
	Typ.	Min.	Typ.	Max.	Max.	Max.	S-Port Typ.	Output Ports Typ.
2300-2500	22	16	0.5	0.9	3	0.2	1.35	1.2

Typical Performance Data

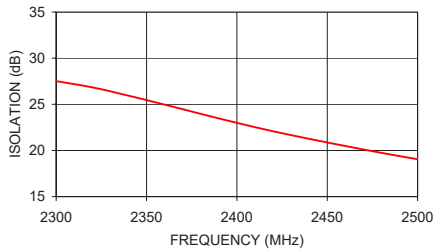
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
2300.00	3.50	3.52	0.02	27.51	0.73	1.30	1.14	1.13
2320.00	3.51	3.53	0.02	26.84	0.74	1.31	1.15	1.15
2340.00	3.52	3.54	0.02	25.94	0.74	1.32	1.17	1.16
2360.00	3.53	3.55	0.02	24.97	0.74	1.33	1.18	1.18
2380.00	3.54	3.56	0.02	23.97	0.74	1.34	1.20	1.19
2400.00	3.55	3.56	0.01	22.99	0.75	1.36	1.21	1.20
2420.00	3.56	3.58	0.02	22.08	0.77	1.37	1.23	1.22
2440.00	3.57	3.59	0.02	21.26	0.80	1.39	1.24	1.24
2460.00	3.58	3.60	0.02	20.48	0.81	1.41	1.26	1.25
2480.00	3.60	3.61	0.02	19.74	0.83	1.43	1.27	1.27
2500.00	3.61	3.63	0.02	19.05	0.83	1.45	1.29	1.28

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

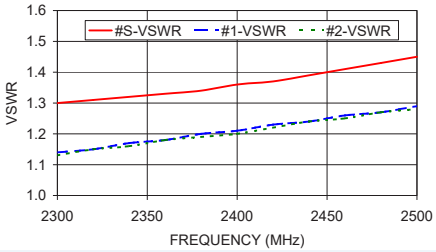
SP-2U1+
TOTAL LOSS



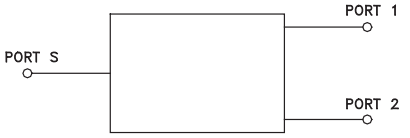
SP-2U1+
ISOLATION



SP-2U1+
VSWR



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)

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.
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