SURFACE MOUNT top hat

Power Splitter/Combiner SBTC-2-20LX+

2 Way-0° 50Ω 200 to 2000 MHz

FEATURES

- Wideband Frequency, 200 to 2000 MHz
- Excellent Amplitude Unbalance, 0.2 dB Typ.
- Small Size, 0.166x0.150x0.155"
- Temperature Stable LTCC Base
- Small Size
- Low Cost
- Aqueous Washable
- Protected by US Patent 6,963,255



Generic photo used for illustration purposes only

CASE STYLE: AT1739

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

APPLICATIONS

- Cellular/GSM
- UHF/VHF Receivers/Transmitters
- PCN/PCS
- GPS

ELECTRICAL SPECIFICATIONS AT +25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		200		2000	MHz
Insertion Loss Above 3.0 dB	200-2000		0.8	2.2	dB
	800-1000		0.5	0.9	
	500-1500		0.5	1.5	
	1800-2000		1.2	2.2	
Isolation	200-2000	14	20		dB
	800-1000	16	22		
	500-1500	15	22		
	1800-2000	15	20		
Phase Unbalance	200-2000			10	Degree
	800-1000			3	
	500-1500			5	
	1800-2000			10	
Amplitude Unbalance	200-2000			0.8	dB
	800-1000			0.5	
	500-1500			0.7	
	1800-2000			0.6	

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Power Input (as a Splitter)	0.5 W max.
Internal Dissipation	0.125 W max.

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

ELECTRICAL SCHEMATIC



REV. B
ECO-015187
SBTC-2-20LX+
MCL NY
251007

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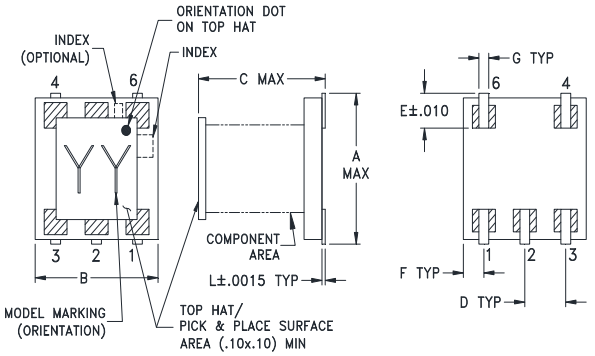
Power Splitter/Combiner SBTC-2-20LX+

2 Way-0° 50Ω 200 to 2000 MHz

PIN CONNECTIONS

SUM PORT	6
PORT 1	3
PORT 2	4
GROUND	1,2
NOT USED	5

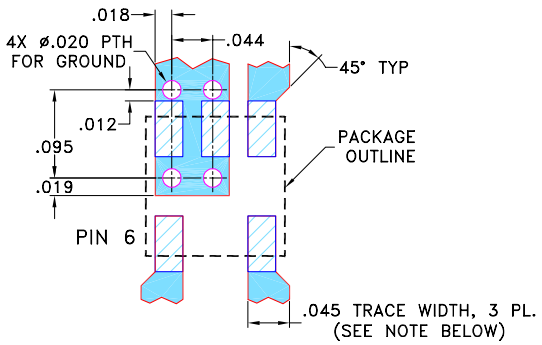
OUTLINE DRAWING



PRODUCT MARKING: PZ

DEMO BOARD MCL P/N: TB-SBTC-2-20LX+

SUGGESTED PCB LAYOUT (PL-152)

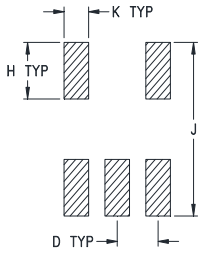


NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

PCB Land Pattern



Suggested Layout,
Tolerance to be within±.002

OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F
.166	.150	.155	.050	.037	.025
4.22	3.81	3.94	1.27	0.94	0.64

G	H	J	K	K	wt
.012	.060	.184	.030	.004	grams
0.30	1.52	4.67	0.76	0.10	0.10

TAPE & REEL INFORMATION: F76

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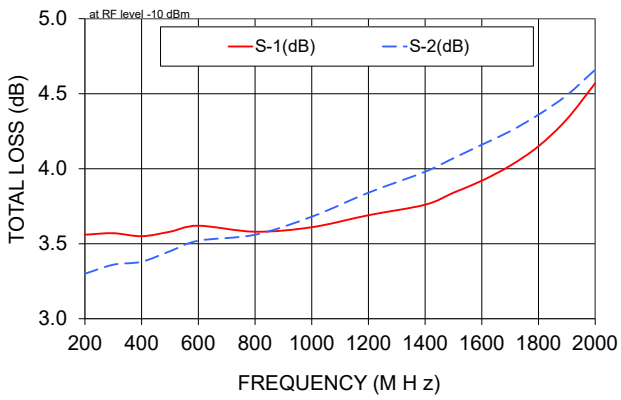
2 Way-0° 50Ω 200 to 2000 MHz

TYPICAL PERFORMANCE DATA

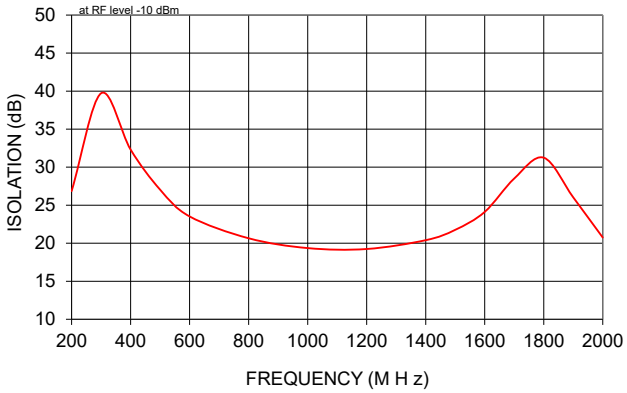
Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
200	3.56	3.30	0.26	26.85	1.44	1.38	1.58	1.50
300	3.57	3.36	0.21	39.72	0.88	1.37	1.44	1.40
400	3.55	3.38	0.17	32.31	0.56	1.38	1.35	1.33
500	3.58	3.45	0.13	27.04	0.36	1.37	1.29	1.28
600	3.62	3.52	0.10	23.52	0.22	1.40	1.25	1.25
800	3.58	3.56	0.03	20.65	0.20	1.39	1.17	1.16
1000	3.61	3.68	0.07	19.36	0.41	1.37	1.12	1.08
1200	3.69	3.84	0.15	19.24	0.93	1.34	1.14	1.04
1400	3.76	3.98	0.22	20.40	1.78	1.30	1.23	1.13
1500	3.84	4.07	0.23	21.76	2.34	1.29	1.29	1.18
1600	3.92	4.16	0.24	24.12	2.94	1.28	1.35	1.23
1700	4.02	4.25	0.24	28.51	3.61	1.27	1.40	1.29
1800	4.15	4.36	0.21	31.25	4.31	1.27	1.45	1.34
1900	4.33	4.49	0.18	26.03	4.98	1.32	1.49	1.38
2000	4.57	4.66	0.16	20.75	5.63	1.40	1.51	1.42

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

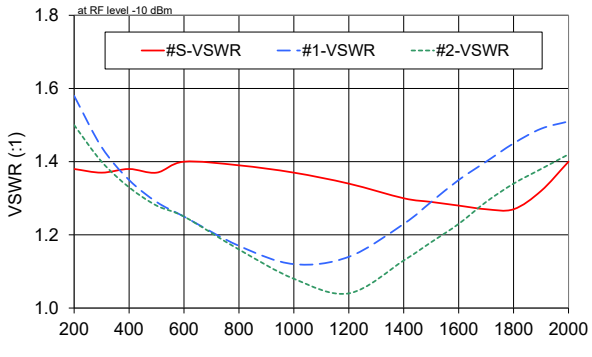
TOTAL LOSS



ISOLATION



VSWR



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