



SURFACE MOUNT top hat

Power Splitter/Combiner

SBTC-2-20LX+

Mini-Circuits

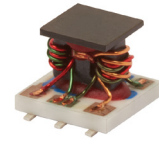
2 Way-0° 50Ω 200 to 2000 MHz

FEATURES

- Wide Band Frequency, 200 to 2000 MHz
- Excellent Amplitude Unbalance, 0.2 dB Typ.
- Small Size, 0.166x0.15x0.155"
- Temperature Stable LTCC Base
- Small Size
- Low Cost
- Aqueous Washable
- Protected by US Patent 6,963,255

APPLICATIONS

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



Generic photo used for illustration purposes only

CASE STYLE: AT1739

+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.	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
250414

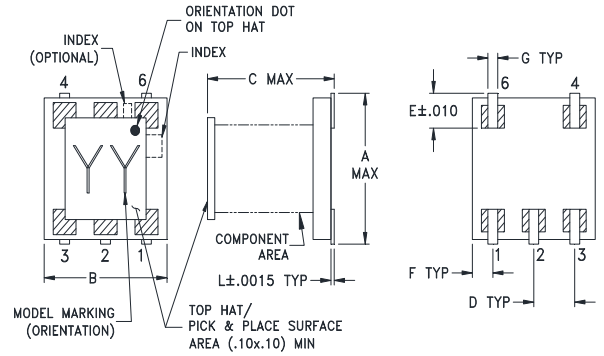




PIN CONNECTIONS

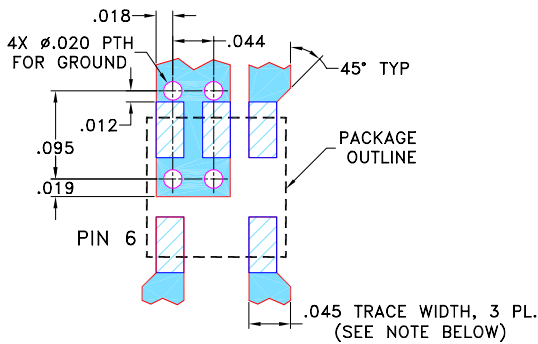
SUM PORT	6
PORT 1	3
PORT 2	4
GROUND	1,2
NOT USED	5

OUTLINE DRAWING



PRODUCT MARKING: PZ

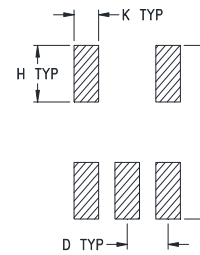
DEMO BOARD MCL P/N: TB-274+
SUGGESTED PCB LAYOUT (PL-152)



- 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

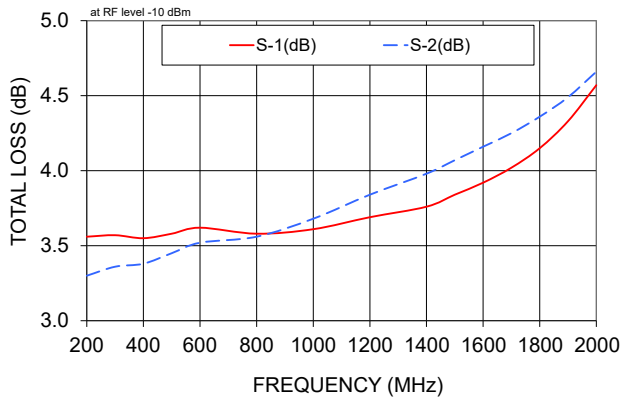


TYPICAL PERFORMANCE DATA

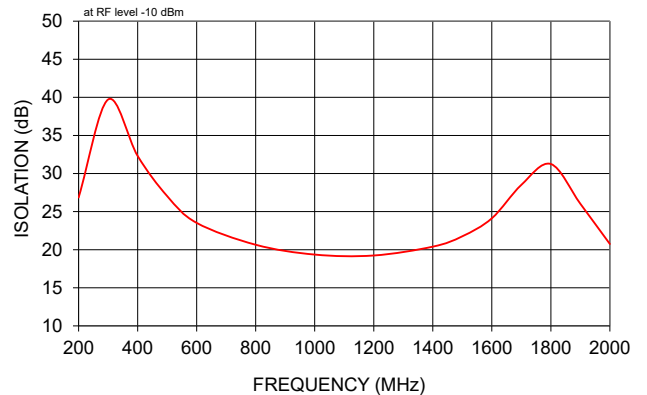
Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
200.00	3.56	3.30	0.26	26.85	1.44	1.38	1.58	1.50
300.00	3.57	3.36	0.21	39.72	0.88	1.37	1.44	1.40
400.00	3.55	3.38	0.17	32.31	0.56	1.38	1.35	1.33
500.00	3.58	3.45	0.13	27.04	0.36	1.37	1.29	1.28
600.00	3.62	3.52	0.10	23.52	0.22	1.40	1.25	1.25
800.00	3.58	3.56	0.03	20.65	0.20	1.39	1.17	1.16
1000.00	3.61	3.68	0.07	19.36	0.41	1.37	1.12	1.08
1200.00	3.69	3.84	0.15	19.24	0.93	1.34	1.14	1.04
1400.00	3.76	3.98	0.22	20.40	1.78	1.30	1.23	1.13
1500.00	3.84	4.07	0.23	21.76	2.34	1.29	1.29	1.18
1600.00	3.92	4.16	0.24	24.12	2.94	1.28	1.35	1.23
1700.00	4.02	4.25	0.24	28.51	3.61	1.27	1.40	1.29
1800.00	4.15	4.36	0.21	31.25	4.31	1.27	1.45	1.34
1900.00	4.33	4.49	0.18	26.03	4.98	1.32	1.49	1.38
2000.00	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.

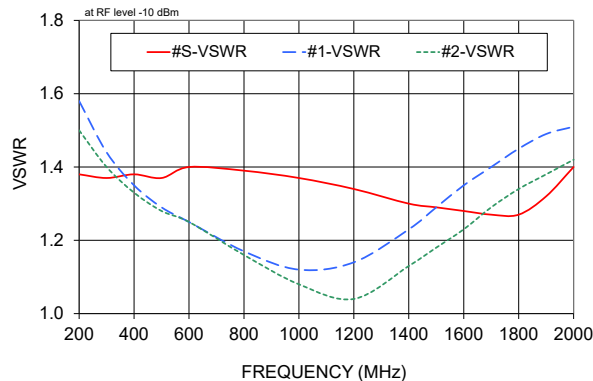
TOTAL LOSS



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