



Mini-Circuits

IMPEDANCE MATCHING

Power Splitter/Combiner **SBTC-2-10-7550+**

2 Way-0° 50/75Ω 5 to 1000 MHz

FEATURES

- 75Ω Input, 50Ω Output
- Excellent Isolation, 24 dB Typ.
- Very Good Phase Unbalance, 1.0 Deg. Typ.
- Small Size, 0.15x0.15x0.15"
- 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: AT790

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

APPLICATIONS

- Impedance Matching
- Balanced Amplifiers

ELECTRICAL SPECIFICATIONS AT +25°C

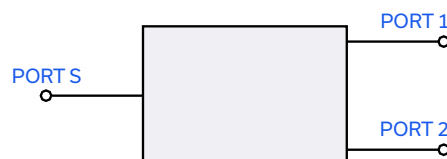
Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		5		1000	MHz
Insertion Loss Above 3.0 dB	5-50		0.5	1.3	dB
	50-500		0.6	1.1	
	500-1000		0.7	1.5	
Isolation	5-50	13	23		dB
	50-500	20	24		
	500-1000	20	26		
Phase Unbalance	5-50			6	Degree
	50-500			3	
	500-1000			5	
Amplitude Unbalance	5-50			0.8	dB
	50-500			0.5	
	500-1000			0.5	

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. F
ECO-015187
SBTC-2-10-7550+
MCL NY
250929

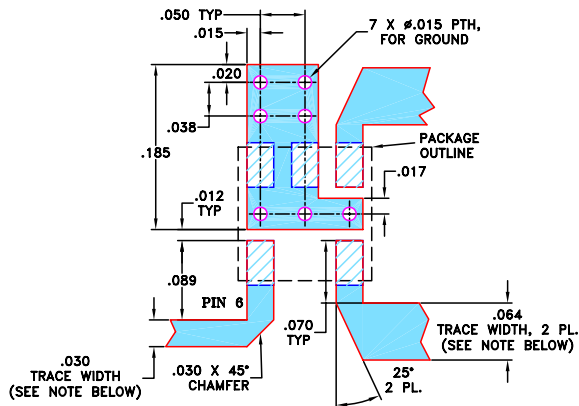


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PIN CONNECTIONS

SUM PORT	6 (75Ω)
PORT 1	3 (50Ω)
PORT 2	4 (50Ω)
GROUND	1,2
NOT USED	5

DEMO BOARD MCL P/N: TB-SBTC2107550+
SUGGESTED PCB LAYOUT (PL-092)



 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Figure 1 illustrates the dimensions and features of the component. The component is shown in three views: top, side, and bottom. The top view shows a rectangular component with dimensions B (width) and A (height). It features six pick-and-place surfaces (1-6) and a central component area. The side view shows the component's profile with dimension C MAX. The bottom view shows the component's base with dimensions D TYP (width), E TYP (height), F TYP (width), and G TYP (height). The component is labeled "INDEX PICK & PLACE SURFACE AREA (.030X.075)MIN".

Diagram illustrating the column types and floor levels for a three-story building. The ground floor is labeled 'D TYPE' and the upper floors are labeled 'K TYPE'. The height of the ground floor is denoted as 'H' and the height of the upper floors is denoted as 'J'. A column labeled 'H TYPE' is shown on the right side of the ground floor.

OUTLINE DIMENSIONS (Inches) mm

A	B	C	D	E	F	G	H	J	K	wt
.150	.150	.150	.050	.030	.025	.028	.050	.160	.030	grams
3.81	3.81	3.81	1.27	0.76	0.64	0.71	1.27	4.06	0.76	0.10

TAPE & REEL INFORMATION: F15



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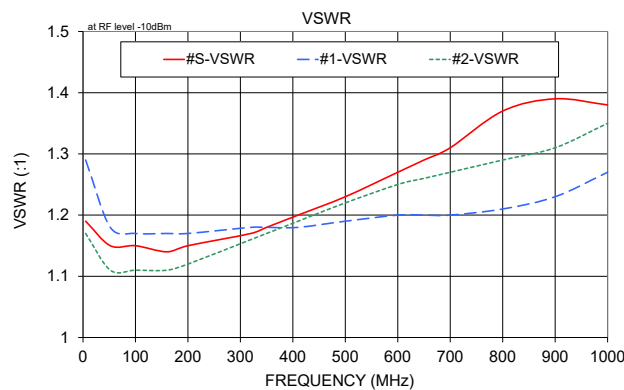
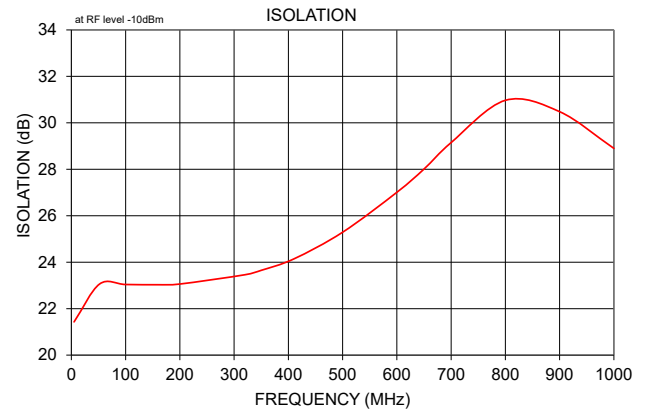
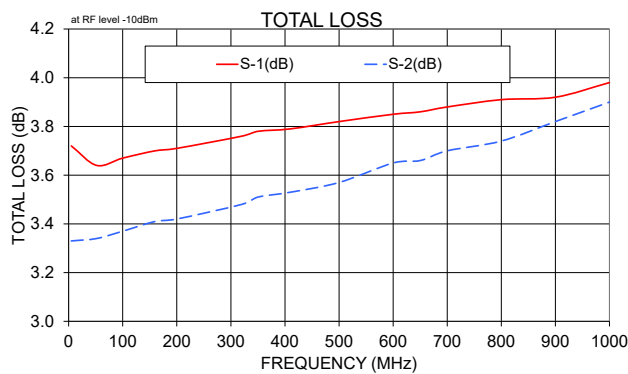
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TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
5	3.72	3.33	0.39	21.43	1.97	1.19	1.29	1.17
52	3.64	3.34	0.29	23.06	0.18	1.15	1.18	1.11
100	3.67	3.37	0.30	23.04	0.08	1.15	1.17	1.11
160	3.70	3.41	0.29	23.03	0.35	1.14	1.17	1.11
200	3.71	3.42	0.28	23.06	0.43	1.15	1.17	1.12
320	3.76	3.48	0.28	23.46	0.73	1.17	1.18	1.16
350	3.78	3.51	0.27	23.65	0.72	1.18	1.18	1.17
410	3.79	3.53	0.26	24.14	0.91	1.20	1.18	1.19
500	3.82	3.57	0.25	25.29	1.00	1.23	1.19	1.22
600	3.85	3.65	0.20	27.01	1.12	1.27	1.20	1.25
650	3.86	3.66	0.20	28.01	1.15	1.29	1.20	1.26
700	3.88	3.70	0.18	29.15	1.15	1.31	1.20	1.27
800	3.91	3.74	0.17	30.97	1.23	1.37	1.21	1.29
900	3.92	3.82	0.11	30.48	1.25	1.39	1.23	1.31
1000	3.98	3.90	0.07	28.90	1.23	1.38	1.27	1.35

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



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

