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 Compliant
The +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 50-500 500-1000		0.5 0.6 0.7	1.3 1.1 1.5	dB
Isolation	5-50 50-500 500-1000	13 20 20	23 24 26		dB
Phase Unbalance	5-50 50-500 500-1000			6 3 5	Degree
Amplitude Unbalance	5-50 50-500 500-1000			0.8 0.5 0.5	dB

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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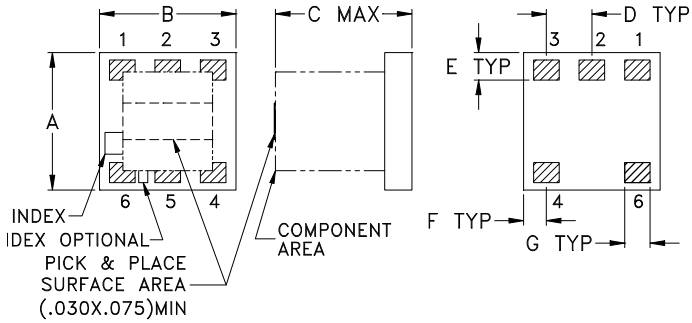
PIN CONNECTIONS

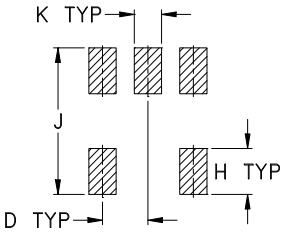
SUM PORT	6 (75Ω)
PORT 1	3 (50Ω)
PORT 2	4 (50Ω)
GROUND	1,2
NOT USED	5

OUTLINE DRAWING



PRODUCT MARKING: N/A

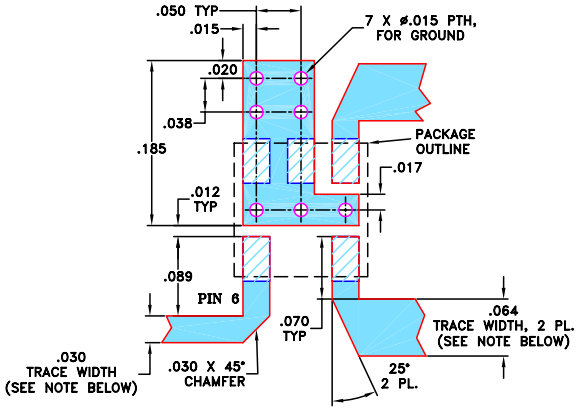
PCB Land Pattern



Suggested Layout,
Tolerance to be within±002

DEMO BOARD MCL P/N: TB-SBTC2107550+

SUGGESTED PCB LAYOUT (PL-092)



NOTE: TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS 0.030" ± 0.002", COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

DENOTES PCB COPPER LAYOUT

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

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

IMPEDANCE MATCHING

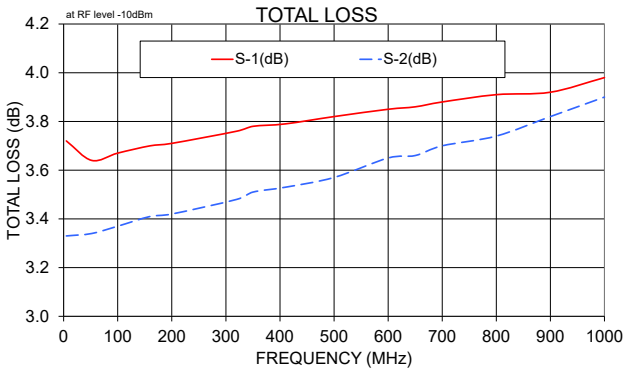
Power Splitter/Combiner SBTC-2-10-7550+

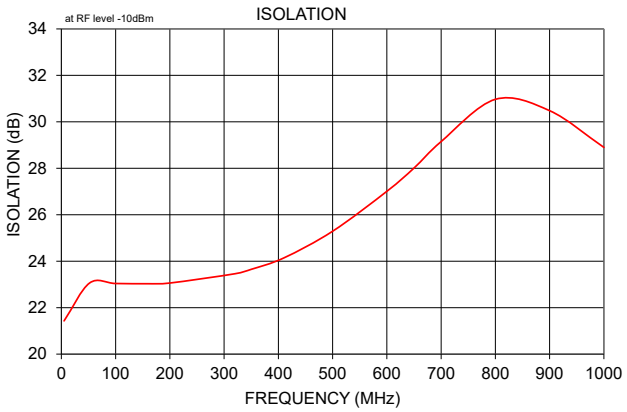
2 Way-0° 50/75Ω 5 to 1000 MHz

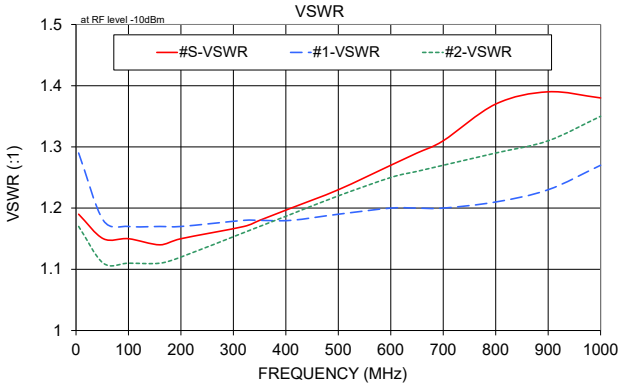
TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss[1] (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
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

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