



Mini-Circuits®

SURFACE MOUNT

Power Splitter/Combiner

SBTC-2-25+

2 Way-0° 50Ω 1000 to 2500 MHz

FEATURES

- Wideband Frequency, 1000 to 2500 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

APPLICATIONS

- PCN/PCS
- DECT
- PHS
- VSAT

For Model
with Leads see
SBTC-2-25L+



Generic photo used for illustration purposes only

CASE STYLE: AT790

+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		1000		2500	MHz
Insertion Loss, Above 3.0 dB	1000-2500		1.4	2.5	dB
	1400-1800		0.9	1.7	
	1800-2000		1.0	1.7	
Isolation	1000-2500	14	20		dB
	1400-1800	14	18		
	1800-2000	16	19		
Phase Unbalance	1000-2500			14	Degree
	1400-1800			8	
	1800-2000			8	
Amplitude Unbalance	1000-2500			1.2	dB
	1400-1800			0.7	
	1800-2000			0.8	

ABSOLUTE MAXIMUM RATINGS

Parameter	Ratings
Operating Temperature	-40°C to +85°C
Storage Temperature	-55°C to +100°C
Power Input (as a Splitter)	1 W max.
Internal Dissipation	0.125 W max.

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

ELECTRICAL SCHEMATIC



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www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

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ECO-015187
SBTC-2-25+
MCL NY
251031

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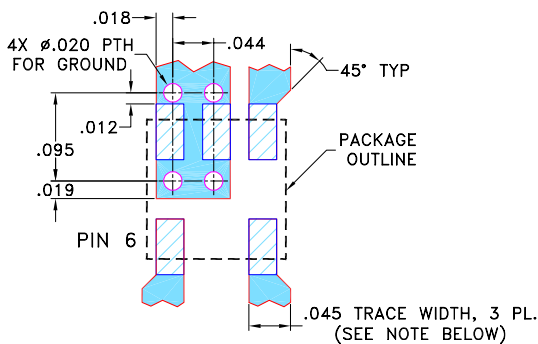
2 Way-0° 50Ω 1000 to 2500 MHz

PIN CONNECTIONS

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

PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-SBTC-2-25+
SUGGESTED PCB LAYOUT (PL-152)

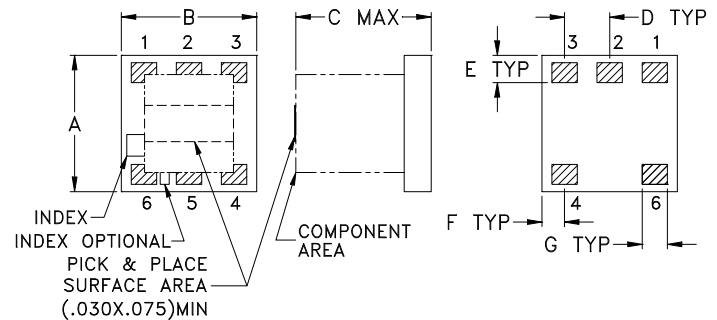


NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS $0.020" \pm 0.0015"$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

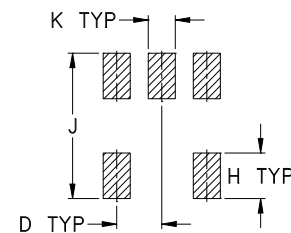
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

-  DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
-  DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ± 0.02

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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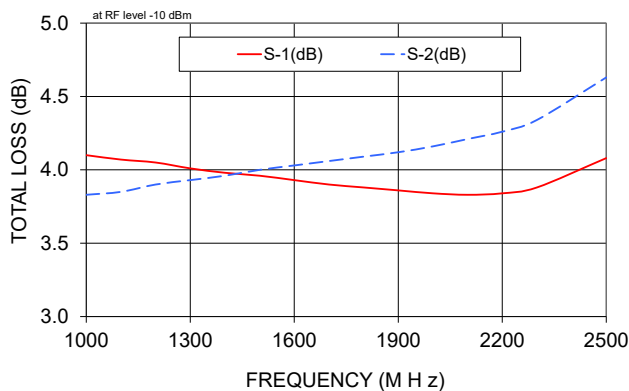
2 Way-0° 50Ω 1000 to 2500 MHz

TYPICAL PERFORMANCE DATA

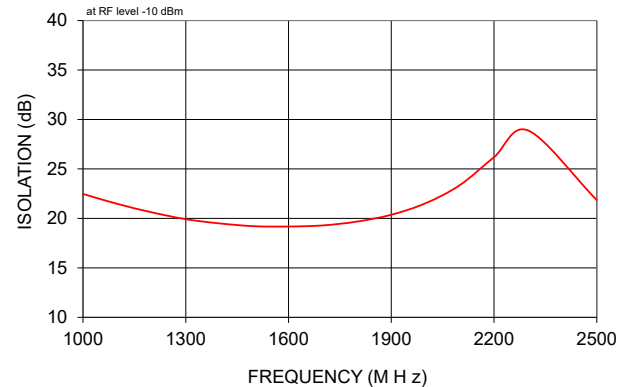
Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR (:1)		
	S-1	S-2				S	1	2
1000	4.10	3.83	0.28	22.47	2.79	1.72	1.68	1.57
1100	4.07	3.85	0.21	21.47	2.54	1.66	1.59	1.51
1200	4.05	3.90	0.15	20.62	2.39	1.61	1.51	1.46
1300	4.01	3.93	0.08	19.92	2.34	1.56	1.45	1.41
1400	3.98	3.96	0.04	19.49	2.36	1.51	1.39	1.36
1500	3.96	4.00	0.05	19.21	2.47	1.47	1.33	1.32
1600	3.93	4.03	0.10	19.18	2.66	1.42	1.28	1.27
1700	3.90	4.06	0.16	19.29	2.92	1.37	1.24	1.23
1800	3.88	4.09	0.21	19.68	3.28	1.32	1.21	1.18
1900	3.86	4.12	0.27	20.37	3.70	1.26	1.19	1.14
2000	3.84	4.16	0.32	21.53	4.23	1.20	1.18	1.10
2100	3.83	4.21	0.37	23.36	4.87	1.13	1.18	1.08
2200	3.84	4.26	0.42	26.19	5.57	1.06	1.18	1.10
2300	3.88	4.34	0.46	28.88	6.36	1.09	1.18	1.15
2500	4.08	4.63	0.55	21.85	8.22	1.39	1.15	1.30

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

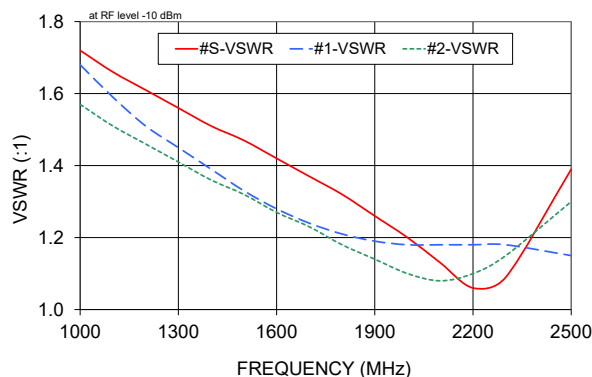
TOTAL LOSS



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

