

Surface Mount Power Splitter/Combiners

SBTC-2-10+

SBTC-2-10L+

2 Way-0° 50Ω

5 to 1000 MHz



No Leads
CASE STYLE:AT790



Leads
CASE STYLE:AT1029

Maximum Ratings

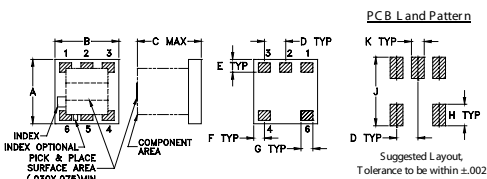
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	0.5W max.
Internal Dissipation	0.125W max.

Pin Connections

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

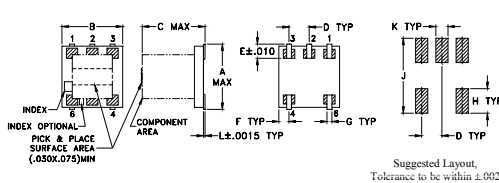
Outline Drawing / Dimensions (inch/mm)

AT790 (SBTC-2-10+)



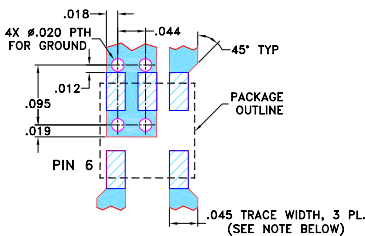
A	B	C	D	E	F	G	H	J	K	wt.
.150	.150	.150	.050	.030	.025	.028	.050	.160	.030	grams
3.81	3.81	3.81	1.27	0.76	0.64	0.71	1.27	4.06	0.76	.10

AT1029 (SBTC-2-10L+)



A	B	C	D	E	F	G	H	J	K	L	wt.
.166	.150	.155	.050	.037	.025	.012	.060	.184	.030	.004	grams
4.22	3.81	3.94	1.27	0.94	0.64	0.30	1.52	4.67	0.76	0.10	.10

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

Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

Features

- low insertion loss, 0.3 dB typ.
- excellent amplitude unbalance, 0.1 dB typ.
- very good phase unbalance, 1.0 deg. typ.
- temperature stable LTCC base
- small size
- low cost
- aqueous washable
- protected by US patent 6,963,255

Applications

- UHF/VHF receivers/transmitters
- cellular

Electrical Specifications

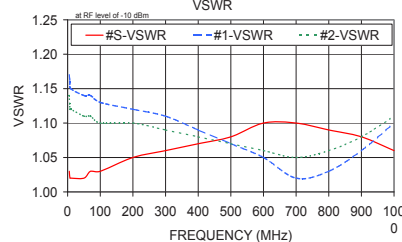
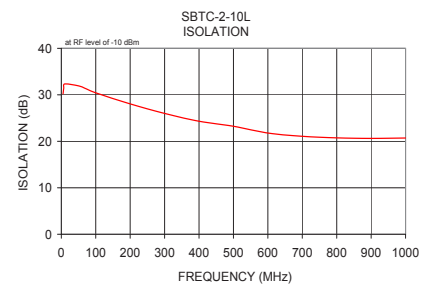
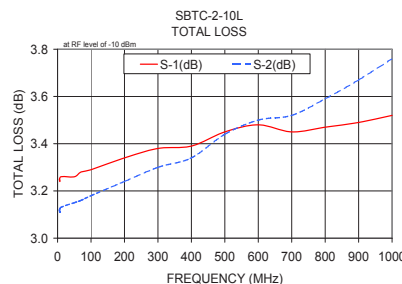
FREQ. RANGE (MHz)	ISOLATION (dB)			INSERTION LOSS (dB) ABOVE 3.0 dB			PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)								
	L	M	U	L	M	U	L	M	U	L	M	U						
5-1000	29	20	25	18	21	16	0.3	0.7	0.3	0.8	0.5	1.4	3	3	5	0.6	0.5	0.5

L = low range [f_L to $10 f_L$] M = mid range [$10 f_L$ to $f_U/2$] U = upper range [$f_U/2$ to f_U]

Typical Performance Data

Frequency (MHz)	Total Loss ¹ (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
5.00	3.25	3.12	0.13	30.21	0.41	1.03	1.17	1.14
7.00	3.24	3.11	0.13	31.41	0.32	1.02	1.16	1.12
10.00	3.26	3.13	0.13	32.34	0.13	1.02	1.15	1.12
50.00	3.26	3.15	0.12	31.93	0.06	1.02	1.14	1.11
70.00	3.28	3.16	0.12	31.37	0.07	1.03	1.14	1.11
100.00	3.29	3.18	0.11	30.43	0.12	1.03	1.13	1.10
200.00	3.34	3.24	0.10	28.05	0.20	1.05	1.12	1.10
300.00	3.38	3.30	0.08	26.00	0.24	1.06	1.11	1.09
400.00	3.39	3.34	0.05	24.32	0.26	1.07	1.09	1.08
500.00	3.45	3.44	0.02	23.24	0.28	1.08	1.07	1.07
600.00	3.48	3.50	0.02	21.78	0.28	1.10	1.05	1.06
700.00	3.45	3.52	0.07	21.08	0.21	1.10	1.02	1.05
800.00	3.47	3.59	0.12	20.74	0.09	1.09	1.03	1.06
900.00	3.49	3.67	0.18	20.62	0.06	1.08	1.06	1.08
1000.00	3.52	3.76	0.24	20.71	0.27	1.06	1.10	1.11

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



electrical schematic

