Surface Mount

Power Splitter/Combiner

SCP-2-1+

2 Way-0° 50Ω 0.1 to 400 MHz



Generic photo used for illustration purposes only

CASE STYLE: YY101

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

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

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

Pin Connections

SUM PORT	1
PORT 1	5
PORT 2	6
GROUND	2,3,4,7,8

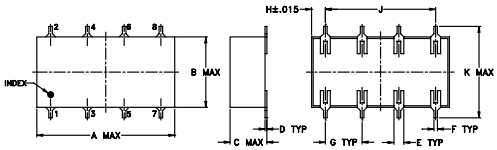
Features

- wideband, 0.1 to 400 MHz
- low insertion loss, 0.2 dB typ.
- good isolation, 30 dB typ.
- good amplitude unbalance, 0.05 dB typ.

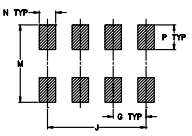
Applications

- VHF/UHF
- instrumentation
- communication receivers & transmitters

Outline Drawing



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G
.75	.38	.20	.010	.050	.020	.200
19.05	9.65	5.08	0.25	1.27	0.51	5.08

H	J	K	M	N	P	wt
.075	.600	.450	.470	.100	.150	grams
1.91	15.24	11.43	11.94	2.54	3.81	1.6

Electrical Specifications

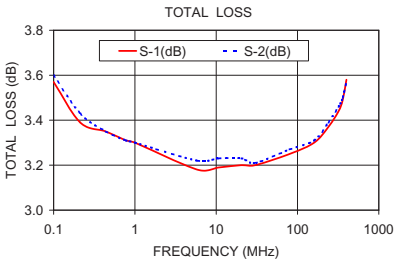
FREQ. RANGE (MHz)	ISOLATION (dB)						INSERTION LOSS (dB) ABOVE 3.0 dB						PHASE UNBALANCE (Degrees)			AMPLITUDE UNBALANCE (dB)		
	L		M		U		L		M		U		L	M	U	L	M	U
f_L-f_U	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.	Max.	Max.	Max.	Max.	Max.	Max.
0.1-400	25	15	30	20	25	20	0.3	1.2	0.2	0.6	0.4	1.1	2.0	2.0	3.0	0.15	0.2	0.3

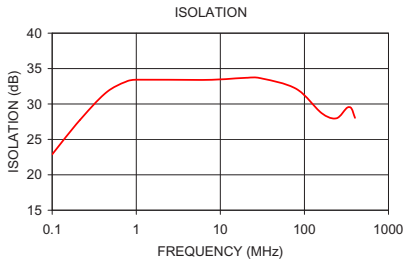
L = low range [f_L to 10 f_L] M = mid range [10 f_L to f_U/2] U = upper range [f_U/2 to f_U]

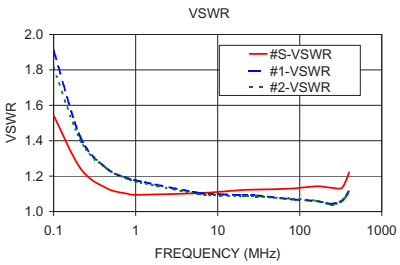
Typical Performance Data

Frequency (MHz)	Total Loss[1] (dB) S-1	Total Loss[1] (dB) S-2	Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
0.10	3.57	3.60	0.03	22.88	0.28	1.54	1.91	1.81
0.21	3.39	3.43	0.03	27.70	0.11	1.24	1.42	1.40
0.44	3.35	3.35	0.01	31.60	0.08	1.13	1.25	1.25
0.78	3.31	3.31	0.01	33.21	0.09	1.10	1.19	1.19
1.00	3.30	3.30	0.01	33.43	0.06	1.09	1.18	1.17
5.88	3.18	3.22	0.04	33.40	0.20	1.10	1.11	1.10
10.75	3.19	3.23	0.04	33.49	0.18	1.11	1.10	1.09
20.50	3.20	3.23	0.04	33.70	0.03	1.12	1.09	1.09
30.25	3.20	3.21	0.01	33.64	0.11	1.12	1.09	1.08
80.00	3.25	3.27	0.02	32.14	0.02	1.13	1.07	1.07
160.00	3.30	3.31	0.02	28.71	0.12	1.14	1.06	1.06
240.00	3.37	3.39	0.02	27.98	0.10	1.13	1.04	1.04
320.00	3.44	3.46	0.02	29.46	0.15	1.13	1.06	1.06
360.00	3.49	3.50	0.00	29.42	0.29	1.17	1.08	1.08
400.00	3.58	3.57	0.01	28.04	0.34	1.22	1.11	1.13

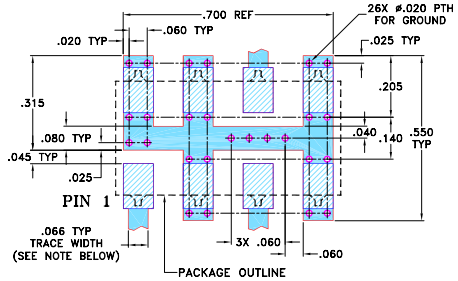
1. Total Loss = Insertion Loss + 3dB splitter loss.





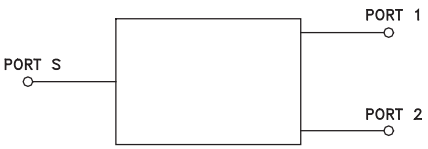


Demo Board MCL P/N: TB-50+
Suggested PCB Layout (PL-060)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002". 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

electrical schematic



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/MCLStore/terms.jsp

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