



Mini-Circuits®

SURFACE MOUNT

Power Splitter/Combiner

SCA-4-20+

4 Way-0° 50Ω 1000 to 2000 MHz

FEATURES

- Wideband, 1000 to 2000 MHz
- High isolation, 20 dB typ.
- Small surface mount package (0.25"x0.3")
- Low profile (0.045")
- Welded leads



Generic photo used for illustration purposes only

CASE STYLE: DZ944

+RoHS Compliant

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

APPLICATIONS

- PCS
- GPS

ELECTRICAL SPECIFICATIONS AT 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
Frequency Range		1000		2000	MHz
Insertion Loss, above 6.0 dB	1000-2000		1.0	1.8	dB
	1500-1700		1.0	1.2	
	1700-2000		1.5	1.8	
Isolation	1000-2000	8	15		dB
	1500-1700	17	20		
	1700-2000	17	20		
Phase Unbalance	1000-2000			5	Degree
	1500-1700			5	
	1700-2000			5	
Amplitude Unbalance	1000-2000			0.9	dB
	1500-1700			0.8	
	1700-2000			0.9	

MAXIMUM RATINGS

Parameter	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	0.25W max.

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

ELECTRICAL SCHEMATIC



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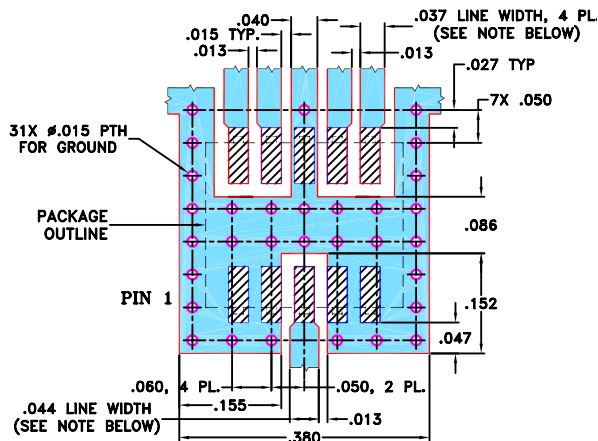
SCA-4-20+

PIN CONNECTIONS

SUM PORT	3
PORT 1	6
PORT 2	7
PORT 3	9
PORT 4	10
GROUND	1,2,4,5,8

PRODUCT MARKING: N/A

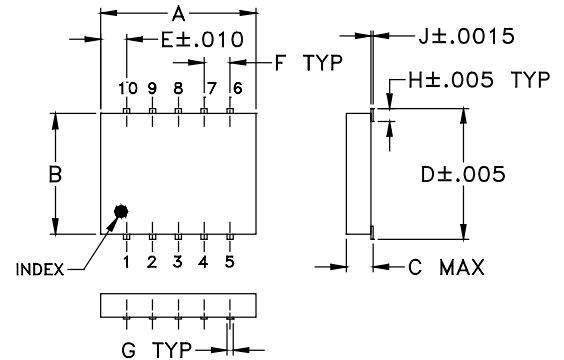
DEMO BOARD MCL P/N: TB-241
SUGGESTED PCB LAYOUT (PL-125)



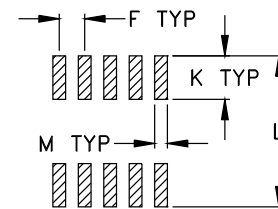
- NOTE:** 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS $0.020" \pm 0.0015"$, COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

DENOTES PCB COPPER LAYOUT
 DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

OUTLINE DRAWING



PCB L and Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

OUTLINE DIMENSIONS (Inches)
mm

A	B	C	D	E	F	G
.30	.250	.052	.266	.050	.050	.012
7.62	6.35	1.32	6.76	1.27	1.27	0.30
H	J	K	L	M		wt
.029	.004	.085	.296	.030		grams
0.74	0.10	2.16	7.52	0.76		0.25

TAPE & REEL INFORMATION: F34





SURFACE MOUNT

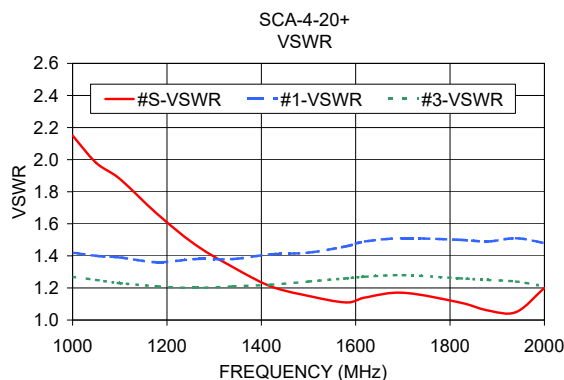
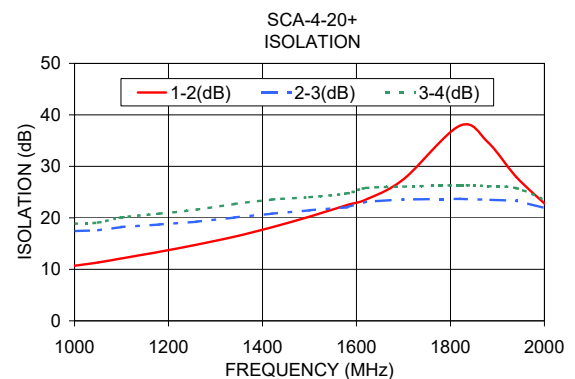
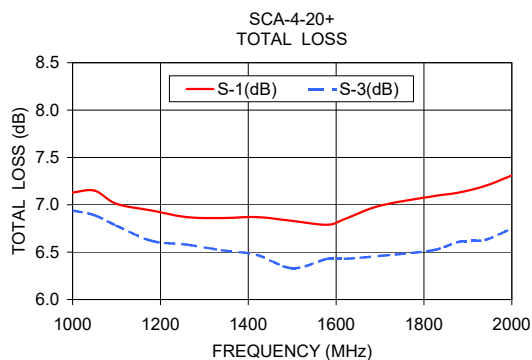
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TYPICAL PERFORMANCE DATA

Frequency (MHz)	Total Loss ¹ (dB)				Amplitude Unbalance (dB)	Isolation (dB)			Phase Unbalance (deg.)	VSWR (:1)				
	S-1	S-2	S-3	S-4		1-2	1-3	2-3		S	1	2	3	4
1000.00	7.13	6.97	6.94	7.29	0.35	10.70	17.43	18.86	0.86	2.15	1.42	1.29	1.27	1.44
1050.00	7.15	6.96	6.89	7.25	0.36	11.34	17.57	19.08	0.31	1.98	1.40	1.27	1.25	1.41
1100.00	7.01	6.85	6.78	7.11	0.33	12.12	18.22	20.08	0.48	1.88	1.39	1.25	1.23	1.39
1180.00	6.94	6.73	6.62	7.00	0.38	13.40	18.71	20.81	0.93	1.66	1.36	1.25	1.21	1.37
1260.00	6.87	6.68	6.58	6.94	0.36	14.79	19.24	21.60	1.09	1.47	1.38	1.25	1.20	1.35
1340.00	6.86	6.63	6.52	6.92	0.39	16.34	20.06	22.68	0.82	1.33	1.38	1.25	1.21	1.36
1420.00	6.87	6.58	6.47	6.91	0.44	18.17	20.82	23.55	1.04	1.21	1.41	1.27	1.22	1.37
1500.00	6.83	6.44	6.33	6.84	0.51	20.24	21.46	24.01	0.89	1.15	1.42	1.29	1.24	1.38
1580.00	6.79	6.45	6.43	6.86	0.43	22.50	22.05	24.74	0.95	1.11	1.46	1.29	1.26	1.39
1620.00	6.85	6.49	6.43	6.88	0.45	23.56	23.13	25.80	1.38	1.14	1.49	1.31	1.27	1.42
1700.00	6.99	6.52	6.46	7.06	0.60	27.50	23.57	26.06	2.23	1.17	1.51	1.30	1.28	1.42
1820.00	7.09	6.56	6.52	7.14	0.62	37.89	23.68	26.33	1.50	1.11	1.50	1.28	1.26	1.42
1880.00	7.13	6.61	6.61	7.23	0.62	34.66	23.52	26.14	2.04	1.06	1.49	1.27	1.25	1.42
1940.00	7.20	6.67	6.63	7.27	0.64	27.96	23.34	25.78	1.94	1.05	1.51	1.24	1.24	1.42
2000.00	7.31	6.76	6.75	7.38	0.63	22.79	21.89	23.53	1.31	1.20	1.48	1.21	1.21	1.41

1. Total Loss = Insertion Loss + 6.0 dB splitter loss.



- 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.
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