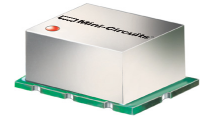


# Surface Mount High Power Splitter

## SYPJ-2-5W-52+

2 Way-180° 50Ω 10 to 520 MHz



CASE STYLE: AH202-1

### Maximum Ratings

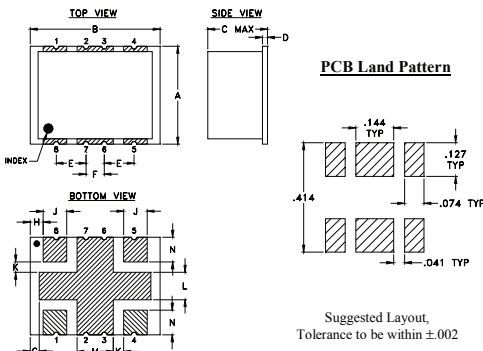
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input (as a splitter)	5.0W max.
Internal Dissipation	1.0W max.

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

### Pin Connections

SUM PORT	8
PORT 1 (0°)	5
PORT 2 (180°)	4
GROUND	1,2,3,6,7

### Outline Drawing



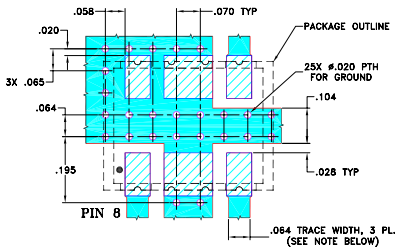
PCB Land Pattern

Suggested Layout, Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.38	.50	.25	.020	.115	.070	.035
9.65	12.70	6.35	0.51	2.92	1.78	0.89
H	J	K	L	M	N	wt
.050	.090	.040	.105	.140	.095	grams
1.27	2.29	1.02	2.67	3.56	2.41	0.80

### Demo Board MCL P/N: TB-427+ Suggested PCB Layout (PL-274)



- 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

### 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-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](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- wideband, 10 to 500 MHz
- low phase unbalance, 2 deg. typ.
- low amplitude unbalance, 0.1 dB typ.
- high isolation, 23 dB typ.
- high input power as a splitter, 5.0 W

### Applications

- VHF/UHF
- communication systems
- receivers & transmitters

- instrumentation
- CATV

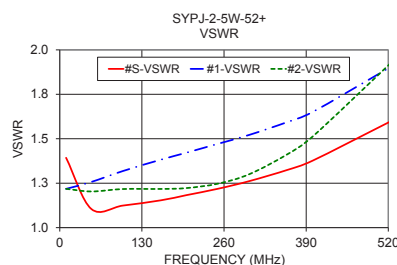
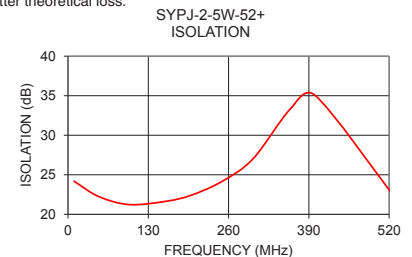
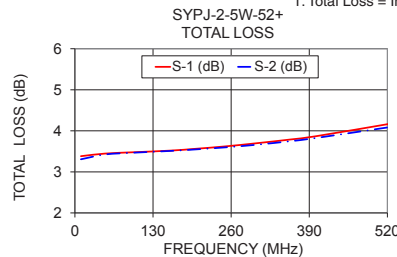
### Electrical Specifications at 25°C

Parameter	Frequency (MHz)	Min.	Typ.	Max.	Unit
<b>Frequency</b>		10		520	MHz
<b>Insertion Loss (above theoretical 3.0 dB)</b>	10 - 250 250 - 520	—	0.5 0.9	0.9 1.5	dB
<b>Isolation</b>	10 - 250 250 - 520	18 19	22 24	—	dB
<b>Phase Unbalance</b>	10 - 250 250 - 520	—	2.0 2.0	8.0 10	Degree
<b>Amplitude Unbalance</b>	10 - 250 250 - 520	—	0.05 0.1	0.2 0.3	dB
<b>VSWR (Port S)</b>	10 - 250 250 - 520	—	1.4 1.5	1.55 1.95	:1
<b>VSWR (Port 1-2)</b>	10 - 250 250 - 520	—	1.35 1.6	1.65 2.3	:1
<b>Input Power</b>					
	as splitter	10 - 520	—	5.0	W
	as combiner	10 - 520	—	1.0	W

### Typical Performance Data

Frequency (MHz)	Total Loss <sup>1</sup> (dB)		Amplitude Unbalance (dB)	Isolation (dB)	Phase Unbalance (deg.)	VSWR S	VSWR 1	VSWR 2
	S-1	S-2						
10	3.38	3.31	0.08	24.18	179.96	1.39	1.22	1.22
50	3.45	3.42	0.02	22.24	179.43	1.10	1.26	1.20
100	3.48	3.47	0.01	21.23	179.08	1.12	1.32	1.22
160	3.52	3.51	0.01	21.67	178.76	1.15	1.38	1.22
200	3.56	3.55	0.01	22.43	178.60	1.18	1.42	1.22
250	3.62	3.60	0.02	24.19	178.48	1.22	1.47	1.25
300	3.69	3.66	0.04	27.05	178.46	1.26	1.52	1.30
360	3.79	3.75	0.04	33.32	178.69	1.32	1.59	1.41
400	3.87	3.82	0.04	35.05	179.07	1.38	1.65	1.51
525	4.17	4.09	0.08	22.57	178.05	1.60	1.91	1.93

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



### Electrical Schematic



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