



# THE DATASHEET OF ADP-2-9+



# Power Splitter/Combiner

## ADP-2-9+

2 Way-0° 50Ω 200 to 900 MHz

### Maximum Ratings

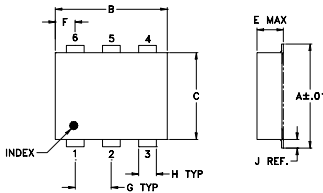
|                             |                |
|-----------------------------|----------------|
| Operating Temperature       | -40°C to 85°C  |
| Storage Temperature         | -55°C to 100°C |
| Power Input (as a splitter) | 0.5W max.      |
| Internal Dissipation        | 0.125W max.    |

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

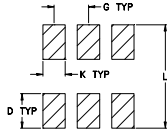
### Pin Connections

|                                       |     |
|---------------------------------------|-----|
| SUM PORT                              | 1   |
| PORT 1                                | 3   |
| PORT 2                                | 4   |
| GROUND                                | 6   |
| Externally connect together & isolate | 2,5 |

### Outline Drawing



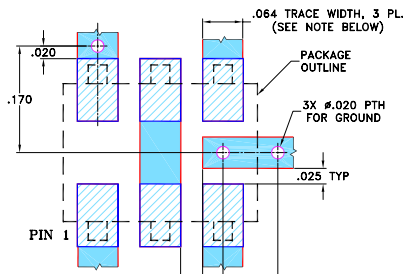
### PCB Land Pattern



### Outline Dimensions (inch/mm)

| A    | B    | C    | D    | E    | F    | G    | H    | J    | K    | L    | wt    |
|------|------|------|------|------|------|------|------|------|------|------|-------|
| .272 | .310 | .220 | .100 | .162 | .055 | .100 | .030 | .026 | .065 | .300 | grams |
| 6.91 | 7.87 | 5.59 | 2.54 | 4.11 | 1.40 | 2.54 | 0.76 | 0.66 | 1.65 | 7.62 | 0.25  |

### Demo Board MCL P/N: TB-208 Suggested PCB Layout (PL-116)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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.  
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### Features

- low insertion loss, 0.4 dB typ.
- excellent amplitude unbalance, 0.05 dB typ.
- very good phase unbalance, 0.3 deg. typ.
- aqueous washable
- protected under U.S. Patent 6,133,525

### Applications

- VHF/UHF receivers/transmitters
- cellular



Generic photo used for illustration purposes only

CASE STYLE: CD636

+RoHS Compliant

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

Available Tape and Reel at no extra cost

| Reel Size | Devices/Reel     |
|-----------|------------------|
| 7"        | 20, 50, 100, 200 |
| 13"       | 500, 1000        |

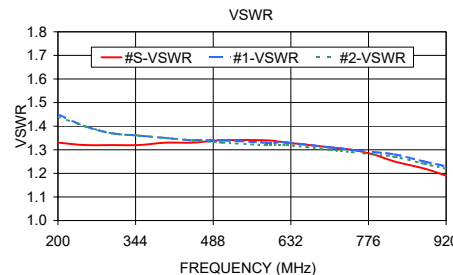
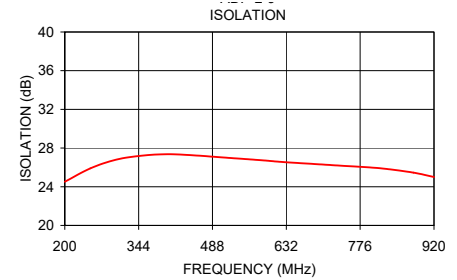
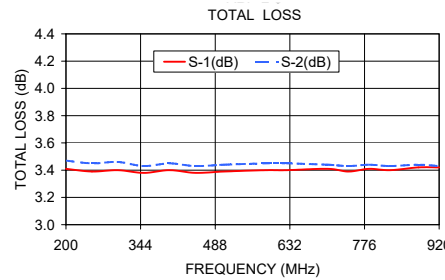
### Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) |      | INSERTION LOSS (dB) ABOVE 3.0 dB |      | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) |
|-------------------|----------------|------|----------------------------------|------|---------------------------|--------------------------|
|                   | Typ.           | Min. | Typ.                             | Max. | Max.                      | Max.                     |
| $f_L - f_U$       |                |      |                                  |      |                           |                          |
| 200-900           | 27             | 20   | 0.4                              | 0.8  | 2.0                       | 0.3                      |

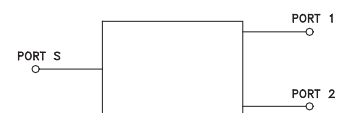
### Typical Performance Data

| 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  |                          |                |                        |        |        |        |
| 200.00          | 3.41                         | 3.47 | 0.06                     | 24.51          | 0.17                   | 1.33   | 1.45   | 1.44   |
| 250.00          | 3.39                         | 3.45 | 0.06                     | 25.90          | 0.15                   | 1.32   | 1.40   | 1.40   |
| 300.00          | 3.40                         | 3.46 | 0.06                     | 26.80          | 0.16                   | 1.32   | 1.37   | 1.37   |
| 350.00          | 3.38                         | 3.43 | 0.06                     | 27.21          | 0.17                   | 1.32   | 1.36   | 1.36   |
| 400.00          | 3.40                         | 3.45 | 0.06                     | 27.36          | 0.16                   | 1.33   | 1.35   | 1.35   |
| 450.00          | 3.38                         | 3.43 | 0.05                     | 27.25          | 0.17                   | 1.33   | 1.34   | 1.34   |
| 505.00          | 3.39                         | 3.44 | 0.05                     | 27.04          | 0.18                   | 1.34   | 1.34   | 1.33   |
| 585.00          | 3.40                         | 3.45 | 0.05                     | 26.73          | 0.23                   | 1.34   | 1.33   | 1.32   |
| 625.00          | 3.40                         | 3.45 | 0.05                     | 26.56          | 0.20                   | 1.33   | 1.33   | 1.32   |
| 705.00          | 3.41                         | 3.44 | 0.03                     | 26.29          | 0.24                   | 1.31   | 1.31   | 1.30   |
| 745.00          | 3.39                         | 3.43 | 0.04                     | 26.15          | 0.23                   | 1.30   | 1.30   | 1.29   |
| 785.00          | 3.41                         | 3.44 | 0.03                     | 26.03          | 0.23                   | 1.28   | 1.29   | 1.28   |
| 825.00          | 3.40                         | 3.43 | 0.03                     | 25.85          | 0.26                   | 1.25   | 1.28   | 1.27   |
| 880.00          | 3.42                         | 3.44 | 0.02                     | 25.46          | 0.22                   | 1.22   | 1.25   | 1.24   |
| 920.00          | 3.42                         | 3.43 | 0.01                     | 25.01          | 0.21                   | 1.19   | 1.23   | 1.22   |

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





### electrical schematic



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