

Power Splitter/Combiner

SEPS-8-272+

8 Way-0° 50Ω 700 to 2700 MHz

Maximum Ratings

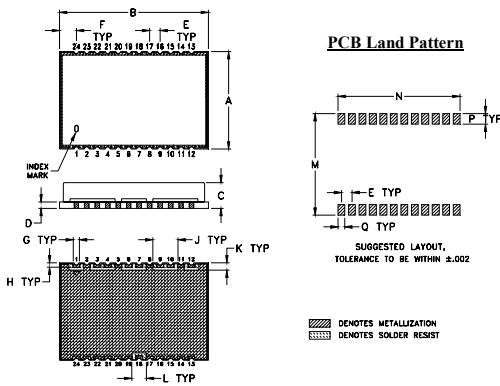
| | |
|-----------------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 5W max. |
| Internal Dissipation | 0.5W max. |

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

Pin Connections

| | |
|----------|------------|
| SUM PORT | 18 |
| PORT 1 | 1 |
| PORT 2 | 3 |
| PORT 3 | 4 |
| PORT 4 | 6 |
| PORT 5 | 7 |
| PORT 6 | 9 |
| PORT 7 | 10 |
| PORT 8 | 12 |
| GROUND | all others |

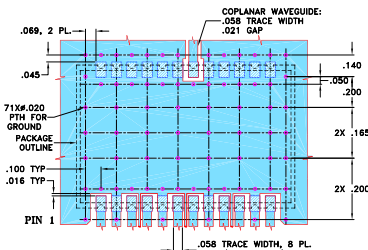
Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | | |
|-------|-------|------|-------|-------|------|------|-------|
| A | B | C | D | E | F | G | H |
| .93 | 1.42 | .25 | .063 | .100 | .160 | .060 | .040 |
| 23.62 | 36.07 | 6.35 | 1.60 | 2.54 | 4.06 | 1.52 | 1.02 |
| J | K | L | M | N | P | Q | wt |
| .240 | .070 | .140 | .970 | 1.165 | .100 | .065 | grams |
| 6.10 | 1.78 | 3.56 | 24.64 | 29.59 | 2.54 | 1.65 | 6.5 |

Demo Board MCL P/N: TB-583+ Suggested PCB Layout (PL-388)



- NOTE:
- TRACE WIDTH AND COPLANAR WAVEGUIDE PARAMETERS ARE 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.
 - 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

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- 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

- good isolation, 20 dB typ.
- good output matching, VSWR 1.35 typ.
- shielded case
- aqueous washable
- good coplanarity

Applications

- cellular
- ISM
- CATV
- GPS
- PCS
- wireless communication system



CASE STYLE: BL1543

+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 |
|-----------|--------------|
| 13" | 100 |

Electrical Specifications at 25°C

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|-----------------------------------------------------|----------------------|----------|--------------|------------|--------|
| Frequency Range | | 700 | | 2700 | MHz |
| Insertion Loss (above theoretical 9.0 dB) | 900-2400 700-2700 | — — | 1.8 2.8 | 2.8 4.9 | dB |
| Isolation | 900-2400 700-2700 | 14 10 | 20 14 | — — | dB |
| Phase Unbalance | 900-2400 700-2700 | — — | 7.0 10 | 16 19 | Degree |
| Amplitude Unbalance | 900-2400 700-2700 | — — | 0.6 1.2 | 1.2 2.1 | dB |
| VSWR (Port S) | 900-2400 700-2700 | — — | 1.7 1.7 | — — | :1 |
| VSWR (Port 1-8) | 900-2400 700-2700 | — — | 1.35 1.35 | — — | :1 |

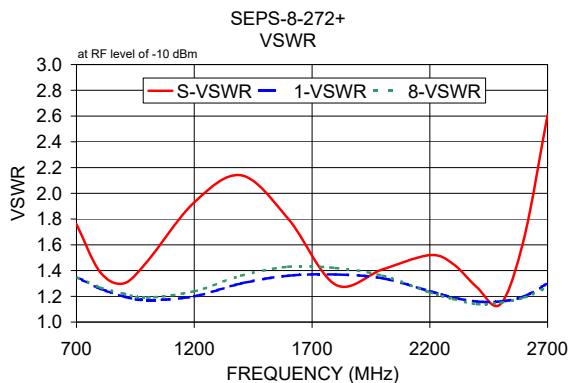
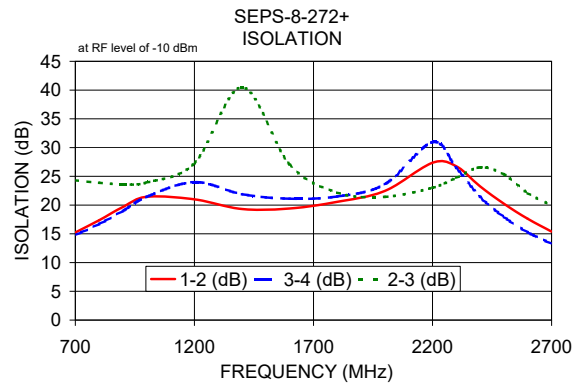
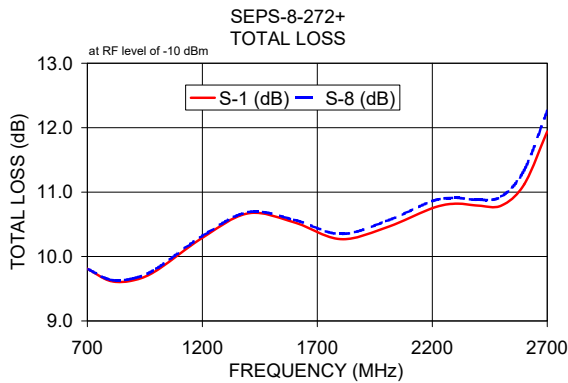
Electrical Schematic



Typical Performance Data

| Freq. (MHz) | Total Loss ¹ (dB) | | | | | | Amplitude Unbalance (dB) | Isolation (dB) | | | | Phase Unbalance (deg.) | VSWR | | |
|----------------|---------------------------------|-------|-------|-------|-------|-------|--------------------------------|-------------------|-------|-------|-------|------------------------------|------|------|------|
| | S-1 | S-2 | S-3 | S-4 | S-6 | S-8 | | 1-2 | 2-3 | 3-4 | 5-6 | | S | 1 | 8 |
| 700 | 9.81 | 9.85 | 9.82 | 9.85 | 9.77 | 9.81 | 0.08 | 15.23 | 24.31 | 14.78 | 14.44 | 2.83 | 1.76 | 1.35 | 1.35 |
| 800 | 9.62 | 9.66 | 9.64 | 9.69 | 9.60 | 9.64 | 0.09 | 17.37 | 23.87 | 16.70 | 16.28 | 3.30 | 1.39 | 1.26 | 1.27 |
| 900 | 9.63 | 9.68 | 9.65 | 9.71 | 9.62 | 9.66 | 0.09 | 19.67 | 23.63 | 18.97 | 18.45 | 3.80 | 1.30 | 1.20 | 1.22 |
| 1000 | 9.78 | 9.83 | 9.79 | 9.87 | 9.77 | 9.81 | 0.10 | 21.44 | 23.93 | 21.44 | 20.79 | 4.37 | 1.47 | 1.17 | 1.19 |
| 1200 | 10.29 | 10.34 | 10.25 | 10.35 | 10.23 | 10.32 | 0.13 | 20.99 | 27.25 | 24.01 | 23.62 | 5.37 | 1.93 | 1.20 | 1.24 |
| 1400 | 10.67 | 10.73 | 10.53 | 10.65 | 10.52 | 10.69 | 0.20 | 19.31 | 40.50 | 21.89 | 21.86 | 5.81 | 2.14 | 1.30 | 1.36 |
| 1600 | 10.53 | 10.60 | 10.38 | 10.52 | 10.35 | 10.57 | 0.25 | 19.40 | 27.02 | 21.11 | 21.14 | 5.55 | 1.80 | 1.36 | 1.43 |
| 1800 | 10.27 | 10.35 | 10.21 | 10.35 | 10.15 | 10.35 | 0.25 | 20.57 | 22.16 | 21.49 | 21.62 | 5.16 | 1.29 | 1.37 | 1.42 |
| 2000 | 10.45 | 10.50 | 10.42 | 10.54 | 10.34 | 10.55 | 0.28 | 22.47 | 21.42 | 23.62 | 23.69 | 4.93 | 1.41 | 1.34 | 1.36 |
| 2200 | 10.75 | 10.78 | 10.63 | 10.78 | 10.59 | 10.86 | 0.33 | 27.36 | 23.01 | 30.95 | 33.18 | 5.67 | 1.52 | 1.24 | 1.23 |
| 2300 | 10.82 | 10.83 | 10.69 | 10.87 | 10.66 | 10.91 | 0.36 | 26.73 | 24.76 | 26.46 | 28.78 | 6.07 | 1.45 | 1.19 | 1.18 |
| 2400 | 10.79 | 10.77 | 10.73 | 10.94 | 10.71 | 10.88 | 0.47 | 23.25 | 26.56 | 21.43 | 22.87 | 7.25 | 1.27 | 1.16 | 1.14 |
| 2500 | 10.79 | 10.75 | 10.90 | 11.13 | 10.91 | 10.93 | 0.68 | 20.22 | 25.34 | 17.94 | 19.08 | 8.51 | 1.14 | 1.16 | 1.15 |
| 2600 | 11.12 | 11.05 | 11.44 | 11.68 | 11.50 | 11.34 | 0.92 | 17.62 | 22.07 | 15.26 | 16.23 | 9.50 | 1.65 | 1.20 | 1.19 |
| 2700 | 11.94 | 11.83 | 12.47 | 12.70 | 12.61 | 12.26 | 1.22 | 15.38 | 19.96 | 13.28 | 14.14 | 10.63 | 2.61 | 1.30 | 1.27 |

1. Total Loss = Insertion Loss + 9dB splitter theoretical loss.



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