

Surface Mount Power Splitter/Combiner

BP4P1+

4 Way-0° 50Ω 1500 to 2500 MHz



CASE STYLE: XX211
PRICE: \$1.49 ea. QTY. (20)

+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, 500, 1000

Maximum Ratings

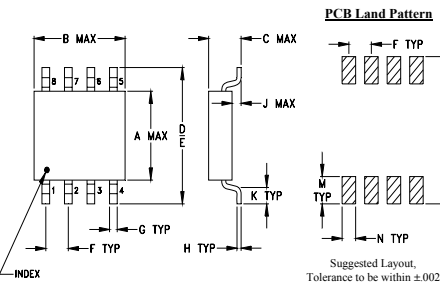
| | |
|-----------------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -65°C to 150°C |
| Power Input (as a splitter) | 1.5W max. |
| Internal Dissipation | 0.375W max. |

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

Pin Connections

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

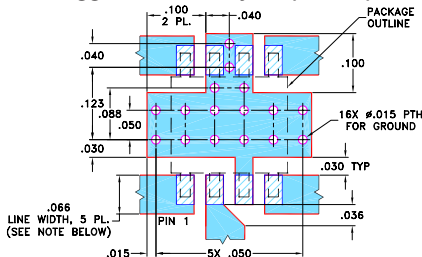
Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | |
|------|------|------|------|------|------|-------|
| A | B | C | D | E | F | G |
| .163 | .210 | .077 | .250 | .220 | .050 | .017 |
| 4.14 | 5.33 | 1.96 | 6.35 | 5.59 | 1.27 | 0.43 |
| H | J | K | M | N | P | wt |
| .009 | .025 | .030 | .050 | .030 | .270 | grams |
| 0.23 | 0.64 | 0.76 | 1.27 | 0.76 | 6.86 | 0.10 |

Demo Board MCL P/N: TB-231 Suggested PCB Layout (PL-113)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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

Features

- low insertion loss, 0.8 dB typ.
- excellent output VSWR, 1.25:1 typ.
- aqueous washable
- excellent power handling, 1.5W

Applications

- PCS/DCS
- GSM
- WCDMA

Electrical Specifications

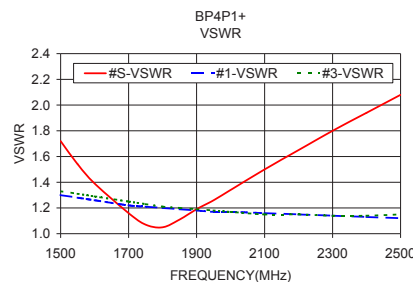
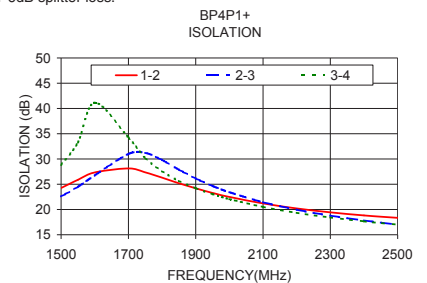
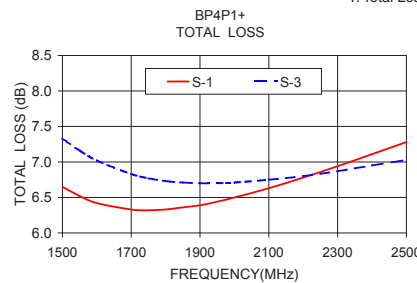
| FREQ. RANGE (MHz) | ISOLATION (dB) | | INSERTION LOSS (dB) ABOVE 6 dB | | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE ^Δ (dB) | VSWR (:1) Typ. | |
|--------------------------------|----------------|------|--------------------------------|------|---------------------------|---------------------------------------|----------------|---------------|
| | Typ. | Min. | Typ. | Max. | | | Port S | Ports 1,2,3,4 |
| f _L -f _U | | | | | Max. | Max. | 1.6 | 1.25 |
| 1500-2500 | 21 | 15 | 0.8 | 1.6 | 25 | 0.8 | | |

^Δ Measurements relative to port 2.

Typical Performance Data

| Freq. (MHz) | Total Loss ¹ (dB) | | | | Amp. Unbal. (dB) | Isolation (dB) | | | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 | VSWR 3 | VSWR 4 |
|-------------|------------------------------|------|------|------|------------------|----------------|-------|-------|---------------------|--------|--------|--------|--------|--------|
| | S-1 | S-2 | S-3 | S-4 | | 1-2 | 2-3 | 3-4 | | | | | | |
| 1500.00 | 6.65 | 7.15 | 7.33 | 7.29 | 0.69 | 24.25 | 22.57 | 28.84 | 2.37 | 1.72 | 1.30 | 1.36 | 1.33 | 1.40 |
| 1550.00 | 6.52 | 6.97 | 7.16 | 7.12 | 0.64 | 25.88 | 24.50 | 33.27 | 3.35 | 1.54 | 1.28 | 1.34 | 1.31 | 1.37 |
| 1600.00 | 6.42 | 6.83 | 7.02 | 6.99 | 0.59 | 27.33 | 26.75 | 41.16 | 4.36 | 1.39 | 1.26 | 1.32 | 1.29 | 1.34 |
| 1700.00 | 6.33 | 6.65 | 6.83 | 6.83 | 0.50 | 28.13 | 31.00 | 34.24 | 6.30 | 1.16 | 1.22 | 1.29 | 1.25 | 1.30 |
| 1750.00 | 6.32 | 6.60 | 6.77 | 6.79 | 0.47 | 27.35 | 31.21 | 30.19 | 7.24 | 1.07 | 1.21 | 1.27 | 1.23 | 1.28 |
| 1800.00 | 6.33 | 6.56 | 6.73 | 6.76 | 0.43 | 26.31 | 29.80 | 27.58 | 8.19 | 1.05 | 1.20 | 1.26 | 1.21 | 1.26 |
| 1850.00 | 6.36 | 6.54 | 6.71 | 6.76 | 0.40 | 25.20 | 27.88 | 25.67 | 9.12 | 1.11 | 1.19 | 1.25 | 1.20 | 1.24 |
| 1900.00 | 6.39 | 6.53 | 6.70 | 6.76 | 0.36 | 24.20 | 26.14 | 24.21 | 10.04 | 1.19 | 1.18 | 1.24 | 1.19 | 1.23 |
| 1950.00 | 6.44 | 6.53 | 6.70 | 6.77 | 0.33 | 23.27 | 24.66 | 23.03 | 10.95 | 1.26 | 1.17 | 1.23 | 1.18 | 1.22 |
| 2000.00 | 6.50 | 6.55 | 6.71 | 6.79 | 0.30 | 22.49 | 23.42 | 22.06 | 11.89 | 1.34 | 1.17 | 1.22 | 1.17 | 1.20 |
| 2100.00 | 6.63 | 6.59 | 6.75 | 6.86 | 0.27 | 21.20 | 21.44 | 20.52 | 13.70 | 1.50 | 1.16 | 1.20 | 1.15 | 1.18 |
| 2200.00 | 6.78 | 6.65 | 6.80 | 6.94 | 0.29 | 20.21 | 19.96 | 19.35 | 15.49 | 1.65 | 1.15 | 1.19 | 1.15 | 1.17 |
| 2300.00 | 6.94 | 6.72 | 6.87 | 7.04 | 0.32 | 19.44 | 18.78 | 18.42 | 17.28 | 1.80 | 1.14 | 1.19 | 1.14 | 1.15 |
| 2400.00 | 7.11 | 6.81 | 6.95 | 7.14 | 0.34 | 18.83 | 17.82 | 17.65 | 19.06 | 1.94 | 1.13 | 1.19 | 1.14 | 1.14 |
| 2500.00 | 7.28 | 6.90 | 7.03 | 7.25 | 0.38 | 18.35 | 17.00 | 16.99 | 20.86 | 2.08 | 1.12 | 1.19 | 1.15 | 1.12 |

1. Total Loss = Insertion Loss + 6dB splitter loss.



electrical schematic



ESD Rating

Human Body Model (HBM): Class 1A (250 v to <500 v) in accordance with ANSI/ESD STM 5.1 - 2001
Machine Model (MM): Class M1 (< 100 v) in accordance with ANSI/ESD STM 5.2 - 1999 (pass 50V)

Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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REV. B
M127604
ED-12348C/8+
BP4P1+
120620