



**THE DATASHEET OF  
BP2G1+**



Surface Mount

# Power Splitter/Combiner

BP2G1+

2 Way-0° 50Ω 1200 to 2000 MHz



Generic photo used for illustration purposes only

CASE STYLE: XX211

## 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        | 0.75W max.     |

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

## Pin Connections

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

## Features

- wide bandwidth, 1200-2000 MHz
- low insertion loss, 0.6 dB typ.
- high isolation, 21 dB typ.
- good input and output VSWR, 1.3:1 typ.
- excellent power handling, 1.5W
- excellent repeatability
- low profile
- aqueous washable

## Applications

- GPS
- WCDMA
- PCS
- DCS

## Electrical Specifications

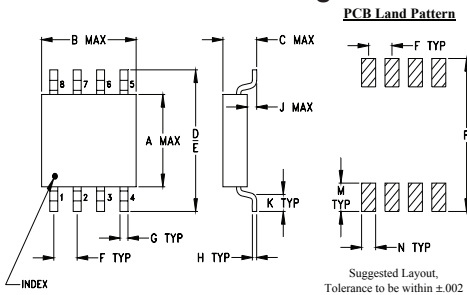
| FREQ. RANGE (MHz) | ISOLATION (dB) |      | INSERTION LOSS (dB) ABOVE 3.0 dB |      | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) | VSWR (:1)   |                   |
|-------------------|----------------|------|----------------------------------|------|---------------------------|--------------------------|-------------|-------------------|
|                   | Typ.           | Min. | Typ.                             | Max. |                           |                          | S-Port Typ. | Output-Ports Typ. |
| 1200-2000         | 21             | 10   | 0.6                              | 1.3  | 3.0                       | 0.3                      | 1.3         | 1.3               |

**+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 |
| 13"       | 2000                        |

## 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 |

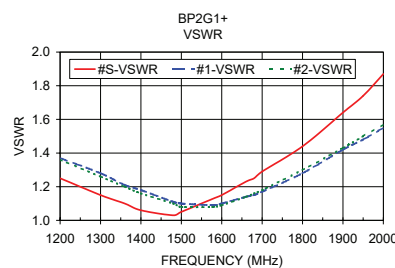
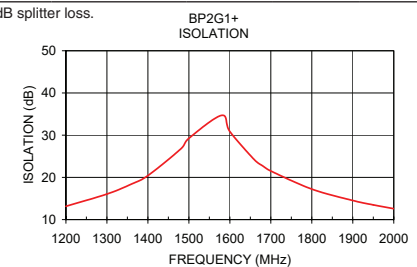
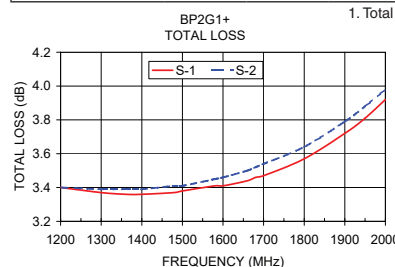
  

| H    | J    | K    | M    | N    | P    | wt    |
|------|------|------|------|------|------|-------|
| .009 | .025 | .030 | .050 | .030 | .270 | grams |
| 0.23 | 0.64 | 0.76 | 1.27 | 0.76 | 6.86 | 0.10  |

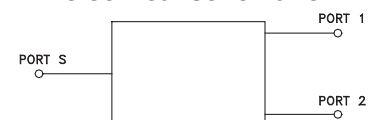
## Typical Performance Data at 25°C

| 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  |                          |                |                        |        |        |        |
| 1200.00         | 3.40                         | 3.40 | 0.01                     | 13.15          | 0.13                   | 1.25   | 1.37   | 1.36   |
| 1300.00         | 3.37                         | 3.39 | 0.02                     | 16.05          | 0.10                   | 1.15   | 1.28   | 1.26   |
| 1360.00         | 3.36                         | 3.39 | 0.03                     | 18.41          | 0.11                   | 1.10   | 1.21   | 1.20   |
| 1400.00         | 3.36                         | 3.39 | 0.03                     | 20.43          | 0.11                   | 1.06   | 1.18   | 1.16   |
| 1480.00         | 3.37                         | 3.41 | 0.04                     | 26.71          | 0.10                   | 1.03   | 1.11   | 1.10   |
| 1500.00         | 3.38                         | 3.41 | 0.04                     | 29.25          | 0.10                   | 1.05   | 1.10   | 1.08   |
| 1580.00         | 3.41                         | 3.45 | 0.04                     | 34.69          | 0.03                   | 1.13   | 1.09   | 1.08   |
| 1600.00         | 3.41                         | 3.46 | 0.05                     | 30.85          | 0.01                   | 1.15   | 1.10   | 1.09   |
| 1660.00         | 3.44                         | 3.50 | 0.05                     | 24.16          | 0.04                   | 1.23   | 1.14   | 1.14   |
| 1680.00         | 3.46                         | 3.52 | 0.06                     | 22.73          | 0.04                   | 1.25   | 1.15   | 1.16   |
| 1700.00         | 3.47                         | 3.54 | 0.06                     | 21.52          | 0.05                   | 1.29   | 1.17   | 1.18   |
| 1800.00         | 3.57                         | 3.64 | 0.07                     | 17.23          | 0.12                   | 1.44   | 1.28   | 1.30   |
| 1900.00         | 3.72                         | 3.79 | 0.07                     | 14.52          | 0.08                   | 1.64   | 1.42   | 1.43   |
| 1950.00         | 3.81                         | 3.88 | 0.07                     | 13.48          | 0.15                   | 1.74   | 1.48   | 1.50   |
| 2000.00         | 3.92                         | 3.98 | 0.06                     | 12.58          | 0.12                   | 1.87   | 1.55   | 1.57   |

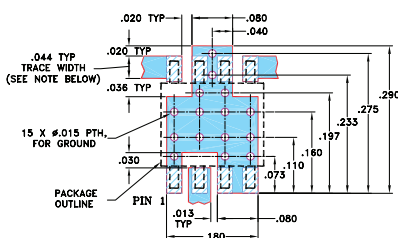
1. Total Loss = Insertion Loss + 3dB splitter loss.



## electrical schematic



## Demo Board MCL P/N: TB-37 Suggested PCB Layout (PL-053)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B WITH DIELECTRIC THICKNESS 0.020" ± 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 WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## 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)



## 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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