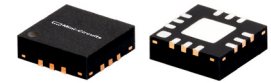


Power Splitter/Combiner

GP2X1+

2 Way-0° 50Ω 2800 to 7200 MHz



Generic photo used for illustration purposes only

CASE STYLE: DQ1225

+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, 2000 |

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. | |

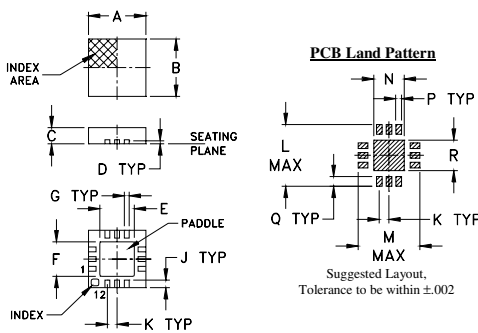
Pad Connections

| | |
|----------|------------------------------|
| SUM PORT | 2 |
| PORT 1 | 7 |
| PORT 2 | 9 |
| GROUND | 1,3,4,5,6,8,10,11,12, paddle |

Product Marking



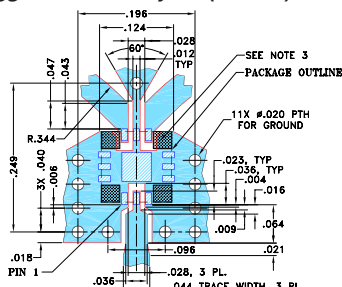
Outline Drawing



Outline Dimensions (inch/mm)

| | | | | | | | | |
|------|------|------|------|------|------|------|-------|------|
| A | B | C | D | E | F | G | H | J |
| .118 | .118 | .035 | .008 | .057 | .057 | .009 | --- | .016 |
| 3.00 | 3.00 | 0.89 | 0.20 | 1.45 | 1.45 | 0.23 | --- | 0.41 |
| K | L | M | N | P | Q | R | wt | |
| .020 | .127 | .127 | .049 | .010 | .020 | .049 | grams | |
| 0.51 | 3.23 | 3.23 | 1.24 | 0.25 | 0.51 | 1.24 | 0.02 | |

Demo Board MCL P/N: TB-453-GP2X1+ Suggested PCB Layout (PL-282)



- NOTES:
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP MAY NEED TO BE MODIFIED.
 - BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.
 - SIGNAL TRACES ARE NOT ALLOWED INSIDE HATCHED AREAS (APPROX. .030 X .030) AT 4 PLACES AS SHOWN.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits 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-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Features

- very wide bandwidth, 2800 to 7200 MHz
- excellent amplitude unbalance, 0.1 dB typ.
- good phase unbalance, 3 deg. typ.
- small size, 0.118"x0.118"x0.035"
- high ESD level
- aqueous washable

Applications

- WIMAX
- radar
- ISM
- WLAN
- satellite communication
- instrumentation

Electrical Specifications

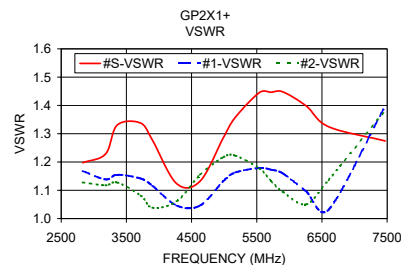
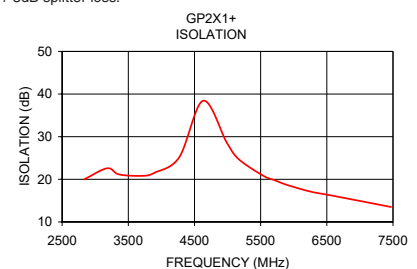
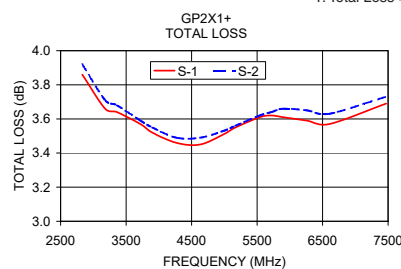
| FREQ. RANGE (MHz) | ISOLATION (dB) | | INSERTION LOSS* (dB) ABOVE 3.0 dB | | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) | VSWR (:1) Typ. | |
|-------------------|----------------|------|-----------------------------------|------|---------------------------|--------------------------|----------------|-----------|
| | Typ. | Min. | Typ. | Max. | Max. | Max. | Port S | Ports 1,2 |
| 2800-7200 | 22 | 10 | 0.8 | 1.9 | 10.0 | 0.4 | 1.3 | 1.2 |

* De-embedded from demo board loss.

Typical Performance Data

| Frequency (MHz) | Total Loss ¹ (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | VSWR S | VSWR 1 | VSWR 2 |
|-----------------|------------------------------|------|--------------------------|----------------|------------------------|--------|--------|--------|
| | S-1 | S-2 | | | | | | |
| 2830.00 | 3.86 | 3.92 | 0.06 | 19.96 | 2.37 | 1.20 | 1.17 | 1.13 |
| 3180.00 | 3.66 | 3.71 | 0.05 | 22.58 | 2.72 | 1.23 | 1.14 | 1.12 |
| 3360.00 | 3.64 | 3.68 | 0.04 | 21.14 | 2.92 | 1.33 | 1.16 | 1.13 |
| 3720.00 | 3.57 | 3.59 | 0.03 | 20.82 | 3.20 | 1.34 | 1.14 | 1.08 |
| 3900.00 | 3.52 | 3.55 | 0.02 | 21.57 | 3.30 | 1.28 | 1.12 | 1.04 |
| 4270.00 | 3.46 | 3.49 | 0.04 | 25.19 | 3.58 | 1.12 | 1.05 | 1.06 |
| 4630.00 | 3.45 | 3.49 | 0.04 | 38.44 | 3.97 | 1.13 | 1.05 | 1.15 |
| 4990.00 | 3.51 | 3.53 | 0.02 | 28.55 | 4.38 | 1.29 | 1.13 | 1.22 |
| 5170.00 | 3.55 | 3.56 | 0.01 | 24.69 | 4.58 | 1.36 | 1.16 | 1.22 |
| 5540.00 | 3.61 | 3.62 | 0.01 | 20.83 | 4.94 | 1.45 | 1.18 | 1.18 |
| 5720.00 | 3.62 | 3.64 | 0.03 | 19.75 | 5.14 | 1.45 | 1.17 | 1.13 |
| 5900.00 | 3.61 | 3.66 | 0.05 | 18.68 | 5.49 | 1.45 | 1.16 | 1.09 |
| 6260.00 | 3.59 | 3.65 | 0.05 | 17.10 | 6.01 | 1.40 | 1.10 | 1.05 |
| 6600.00 | 3.57 | 3.63 | 0.06 | 16.13 | 6.37 | 1.33 | 1.03 | 1.14 |
| 7470.00 | 3.69 | 3.73 | 0.04 | 13.51 | 7.31 | 1.27 | 1.40 | 1.38 |

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



electrical schematic



ESD Rating

Human Body Model (HBM): Class 1A (250 to < 500V) in accordance with ANSI/ESD STM 5.1 - 2001
Machine Model (MM): Class M2 (100V to < 250V) in accordance with ANSI/ESD STM 5.2 - 1999