

Surface Mount Power Splitter/Combiner

JYPQ-16

2 Way-90° 50Ω 10 to 16 MHz



Generic photo used for illustration purposes only

CASE STYLE: BJ293

| Available Tape and Reel at no extra cost | |
|--|----------------------|
| Reel Size | Devices/Reel |
| 7" | 10, 20, 50, 100, 200 |
| 13" | 500 |

Maximum Ratings

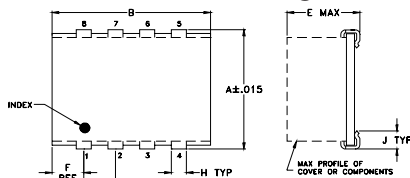
| | |
|-----------------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 1W max. |

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

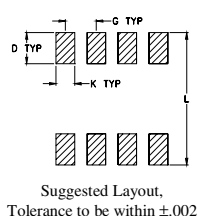
Pin Connections

| | |
|----------------------|---------|
| SUM PORT | 8 |
| PORT 1 (+90°) | 1 |
| PORT 2 (0°) | 4 |
| GROUND | 2,3,6,7 |
| 50 OHM TERM EXTERNAL | 5 |

Outline Drawing



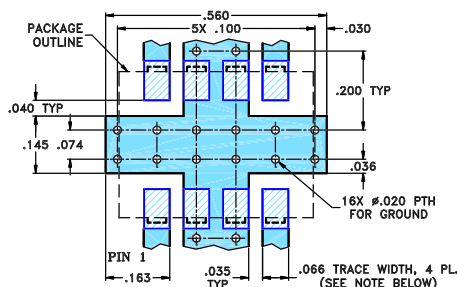
PCB Land Pattern



Outline Dimensions (inch/mm)

| | | | | | | | |
|-------|-------|------|-------|------|------|------|-------|
| A | B | C | D | E | F | G | |
| .395 | .500 | -- | .100 | .230 | .100 | .100 | |
| 10.03 | 12.70 | -- | 2.54 | 5.84 | 2.54 | 2.54 | |
| H | J | K | L | | | | wt |
| .047 | .065 | .065 | .425 | | | | grams |
| 1.19 | 1.65 | 1.65 | 10.80 | | | | 0.80 |

Demo Board MCL P/N: TB-216 Suggested PCB Layout (PL-100)



- NOTE:**
- TRACE WIDTH IS SHOWN FOR ROGERS RO4350 WITH DIELECTRIC THICKNESS .050" ± .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.
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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-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

Features

- low insertion loss, 0.2 dB typ.
- high isolation, 43 dB typ.

Applications

- HF
- radio communication
- modulators
- balanced amplifiers

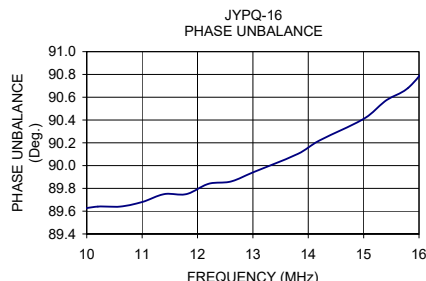
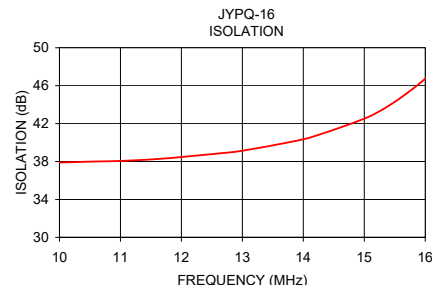
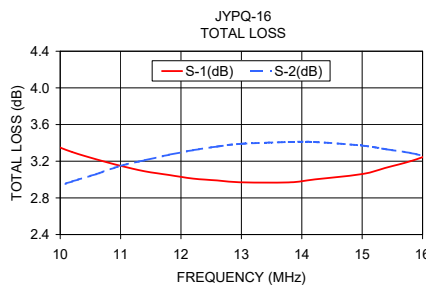
Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) | | INSERTION LOSS (dB) Avg. of Coupled Outputs ABOVE 3 dB | | PHASE UNBALANCE (Degrees) | AMPLITUDE UNBALANCE (dB) |
|-------------------|----------------|------|---|------|---------------------------|--------------------------|
| | Typ. | Min. | Typ. | Max. | | |
| f_L - f_U | | | | | Max. | Max. |
| 10-16 | 43 | 25 | 0.2 | 0.6 | 4 | 0.9 |

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 | | | | | | |
| 9.80 | 3.40 | 2.89 | 0.51 | 37.87 | 89.61 | 1.04 | 1.04 | 1.04 |
| 10.20 | 3.30 | 2.98 | 0.33 | 37.93 | 89.64 | 1.04 | 1.03 | 1.04 |
| 10.60 | 3.22 | 3.06 | 0.16 | 38.00 | 89.64 | 1.04 | 1.03 | 1.04 |
| 11.00 | 3.15 | 3.15 | 0.30 | 38.06 | 89.68 | 1.04 | 1.03 | 1.04 |
| 11.40 | 3.09 | 3.21 | 0.12 | 38.18 | 89.75 | 1.04 | 1.03 | 1.04 |
| 11.80 | 3.05 | 3.27 | 0.23 | 38.36 | 89.75 | 1.04 | 1.03 | 1.04 |
| 12.20 | 3.01 | 3.32 | 0.32 | 38.60 | 89.84 | 1.04 | 1.03 | 1.04 |
| 12.60 | 2.99 | 3.36 | 0.37 | 38.84 | 89.86 | 1.04 | 1.03 | 1.04 |
| 13.00 | 2.97 | 3.39 | 0.42 | 39.14 | 89.94 | 1.04 | 1.03 | 1.04 |
| 13.80 | 2.97 | 3.41 | 0.44 | 40.08 | 90.10 | 1.04 | 1.03 | 1.04 |
| 14.20 | 3.00 | 3.41 | 0.41 | 40.71 | 90.22 | 1.04 | 1.03 | 1.04 |
| 15.00 | 3.06 | 3.37 | 0.31 | 42.52 | 90.41 | 1.04 | 1.03 | 1.04 |
| 15.40 | 3.13 | 3.33 | 0.21 | 43.88 | 90.57 | 1.04 | 1.03 | 1.04 |
| 15.80 | 3.20 | 3.29 | 0.09 | 45.69 | 90.68 | 1.04 | 1.03 | 1.04 |
| 16.20 | 3.29 | 3.23 | 0.06 | 47.81 | 90.90 | 1.05 | 1.03 | 1.05 |

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



electrical schematic

