

Surface Mount

# Power Splitter/Combiner

JYPS-2-4-75+

2 Way-0° 75Ω 5 to 1000 MHz

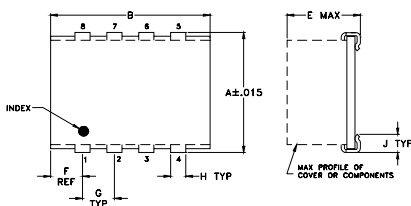
## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -40°C to 85°C  |
| Storage Temperature                                             | -55°C to 100°C |
| Power Input (as a splitter)                                     | 0.5W max.      |
| Internal Dissipation                                            | 0.125W max.    |
| Permanent damage may occur if any of these limits are exceeded. |                |

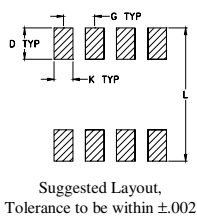
## Pin Connections

|          |       |
|----------|-------|
| SUM PORT | 1     |
| PORT 1   | 3     |
| PORT 2   | 6     |
| GROUND   | 7,8   |
| NOT USED | 2,4,5 |

## Outline Drawing



## PCB Land Pattern



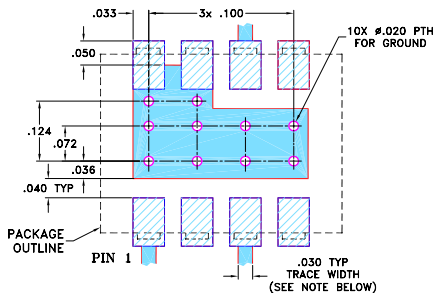
## Outline Dimensions (inch mm)

| 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-105 Suggested PCB Layout (PL-069)



- 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.
- Legend:
- Blue shaded area: DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
  - Blue outline: DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

## Features

- wideband, 5 to 1000 MHz
- excellent insertion loss 0.4 dB typ.
- good isolation, 25 dB typ.
- excellent VSWR, 1.1:1 typ.

## Applications

- cable TV
- VHF/UHF
- communications systems



CASE STYLE: BJ293

## +RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

## Electrical Specifications

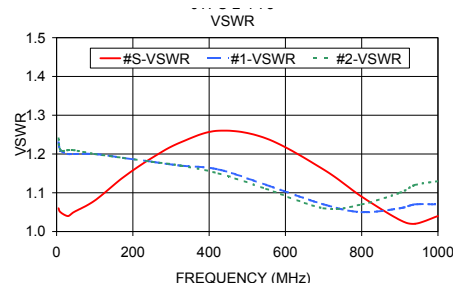
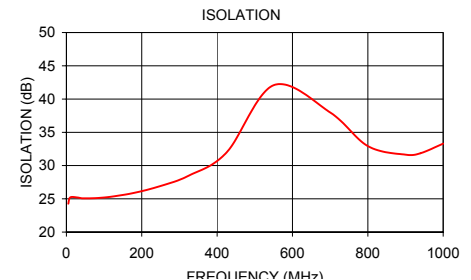
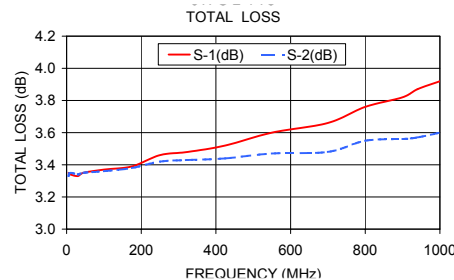
| FREQ. RANGE (MHz)              | ISOLATION (dB) |      |      |      |      |      | INSERTION LOSS (dB) ABOVE 3.0 dB |      |      |      |      |      | PHASE UNBALANCE (Degrees) |      |      | AMPLITUDE UNBALANCE (dB) |      |      |
|--------------------------------|----------------|------|------|------|------|------|----------------------------------|------|------|------|------|------|---------------------------|------|------|--------------------------|------|------|
|                                | L              |      | M    |      | U    |      | L                                |      | M    |      | U    |      | L                         |      | M    |                          | U    |      |
| f <sub>L</sub> -f <sub>U</sub> | Typ.           | Min. | Typ. | Min. | Typ. | Min. | Typ.                             | Max. | Typ. | Max. | Typ. | Max. | Max.                      | Max. | Max. | Max.                     | Max. | Max. |
| 5-1000                         | 24             | 17   | 25   | 20   | 30   | 18   | 0.4                              | 0.8  | 0.4  | 1.0  | 0.8  | 1.5  | 3.0                       | 4.0  | 5.0  | 0.2                      | 0.3  | 0.4  |

L = 5-50 MHz M = 50-500 MHz U = 500-1000 MHz

## Typical Performance Data

| 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  |                          |                |                        |        |        |        |
| 5.00            | 3.35                         | 3.33 | 0.02                     | 24.26          | 0.03                   | 1.06   | 1.23   | 1.24   |
| 10.00           | 3.34                         | 3.35 | 0.01                     | 25.21          | 0.01                   | 1.05   | 1.21   | 1.21   |
| 30.00           | 3.33                         | 3.34 | 0.01                     | 25.19          | 0.05                   | 1.04   | 1.20   | 1.21   |
| 45.00           | 3.35                         | 3.35 | 0.00                     | 25.07          | 0.08                   | 1.05   | 1.20   | 1.21   |
| 100.00          | 3.37                         | 3.36 | 0.00                     | 25.19          | 0.16                   | 1.08   | 1.20   | 1.20   |
| 175.00          | 3.39                         | 3.38 | 0.02                     | 25.84          | 0.34                   | 1.14   | 1.19   | 1.19   |
| 250.00          | 3.46                         | 3.42 | 0.04                     | 26.93          | 0.46                   | 1.19   | 1.18   | 1.18   |
| 325.00          | 3.48                         | 3.43 | 0.04                     | 28.49          | 0.61                   | 1.23   | 1.17   | 1.17   |
| 425.00          | 3.52                         | 3.44 | 0.07                     | 31.97          | 0.73                   | 1.26   | 1.16   | 1.15   |
| 550.00          | 3.60                         | 3.47 | 0.14                     | 42.08          | 0.86                   | 1.24   | 1.12   | 1.11   |
| 700.00          | 3.66                         | 3.48 | 0.18                     | 37.99          | 0.84                   | 1.16   | 1.07   | 1.06   |
| 800.00          | 3.76                         | 3.55 | 0.21                     | 32.92          | 0.84                   | 1.09   | 1.05   | 1.07   |
| 900.00          | 3.82                         | 3.56 | 0.27                     | 31.64          | 0.59                   | 1.03   | 1.06   | 1.10   |
| 940.00          | 3.87                         | 3.57 | 0.30                     | 31.86          | 0.42                   | 1.02   | 1.07   | 1.12   |
| 1000.00         | 3.92                         | 3.60 | 0.32                     | 33.30          | 0.12                   | 1.04   | 1.07   | 1.13   |

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



## electrical schematic



## 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.
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