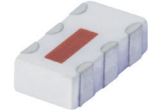


Ultra-Small Ceramic Power Splitter/Combiner

SCN-3-13+ SCN-3-13

3 Way-0° 50Ω 750 to 1325 MHz



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

+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, 3000 |

Maximum Ratings

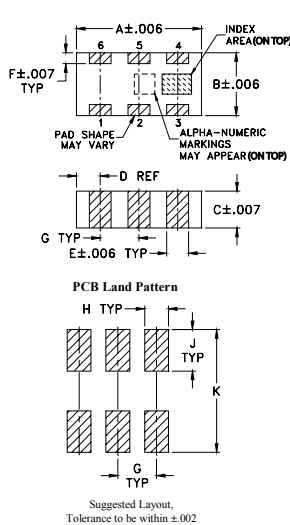
| | |
|-----------------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 15W* max. |

* Derate linearly to 6W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

| | |
|---------------|----------------------------|
| SUM PORT | 2 |
| PORT 1 | 6 |
| PORT 2 | 5 |
| PORT 3 | 4 |
| GROUND | 1,3 |
| PORT 1-2, 2-3 | resistor external 124 ohms |
| PORT 1-3 | resistor external 127 ohms |

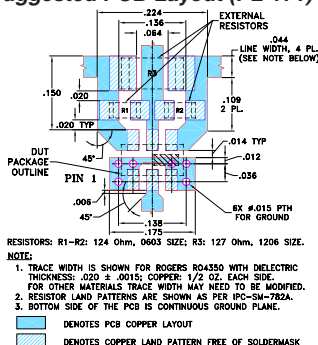
Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | J | K | wt |
|------|------|------|------|------|------|------|------|------|------|-------|
| .126 | .063 | .035 | .024 | .022 | .011 | .039 | .024 | .042 | .123 | grams |
| 3.20 | 1.60 | 0.89 | 0.61 | 0.56 | 0.28 | 0.99 | 0.61 | 1.07 | 3.12 | .020 |

Demo Board MCL P/N: TB-303 Suggested PCB Layout (PL-171)



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/WCLStore/terms.jsp

Features

- isolation resistors, external
- low insertion loss, 1.0 dB typ.
- excellent amplitude unbalance, 0.3 dB typ.
- very good phase unbalance, 1 deg. typ.
- high isolation, 12 dB typ.
- excellent power handling, 15W as splitter
- small size, 0.12"X0.06"X0.035"
- ESD non-sensitive
- temperature stable LTCC technology
- wrap around, terminations for excellent solderability
- low cost

Applications

- DSS
- WLAN
- satellite communication
- GSM, GPS
- ISM applications
- defense applications

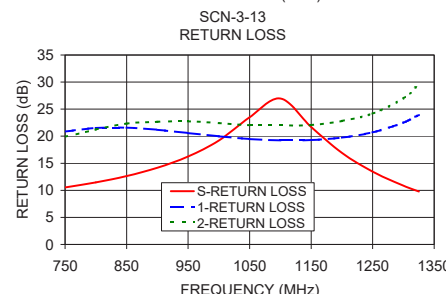
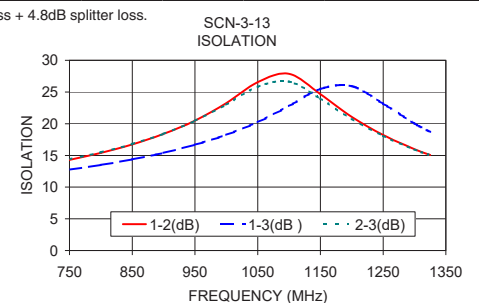
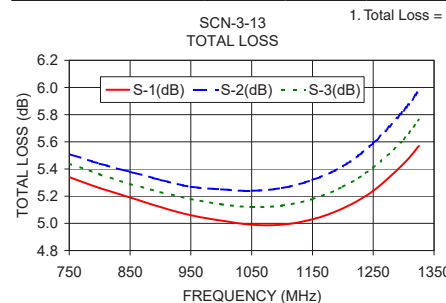
Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) | | INSERTION LOSS (dB) ABOVE 4.8 dB | | PHASE UNBALANCE (Degrees) | | AMPLITUDE UNBALANCE (dB) | | RETURN LOSS (dB) | |
|-------------------|----------------|------|----------------------------------|------|---------------------------|------|--------------------------|------|------------------|-------------|
| | Typ. | Min. | Typ. | Max. | Typ. | Max. | Typ. | Max. | INPUT Typ. | OUTPUT Typ. |
| f_L - f_U | | | | | | | | | | |
| 750-1325 | 12 | 10 | 1.0 | 1.5 | 1.0 | 3.0 | 0.3 | 0.7 | 12 | 20 |
| 850-1000 | 16 | 12 | 0.4 | 0.8 | 0.5 | 3.0 | 0.2 | 0.5 | 15 | 20 |

Typical Performance Data

| Freq. (MHz) | Total Loss ¹ (dB) | | | Amp. Unbal. (dB) | Isolation (dB) | | | Phase Unbal. (deg.) | Return Loss (dB) | | |
|-------------|------------------------------|------|------|------------------|----------------|-------|-------|---------------------|------------------|-------|-------|
| | S-1 | S-2 | S-3 | | 1-2 | 1-3 | 2-3 | | S | 1 | 2 |
| 750.00 | 5.34 | 5.51 | 5.44 | 0.17 | 14.30 | 12.76 | 14.40 | 0.91 | 10.53 | 20.85 | 19.89 |
| 800.00 | 5.26 | 5.44 | 5.36 | 0.17 | 15.41 | 13.51 | 15.51 | 1.02 | 11.47 | 21.53 | 21.25 |
| 850.00 | 5.19 | 5.38 | 5.29 | 0.19 | 16.74 | 14.37 | 16.81 | 1.07 | 12.65 | 21.58 | 22.33 |
| 900.00 | 5.12 | 5.32 | 5.23 | 0.20 | 18.39 | 15.41 | 18.41 | 1.20 | 14.17 | 21.18 | 22.67 |
| 950.00 | 5.06 | 5.27 | 5.18 | 0.22 | 20.49 | 16.67 | 20.45 | 1.30 | 16.24 | 20.59 | 22.75 |
| 1000.00 | 5.02 | 5.25 | 5.14 | 0.23 | 23.24 | 18.24 | 23.00 | 1.39 | 19.19 | 19.97 | 22.41 |
| 1050.00 | 4.99 | 5.24 | 5.12 | 0.25 | 26.57 | 20.24 | 25.81 | 1.45 | 23.51 | 19.48 | 22.03 |
| 1100.00 | 4.99 | 5.26 | 5.13 | 0.27 | 27.86 | 22.80 | 26.64 | 1.54 | 26.97 | 19.24 | 22.00 |
| 1150.00 | 5.03 | 5.32 | 5.18 | 0.29 | 24.65 | 25.48 | 23.98 | 1.61 | 21.70 | 19.28 | 22.07 |
| 1200.00 | 5.11 | 5.42 | 5.27 | 0.32 | 21.07 | 25.93 | 20.77 | 1.64 | 16.90 | 19.74 | 22.80 |
| 1250.00 | 5.24 | 5.59 | 5.41 | 0.35 | 18.22 | 23.16 | 18.08 | 1.73 | 13.45 | 20.72 | 24.18 |
| 1300.00 | 5.44 | 5.83 | 5.62 | 0.39 | 16.00 | 20.05 | 15.93 | 1.79 | 10.86 | 22.51 | 27.00 |
| 1325.00 | 5.57 | 5.98 | 5.76 | 0.41 | 15.07 | 18.71 | 15.03 | 1.81 | 9.77 | 23.94 | 29.65 |

1. Total Loss = Insertion Loss + 4.8dB splitter loss.



electrical schematic

