



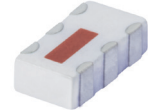
**THE DATASHEET OF
SCN-2-22+**



Power Splitter/Combiner

SCN-2-22+ SCN-2-22

2 Way-0° 50Ω 1850 to 2200 MHz



Generic photo used for illustration purposes only
CASE STYLE: FV1206-1

Maximum Ratings

| | |
|-----------------------------|----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| Power Input (as a splitter) | 20W* max. |

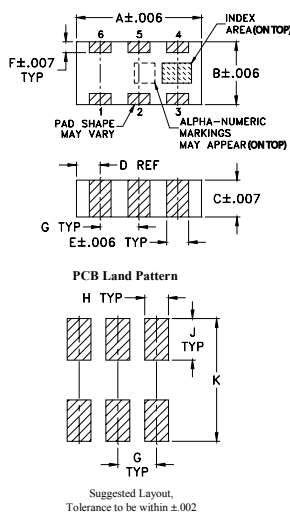
*Derate linearly to 6W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

| | |
|----------|----------------------------|
| SUM PORT | 2 |
| PORT 1 | 6 |
| PORT 2 | 4 |
| GROUND | 1,3,5 |
| PORT 1-2 | resistor external 100 OHMS |

Product Marking: C

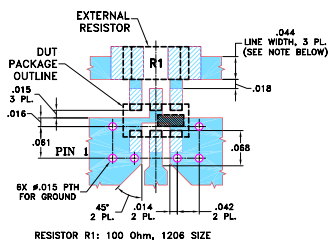
Outline Drawing



Outline Dimensions (inch / mm)

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

Demo Board MCL P/N: TB-252
Suggested PCB Layout (PL-129)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. 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

- isolation resistor, external 100 ohms
- low insertion loss, 0.5 dB typ.
- excellent amplitude unbalance, 0.2 dB typ.
- good phase unbalance, 2.0 deg. typ.
- high isolation, 24 dB typ.
- excellent power handling, 20W 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
- protected by US patent 6,967,544

Applications

- PCS
- DCS
- UMTS

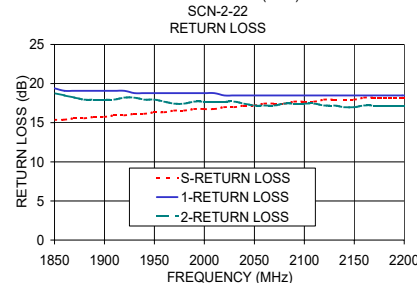
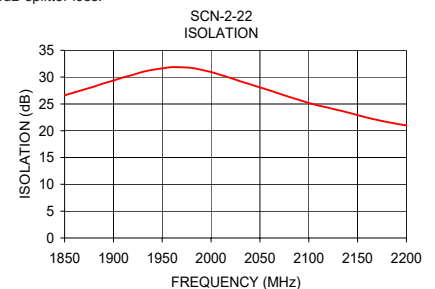
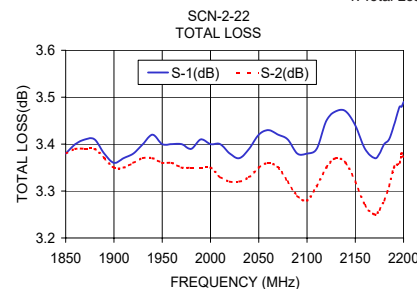
Electrical Specifications

| FREQUENCY (MHz) | INSERTION LOSS (dB) ABOVE 3.0 dB | | ISOLATION (dB) | | PHASE UNBALANCE (Degrees) | | AMPLITUDE UNBALANCE (dB) | | RETURN LOSS (dB) | |
|-----------------|-------------------------------------|------|----------------|------|---------------------------|------|--------------------------|------|------------------|-------------|
| | Typ. | Max. | Typ. | Min. | Typ. | Max. | Typ. | Max. | INPUT Typ. | OUTPUT Typ. |
| 1850-2200 | 0.5 | 0.9 | 22 | 17 | 2.0 | 5.0 | 0.25 | 0.4 | 16 | 19 |
| 1900-2100 | 0.5 | 0.9 | 24 | 20 | 2.0 | 5.0 | 0.2 | 0.4 | 16 | 19 |

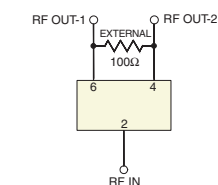
Typical Performance Data

| Frequency (MHz) | Total Loss ¹ (dB) | | Amplitude Unbalance (dB) | Isolation (dB) | Phase Unbalance (deg.) | Return Loss (dB) | | |
|-----------------|------------------------------|------|--------------------------|----------------|------------------------|------------------|-------|-------|
| | S-1 | S-2 | | | | S | 1 | 2 |
| 1850.00 | 3.38 | 3.38 | 0.00 | 26.59 | 1.79 | 15.38 | 19.40 | 18.78 |
| 1880.00 | 3.41 | 3.39 | 0.02 | 28.23 | 1.77 | 15.56 | 19.08 | 17.95 |
| 1900.00 | 3.36 | 3.35 | 0.01 | 29.36 | 1.82 | 15.75 | 19.08 | 17.95 |
| 1930.00 | 3.40 | 3.37 | 0.03 | 30.97 | 1.80 | 16.13 | 18.78 | 18.22 |
| 1950.00 | 3.40 | 3.36 | 0.04 | 31.63 | 1.84 | 16.33 | 18.78 | 17.95 |
| 1980.00 | 3.39 | 3.35 | 0.04 | 31.70 | 1.82 | 16.54 | 18.78 | 17.45 |
| 2000.00 | 3.40 | 3.35 | 0.06 | 30.96 | 1.82 | 16.75 | 18.78 | 17.69 |
| 2030.00 | 3.37 | 3.32 | 0.05 | 29.22 | 2.01 | 16.98 | 18.49 | 17.69 |
| 2050.00 | 3.42 | 3.35 | 0.07 | 28.07 | 1.96 | 17.21 | 18.49 | 17.21 |
| 2080.00 | 3.41 | 3.32 | 0.09 | 26.32 | 1.82 | 17.45 | 18.49 | 17.45 |
| 2100.00 | 3.38 | 3.28 | 0.10 | 25.17 | 2.05 | 17.69 | 18.49 | 17.45 |
| 2130.00 | 3.47 | 3.37 | 0.09 | 23.83 | 1.97 | 17.95 | 18.49 | 17.21 |
| 2150.00 | 3.44 | 3.32 | 0.12 | 22.91 | 1.93 | 17.95 | 18.49 | 16.98 |
| 2180.00 | 3.40 | 3.28 | 0.12 | 21.63 | 2.11 | 18.22 | 18.49 | 17.21 |
| 2200.00 | 3.49 | 3.37 | 0.12 | 20.99 | 2.02 | 18.22 | 18.49 | 17.21 |

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




electrical schematic



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