

Surface Mount

# Power Splitter/Combiner

NEW!

SCA-4-10-75

4 Way-0° 75Ω

10 to 1000 MHz

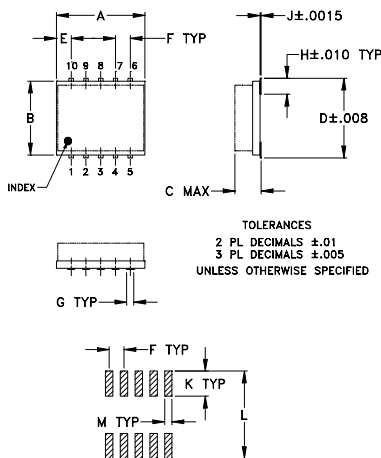
## Maximum Ratings

|                             |                |
|-----------------------------|----------------|
| Operating Temperature       | -40°C to 85°C  |
| Storage Temperature         | -55°C to 100°C |
| Power Input (as a splitter) | 0.5W max.      |
| Internal Dissipation        | 0.375W max.    |

## Pin Connections

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

## Outline Drawing

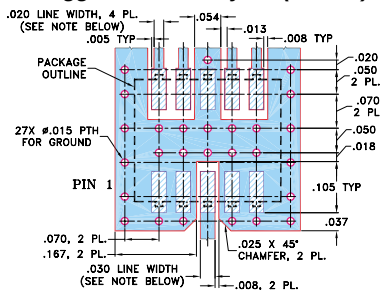


SUGGESTED LAYOUT FOR PCB LAND PATTERN

## Outline Dimensions (inch)

| A    | B    | C    | D    | E    | F    | G     |
|------|------|------|------|------|------|-------|
| .30  | .250 | .190 | .274 | .050 | .050 | .012  |
| 7.62 | 6.35 | 4.83 | 6.96 | 1.27 | 1.27 | 0.30  |
| H    | J    | K    | L    | M    |      | wt    |
| .057 | .004 | .085 | .296 | .030 |      | grams |
| 1.45 | 0.10 | 2.16 | 7.52 | 0.76 |      | 0.5   |

## Demo Board MCL P/N: TB-247 Suggested PCB Layout (PL-133)



- NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350 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.
- DENOTES PCB COPPER LAYOUT  
■ DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

## Features

- wideband, 10-1000 MHz
- high isolation, 25 dB typ.
- good amplitude unbalance, 0.5 dB typ.
- patent pending

## Applications

- cellular
- UHF/VHF receivers/transmitters



BLUE CELL™

CASE STYLE: DZ943

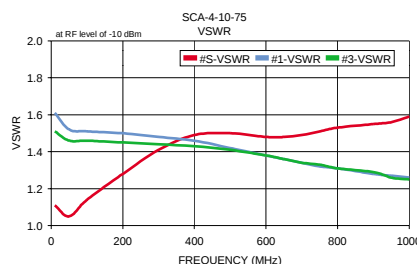
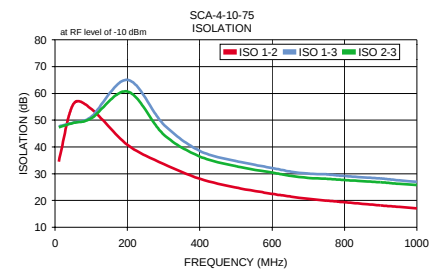
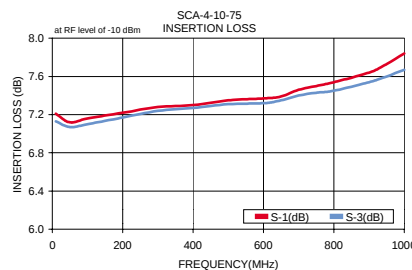
PRICE: \$ 6.95 ea. QTY (10-49)

## Splitter Electrical Specifications

| FREQ. RANGE (MHz) | ISOLATION (dB) |      | INSERTION LOSS (dB) ABOVE 6 dB |      | PHASE UNBALANCE (Degrees) Max. | AMPLITUDE UNBALANCE (dB) Max. |
|-------------------|----------------|------|--------------------------------|------|--------------------------------|-------------------------------|
|                   | Typ.           | Min. | Typ.                           | Max. |                                |                               |
| 10-1000           |                |      |                                |      |                                |                               |
| 10-400            | 30             | 22   | 1.2                            | 2.3  | 6                              | 1.2                           |
| 400-750           | 25             | 18   | 1.5                            | 2.2  | 9                              | 0.9                           |
| 750-1000          | 20             | 15   | 2.0                            | 2.5  | 10                             | 0.9                           |

## Typical Performance Data

| Freq. (MHz) | Insertion Loss (dB) |      |      |      | Amp. Unbal. (dB) | Isolation (dB) |       |       | Phase Unbal. (deg.) | VSWR S | VSWR 1 | VSWR 2 | VSWR 3 | VSWR 4 |
|-------------|---------------------|------|------|------|------------------|----------------|-------|-------|---------------------|--------|--------|--------|--------|--------|
|             | S-1                 | S-2  | S-3  | S-4  |                  | 1-2            | 1-3   | 2-3   |                     |        |        |        |        |        |
| 10.00       | 7.21                | 6.78 | 7.13 | 7.53 | 0.74             | 34.55          | 47.68 | 47.34 | 1.86                | 1.11   | 1.61   | 1.48   | 1.51   | 1.64   |
| 50.00       | 7.12                | 6.75 | 7.07 | 7.43 | 0.68             | 55.90          | 49.10 | 48.97 | 0.85                | 1.05   | 1.52   | 1.42   | 1.46   | 1.57   |
| 100.00      | 7.16                | 6.77 | 7.10 | 7.48 | 0.71             | 54.20          | 51.26 | 50.69 | 0.94                | 1.14   | 1.51   | 1.43   | 1.46   | 1.55   |
| 200.00      | 7.22                | 6.87 | 7.17 | 7.53 | 0.66             | 40.79          | 65.07 | 60.68 | 1.45                | 1.28   | 1.50   | 1.44   | 1.45   | 1.52   |
| 300.00      | 7.28                | 6.95 | 7.24 | 7.56 | 0.61             | 33.63          | 48.42 | 44.66 | 2.13                | 1.41   | 1.48   | 1.45   | 1.44   | 1.49   |
| 400.00      | 7.30                | 7.01 | 7.27 | 7.56 | 0.55             | 28.11          | 38.54 | 36.47 | 2.40                | 1.49   | 1.46   | 1.46   | 1.43   | 1.45   |
| 500.00      | 7.35                | 7.03 | 7.31 | 7.59 | 0.56             | 24.85          | 34.71 | 32.80 | 2.83                | 1.50   | 1.42   | 1.44   | 1.41   | 1.41   |
| 600.00      | 7.37                | 7.02 | 7.32 | 7.60 | 0.58             | 22.50          | 32.13 | 30.41 | 2.98                | 1.48   | 1.38   | 1.40   | 1.38   | 1.36   |
| 650.00      | 7.39                | 7.04 | 7.35 | 7.63 | 0.59             | 21.50          | 30.85 | 29.23 | 3.11                | 1.48   | 1.36   | 1.39   | 1.36   | 1.34   |
| 700.00      | 7.46                | 7.11 | 7.40 | 7.67 | 0.56             | 20.63          | 30.04 | 28.44 | 3.53                | 1.49   | 1.34   | 1.37   | 1.34   | 1.33   |
| 750.00      | 7.50                | 7.14 | 7.43 | 7.70 | 0.56             | 19.98          | 29.78 | 28.11 | 3.53                | 1.51   | 1.32   | 1.34   | 1.33   | 1.31   |
| 800.00      | 7.54                | 7.15 | 7.45 | 7.75 | 0.59             | 19.37          | 29.15 | 27.66 | 3.59                | 1.53   | 1.31   | 1.32   | 1.31   | 1.30   |
| 900.00      | 7.64                | 7.26 | 7.54 | 7.82 | 0.56             | 18.17          | 28.23 | 26.83 | 4.14                | 1.55   | 1.28   | 1.27   | 1.29   | 1.29   |
| 950.00      | 7.73                | 7.31 | 7.60 | 7.88 | 0.57             | 17.63          | 27.54 | 26.25 | 4.30                | 1.56   | 1.27   | 1.25   | 1.26   | 1.29   |
| 1000.00     | 7.84                | 7.40 | 7.67 | 7.98 | 0.57             | 17.09          | 26.99 | 25.74 | 4.59                | 1.59   | 1.26   | 1.24   | 1.25   | 1.29   |



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