

# Power Splitter/Combiner

## Features

- wideband, DC to 6000 MHz,
- good matching VSWR 1.3:1 typ.
- good amplitude unbalance, 0.4 dB typ.

## Applications

- communication systems
- CATV
- cellular, GPS, PCS
- VHF/UHF/receivers/transmitters

HT-SRSC-4-63+



4 Way-0° Resistive 50Ω DC to 6000 MHz

## Electrical Specifications at 25°C

| Parameter                       | Frequency(MHz)       | Min.         | Typ.         | Max.         | Unit   |
|---------------------------------|----------------------|--------------|--------------|--------------|--------|
| Frequency Range                 |                      |              | -            | 6000         | MHz    |
| Insertion Loss, including 12 dB | DC-6000<br>3600-6000 | 11.5<br>11.5 | 12.0<br>12.5 | 13.2<br>14.0 | dB     |
| Isolation                       | DC-6000              | -            | 7            | -            | dB     |
| Phase Unbalance                 | DC-6000<br>3600-6000 | -<br>-       | 3<br>8       | 8<br>14      | Degree |
| Amplitude Unbalance             | DC-6000<br>3600-6000 | -<br>-       | 0.4<br>0.7   | 0.8<br>1.2   | dB     |
| VSWR (Port S)                   | DC-6000              | -            | 1.35         | 1.65         | :1     |
| VSWR (Port 1-4)                 | DC-6000              | -            | 1.30         | 1.60         | :1     |

## electrical schematic



## Maximum Ratings

|                                                                 |                |
|-----------------------------------------------------------------|----------------|
| Operating Temperature                                           | -40°C to 85°C  |
| Storage Temperature                                             | -55°C to 100°C |
| Power Input (as a splitter)                                     | 0.2W max.      |
| Internal Dissipation                                            | 0.15W max.     |
| Permanent damage may occur if any of these limits are exceeded. |                |

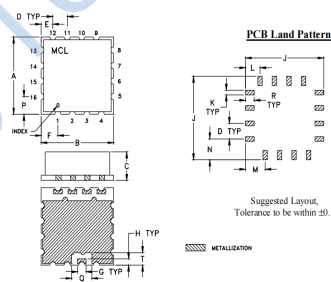
## Typical Performance Data(TEST CONDITIONS: INPUT POWER = 0dBm @Temperature = +25°C)

| Freq.<br>(MHz) | Total Loss (dB) |       |       | Amp.<br>Unbal.<br>(dB) | Isolation<br>(dB) |       |       | Phase<br>Unbal.<br>(deg) | VSWRS |      |      |      |
|----------------|-----------------|-------|-------|------------------------|-------------------|-------|-------|--------------------------|-------|------|------|------|
|                | S-1             | S-2   | S-3   |                        | 1-2               | 2-3   | 2-4   |                          | S     | 1    | 2    | 3    |
| 1              | 12.09           | 12.08 | 12.04 | 0.05                   | 6.06              | 18.08 | 18.09 | 0.30                     | 1.00  | 1.00 | 1.00 | 1.01 |
| 400            | 12.18           | 12.18 | 12.15 | 0.03                   | 6.13              | 18.35 | 18.26 | 0.44                     | 1.10  | 1.11 | 1.11 | 1.11 |
| 800            | 12.47           | 12.50 | 12.47 | 0.04                   | 6.31              | 19.27 | 18.87 | 1.25                     | 1.17  | 1.21 | 1.19 | 1.17 |
| 1200           | 12.75           | 12.83 | 12.77 | 0.08                   | 6.46              | 20.50 | 19.60 | 2.18                     | 1.22  | 1.24 | 1.21 | 1.18 |
| 1600           | 12.90           | 13.00 | 12.88 | 0.15                   | 6.52              | 21.76 | 20.20 | 3.10                     | 1.30  | 1.25 | 1.19 | 1.17 |
| 2000           | 12.83           | 12.96 | 12.78 | 0.31                   | 6.53              | 22.58 | 20.34 | 3.41                     | 1.38  | 1.29 | 1.23 | 1.19 |
| 2400           | 12.52           | 12.72 | 12.51 | 0.43                   | 6.58              | 22.56 | 19.85 | 3.28                     | 1.39  | 1.33 | 1.28 | 1.22 |
| 2800           | 12.08           | 12.34 | 12.19 | 0.43                   | 6.71              | 21.90 | 19.13 | 2.97                     | 1.27  | 1.30 | 1.27 | 1.20 |
| 3200           | 11.79           | 12.03 | 11.94 | 0.34                   | 6.91              | 20.91 | 18.59 | 3.06                     | 1.10  | 1.19 | 1.23 | 1.14 |
| 3600           | 11.78           | 12.07 | 11.98 | 0.28                   | 7.15              | 19.66 | 18.30 | 3.81                     | 1.21  | 1.08 | 1.13 | 1.11 |
| 4000           | 12.03           | 12.39 | 12.20 | 0.36                   | 7.37              | 18.63 | 18.39 | 4.85                     | 1.35  | 1.08 | 1.12 | 1.09 |
| 4400           | 12.36           | 12.71 | 12.41 | 0.35                   | 7.48              | 18.16 | 18.97 | 5.91                     | 1.42  | 1.17 | 1.11 | 1.13 |
| 5000           | 12.64           | 12.95 | 12.65 | 0.39                   | 7.68              | 17.15 | 19.15 | 7.06                     | 1.46  | 1.25 | 1.12 | 1.16 |
| 5600           | 12.65           | 13.05 | 13.13 | 0.49                   | 8.26              | 15.62 | 18.00 | 8.66                     | 1.17  | 1.26 | 1.21 | 1.21 |
| 6000           | 12.77           | 13.11 | 13.42 | 0.68                   | 8.55              | 14.72 | 17.32 | 8.39                     | 1.02  | 1.28 | 1.29 | 1.24 |

## Pin Connections

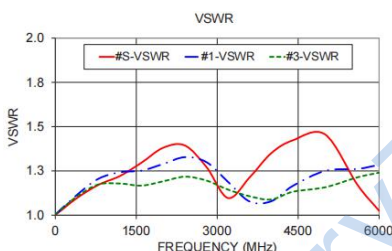
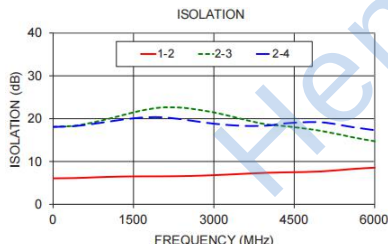
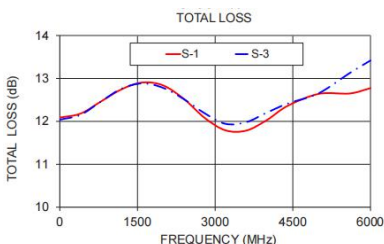
|          |           |
|----------|-----------|
| SUM PORT | 10        |
| PORT 1   | 1         |
| PORT 2   | 2         |
| PORT 3   | 3         |
| PORT 4   | 4         |
| GROUND   | ALL OTHER |

## Outline Drawing



## Outline Dimensions: Unit (mm)

|   |       |    |       |
|---|-------|----|-------|
| A | 12.70 | B  | 12.70 |
| C | 4.70  | D  | 2.54  |
| E | 2.03  | F  | 2.92  |
| G | 0.76  | H  | 1.02  |
| J | 13.72 | K  | 0.76  |
| L | 2.54  | M  | 3.43  |
| N | 3.43  | P  | 2.92  |
| Q | 3.56  | R  | 1.52  |
| T | 2.03  | wt | 1.0g  |



## Demo Board MCL P/N: TB-816+ Suggested PCB Layout (PL-445)

