

## Power Divider, 4-way, 2-18.5GHz, SMA Female

## WM4PD-2-18.5-S

### Description

Werbel Microwave WM4PD-2-18.5-S is a 4-way zero-degrees ultra-wideband splitter and combiner supporting a wide range of applications. Low insertion loss, good power handling 30W as a splitter.

Connectors are stainless steel for durability. Our own unique design maximizes bandwidth in a small size. Assembled and tested in USA.

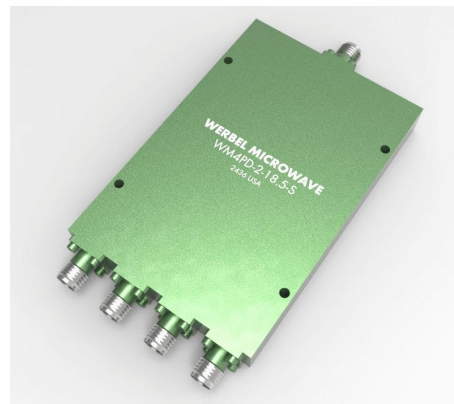


Photo is representative.

| Specifications                             | L              |            | H              | Units                         |
|--------------------------------------------|----------------|------------|----------------|-------------------------------|
| Frequency                                  | 2,000-18,000   | -          | 18,000-18,500  | MHz                           |
| Impedance                                  | -              | 50         | -              | Ohm                           |
| Return Loss (Port S)                       | 11.7<br>(1.70) | -          | 10.9<br>(1.80) | dB, min<br>(:1, max)          |
| Return Loss (Port 1-4)                     | 11.7<br>(1.70) | -          | 10.9<br>(1.80) | dB, min<br>(:1, max)          |
| Insertion Loss (above theoretical 6.02 dB) | 0.70<br>1.80   | -          | 0.90<br>2.00   | dB, typ.<br>dB, max           |
| Isolation                                  | 14<br>20       | -          | 10<br>31       | dB, min<br>dB, typ.           |
| Amplitude Balance                          | -              | 0.5<br>0.8 | -              | dB, typ.<br>dB, max           |
| Phase Balance                              | -              | 3<br>12    | -              | Degrees, typ.<br>Degrees, max |
| Input Power (CW) <sup>1</sup>              | -              | -          | 30             | Watts, max                    |

### Mechanical

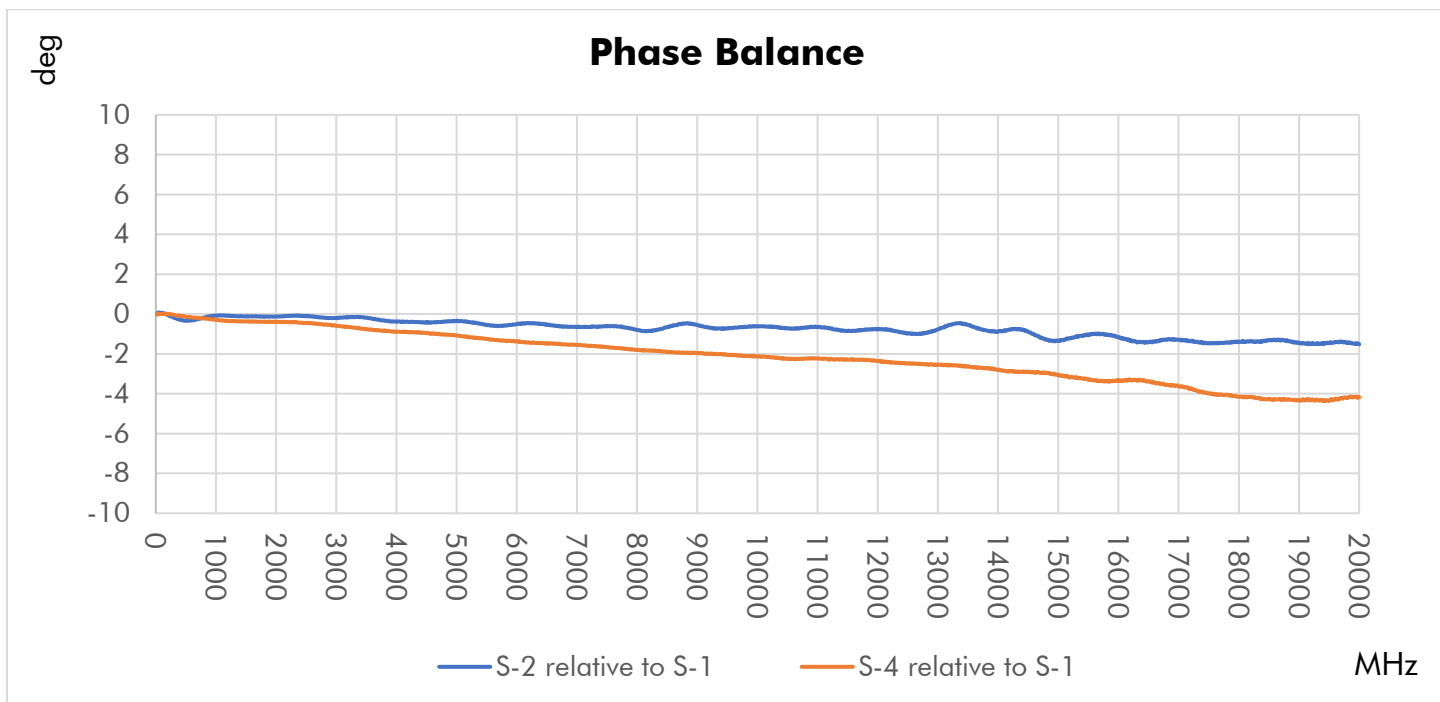
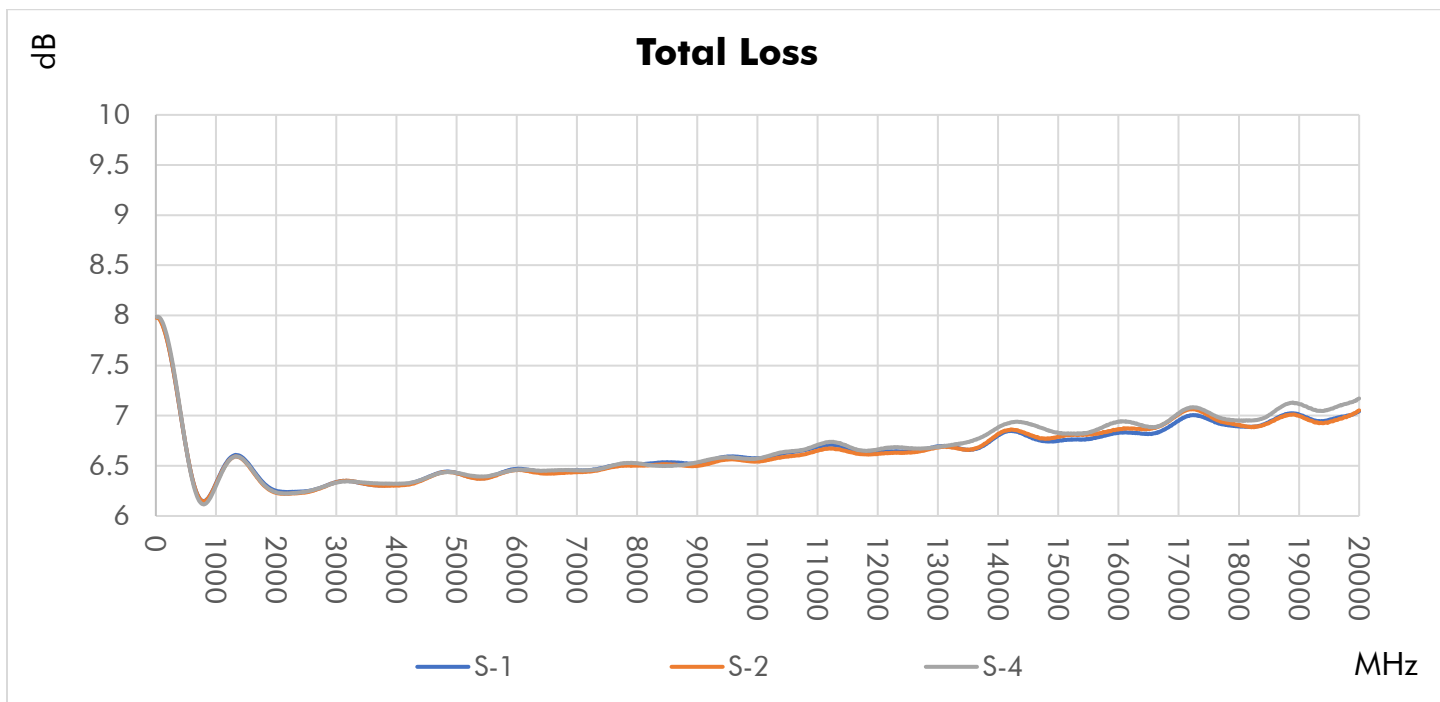
|                                    |                       |
|------------------------------------|-----------------------|
| Connector Interface                | SMA-Female            |
| Operating Temperature <sup>2</sup> | -55 to +85 °C         |
| Storage Temperature                | -55 to +100 °C        |
| Weight Estimate                    | 4 oz (115 g)          |
| Humidity                           | 10-90% non-condensing |
| Environment                        | Indoors Use Only      |
| CAGE Code                          | 78YZ0                 |

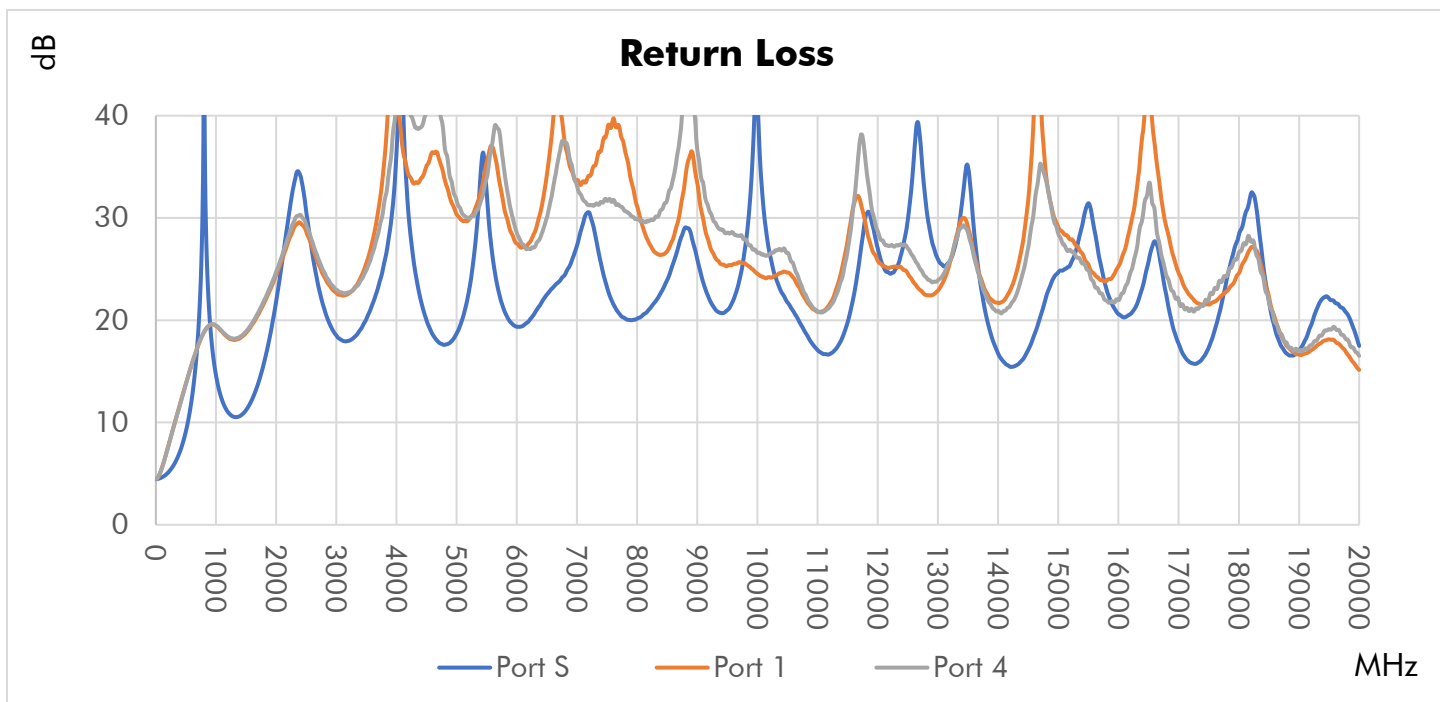
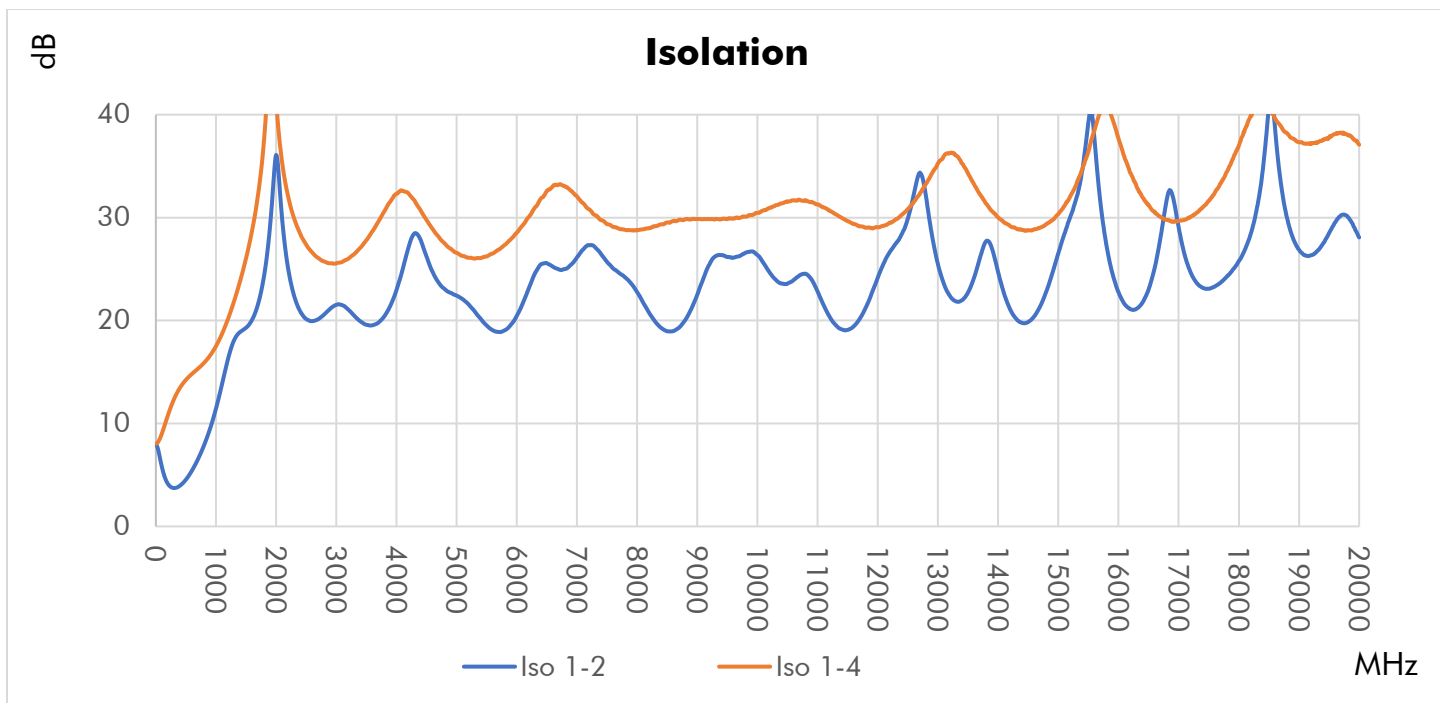
### Materials

|                              |                    |
|------------------------------|--------------------|
| RoHS Compliant <sup>3</sup>  | Yes                |
| REACH Compliant <sup>3</sup> | Yes                |
| Enclosure                    | Aluminum           |
| Connectors                   | Stainless Steel    |
| Contacts                     | Be Cu, Gold Plated |
| Insulators                   | PTFE               |
| Finish                       | Green Paint        |

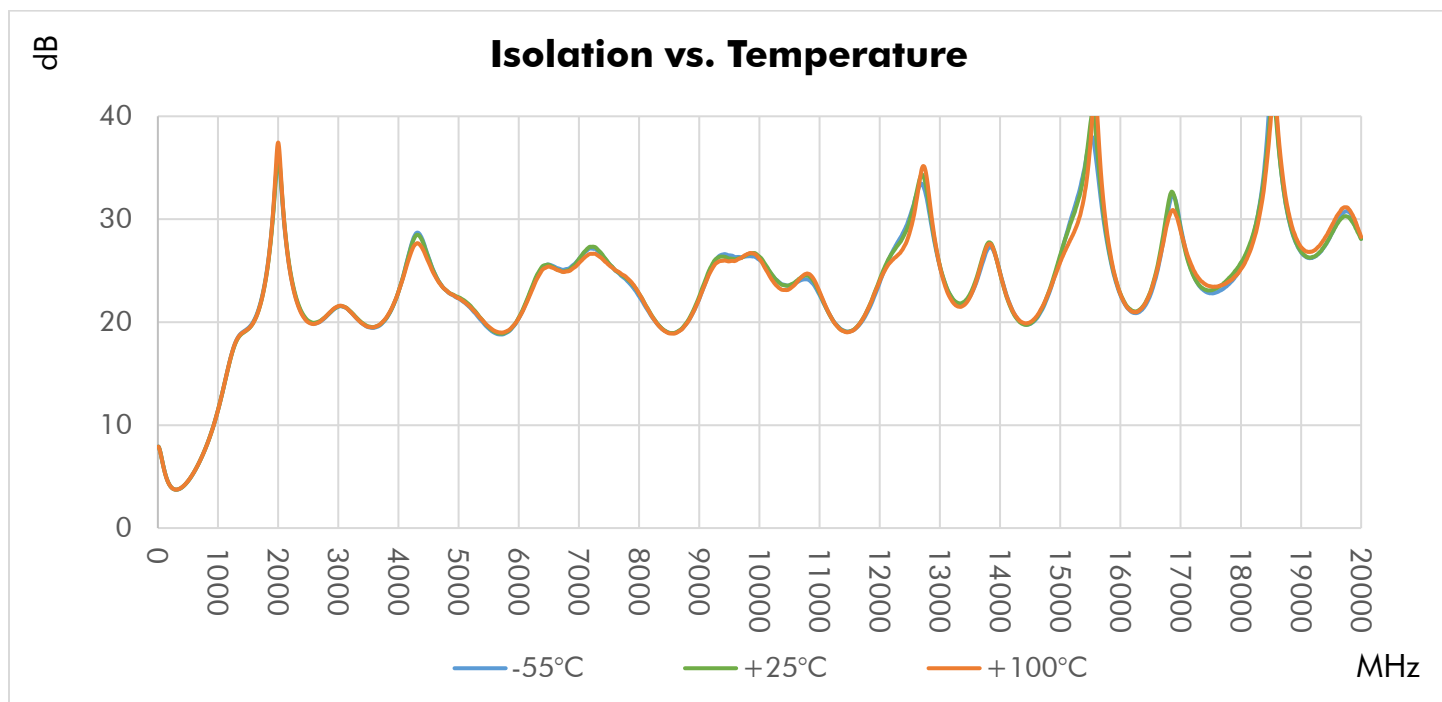
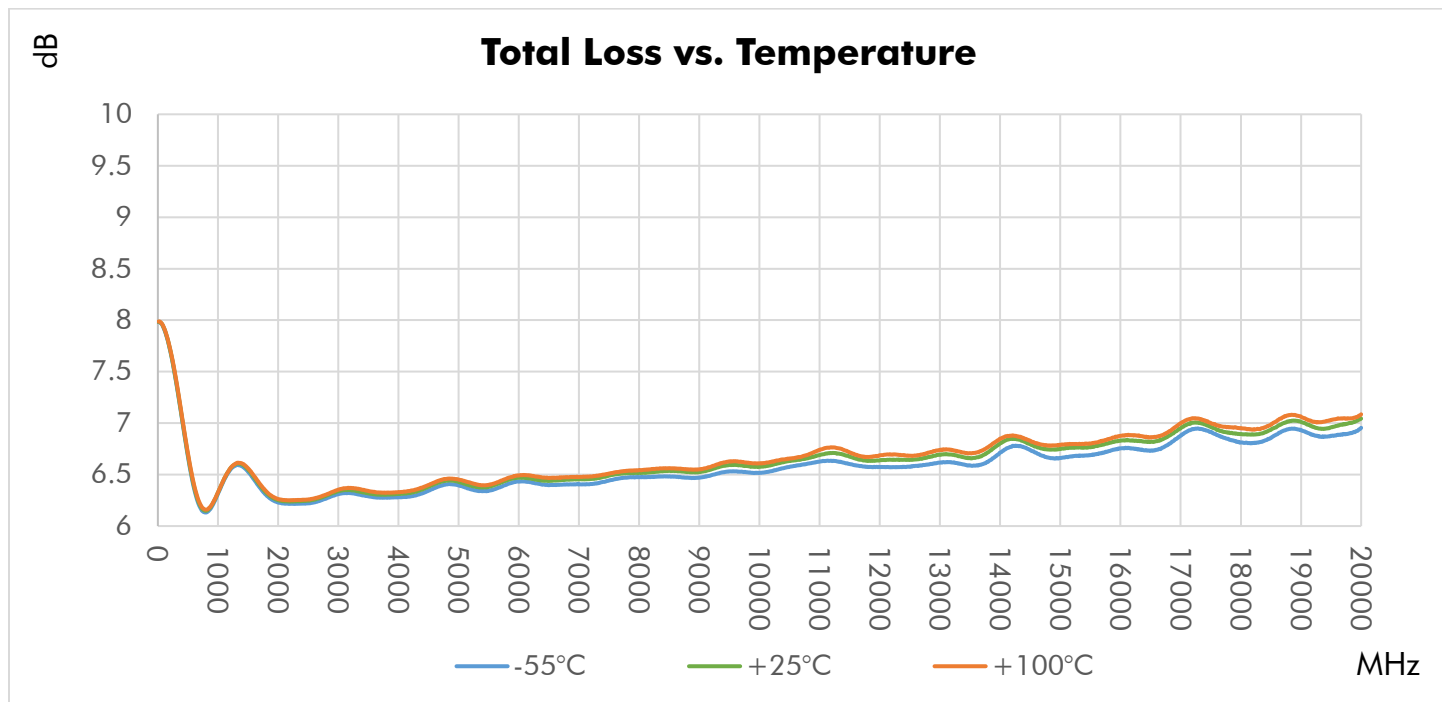
1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C only.
3. To the best of our knowledge at the time of publication.

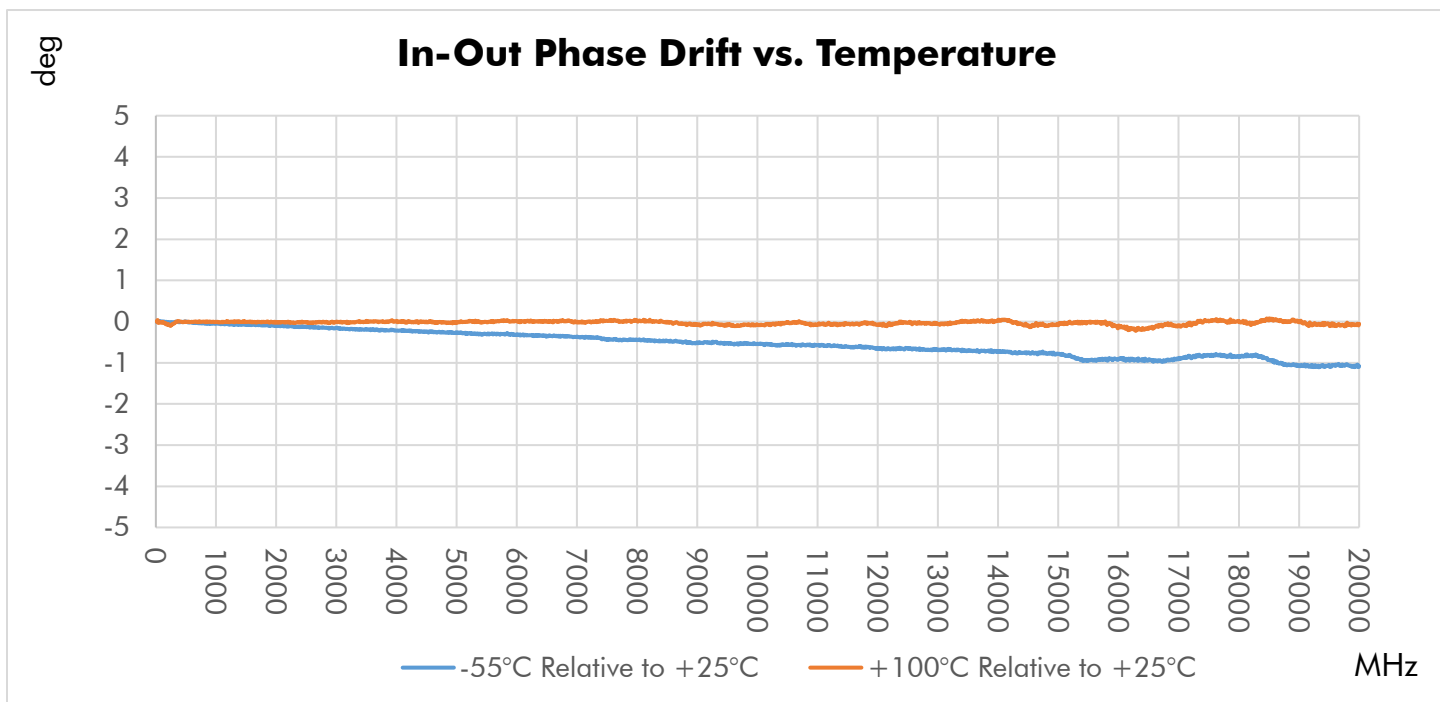
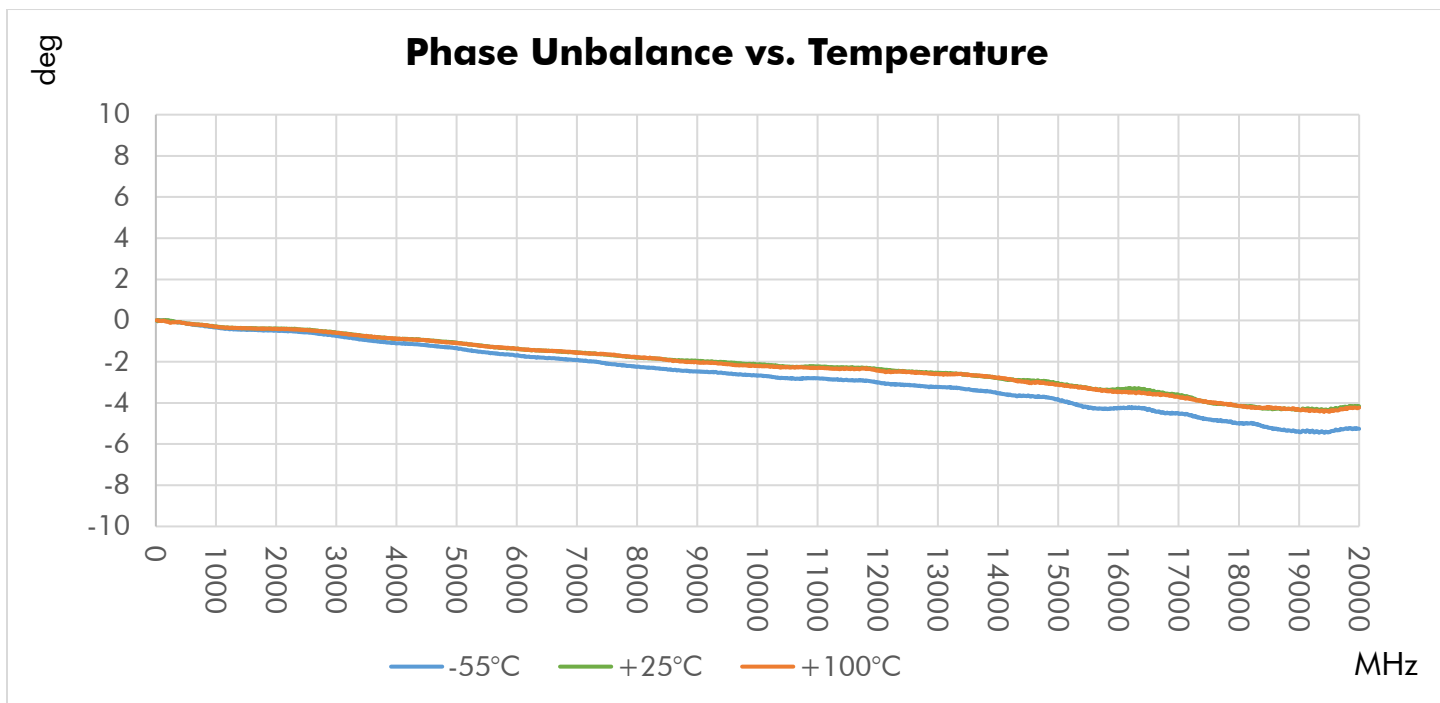
## Typical Performance at +25 °C

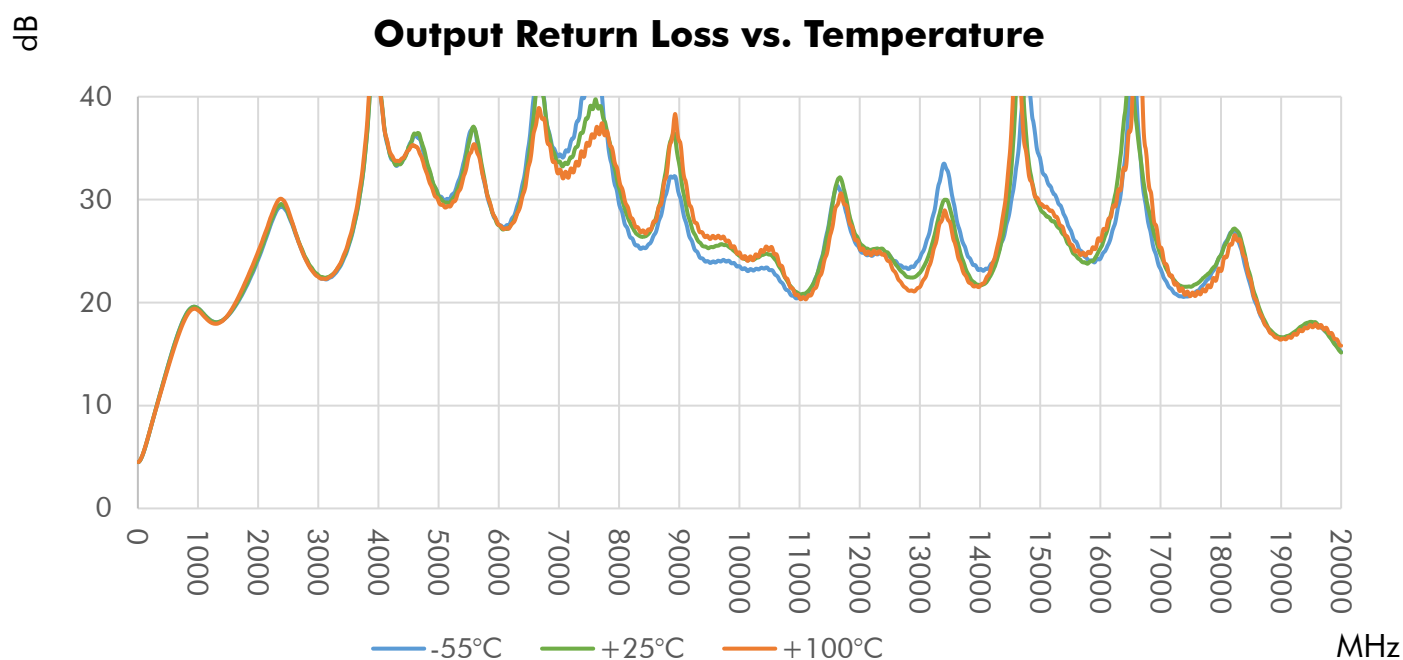
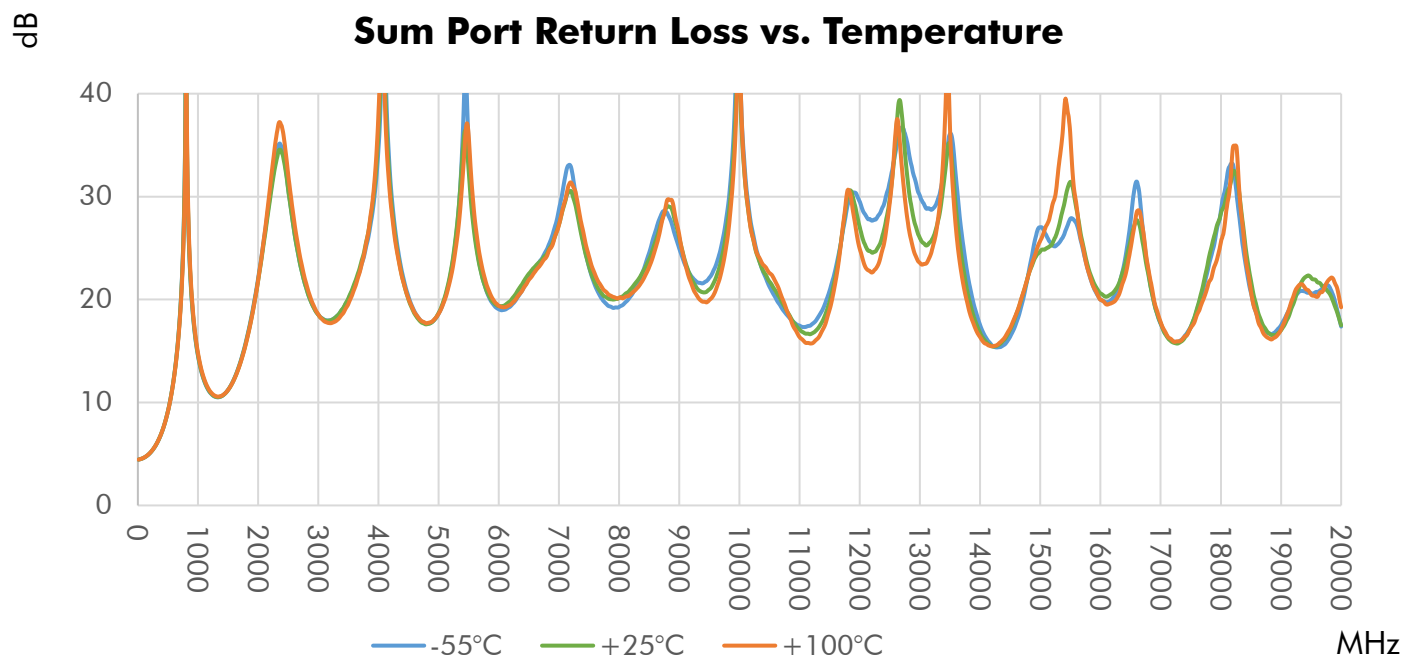




## Typical Performance Over Temperature



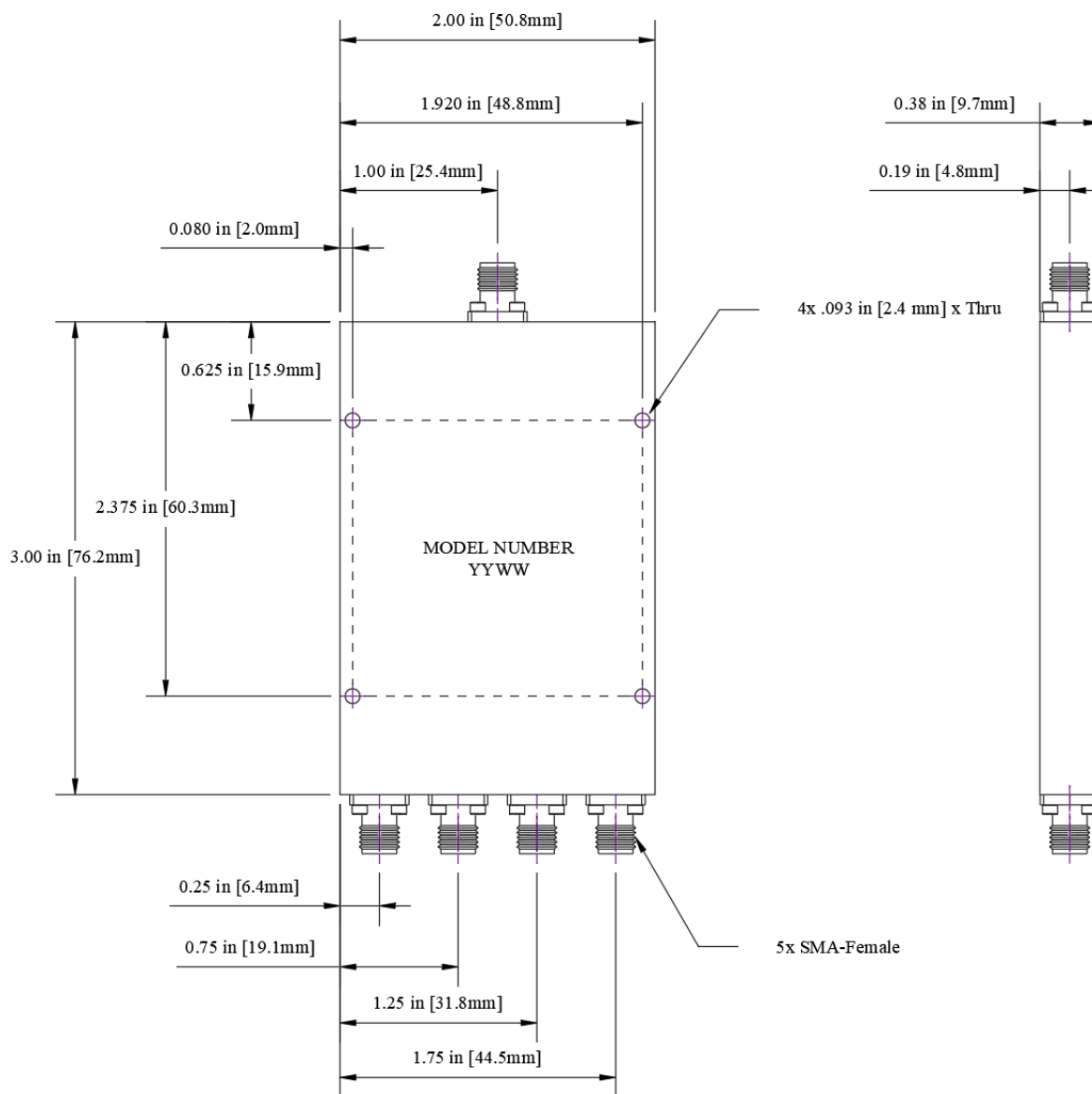




## Typical Performance Data

| Frequency<br>(MHz) | Return Loss<br>(dB) |        |        | Total Loss<br>(dB) |      | Isolation<br>(dB) |       |
|--------------------|---------------------|--------|--------|--------------------|------|-------------------|-------|
|                    | Port S              | Port 1 | Port 4 | S-1                | S-4  | 1-2               | 1-3   |
| 2000               | 21.97               | 24.24  | 23.53  | 6.23               | 6.21 | 34.48             | 38.90 |
| 2500               | 30.60               | 33.96  | 30.12  | 6.22               | 6.20 | 20.02             | 28.94 |
| 3000               | 17.58               | 25.10  | 24.64  | 6.32               | 6.31 | 21.76             | 26.78 |
| 3500               | 19.50               | 23.71  | 25.99  | 6.32               | 6.28 | 19.85             | 28.97 |
| 4000               | 37.10               | 35.16  | 40.03  | 6.27               | 6.26 | 24.16             | 31.71 |
| 4500               | 19.96               | 35.21  | 48.12  | 6.34               | 6.34 | 26.34             | 29.45 |
| 5000               | 19.71               | 31.06  | 31.73  | 6.36               | 6.33 | 23.10             | 26.55 |
| 5500               | 34.24               | 30.92  | 39.09  | 6.34               | 6.35 | 18.52             | 25.20 |
| 6000               | 19.74               | 27.52  | 29.54  | 6.44               | 6.41 | 20.18             | 27.44 |
| 6500               | 23.09               | 27.14  | 31.68  | 6.43               | 6.39 | 25.90             | 31.98 |
| 7000               | 32.04               | 29.79  | 34.99  | 6.43               | 6.38 | 26.21             | 35.84 |
| 7500               | 23.10               | 26.80  | 30.16  | 6.45               | 6.40 | 26.10             | 30.33 |
| 8000               | 19.90               | 27.13  | 27.75  | 6.46               | 6.42 | 21.62             | 28.75 |
| 8500               | 29.85               | 45.52  | 30.32  | 6.45               | 6.44 | 19.25             | 28.98 |
| 9000               | 23.61               | 32.68  | 39.73  | 6.49               | 6.46 | 21.78             | 29.20 |
| 9500               | 23.44               | 33.50  | 29.38  | 6.53               | 6.50 | 26.18             | 29.95 |
| 10000              | 42.05               | 36.41  | 28.61  | 6.52               | 6.49 | 26.89             | 30.58 |
| 10500              | 23.78               | 32.56  | 27.05  | 6.56               | 6.52 | 25.13             | 31.99 |
| 11000              | 16.64               | 24.10  | 21.47  | 6.65               | 6.63 | 22.24             | 29.24 |
| 11500              | 21.18               | 26.72  | 26.47  | 6.61               | 6.57 | 19.14             | 28.44 |
| 12000              | 28.54               | 32.39  | 28.31  | 6.60               | 6.56 | 23.59             | 30.28 |
| 12500              | 42.59               | 24.06  | 22.06  | 6.59               | 6.58 | 32.78             | 34.93 |
| 13000              | 27.72               | 22.21  | 21.70  | 6.62               | 6.60 | 23.92             | 35.00 |
| 13500              | 23.45               | 21.62  | 21.19  | 6.68               | 6.64 | 25.58             | 31.30 |
| 14000              | 15.45               | 18.90  | 19.83  | 6.84               | 6.81 | 23.08             | 30.54 |
| 14500              | 21.06               | 26.34  | 29.81  | 6.75               | 6.69 | 20.46             | 28.41 |
| 15000              | 28.64               | 23.69  | 23.05  | 6.69               | 6.69 | 26.63             | 29.82 |
| 15500              | 26.32               | 20.40  | 22.00  | 6.73               | 6.69 | 34.19             | 36.04 |
| 16000              | 22.71               | 28.42  | 34.88  | 6.76               | 6.71 | 21.46             | 33.52 |
| 16500              | 23.07               | 29.05  | 28.72  | 6.75               | 6.76 | 24.53             | 29.06 |
| 17000              | 18.50               | 26.93  | 27.69  | 6.86               | 6.82 | 27.45             | 28.24 |
| 17500              | 17.93               | 20.75  | 18.93  | 6.85               | 6.86 | 25.78             | 33.99 |
| 18000              | 17.18               | 22.08  | 19.13  | 6.87               | 6.89 | 22.86             | 42.62 |
| 18500              | 16.58               | 21.05  | 18.92  | 6.93               | 6.94 | 33.03             | 30.74 |

## Outline Dimensions



Outline drawing: OL-4181

Dimensions are in inches, [mm] shown for convenience.

Tolerances on 2-pl decimals:  $\pm 0.03$ . 3-pl decimals:  $\pm 0.015$ .

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