

## Power Divider, 4-way, 2-26.5 GHz, SMA Female

## ESAT-4PD02265S

### Description

Model ESAT-4PD02265S is a wideband 4-way in-line power splitter covering of 2 to 26.5 GHz with excellent return loss, low insertion loss, and high isolation performance. Our own design of the new 26.5GHz series, precision-assembled and tested in the USA. Isolation 19dB typical.



*Image is representative.*

| Parameter                                  | Frequency (MHz) | Min. | Typ. | Max.  | Unit     |
|--------------------------------------------|-----------------|------|------|-------|----------|
| Frequency Range                            | --              | 2000 | --   | 26500 | MHz      |
| Impedance                                  | --              | --   | 50   | --    | $\Omega$ |
| Return Loss (Port S)                       | 2000-8000       | 12   | 14   | --    | dB       |
|                                            | 8000-18000      | 12   | 15   |       |          |
|                                            | 18000-26500     | 12   | 14   |       |          |
| Return Loss (Port 1-4)                     | 2000-8000       | 14   | 18   | --    | dB       |
|                                            | 8000-18000      | 14   | 19   |       |          |
|                                            | 18000-26500     | 14   | 20   |       |          |
| Insertion Loss Above 6.0dB                 | 2000-8000       | --   | 0.5  | 1.0   | dB       |
|                                            | 8000-18000      |      | 0.9  | 1.4   |          |
|                                            | 18000-26500     |      | 1.4  | 2.0   |          |
| Isolation                                  | 2000-8000       | 16   | 19   | --    | dB       |
|                                            | 8000-18000      | 14   | 19   |       |          |
|                                            | 18000-26500     | 14   | 16   |       |          |
| Amplitude Unbalance ( $\pm$ ) <sup>1</sup> | 2000-8000       | --   | 0.17 | 0.40  | dB       |
|                                            | 8000-18000      |      | 0.23 | 0.55  |          |
|                                            | 18000-26500     |      | 0.50 | 0.75  |          |
| Phase Unbalance ( $\pm$ ) <sup>1</sup>     | 2000-8000       | --   | 2    | 4     | Degree   |
|                                            | 8000-18000      |      | 5    | 8     |          |
|                                            | 18000-26500     |      | 7    | 10    |          |
| Input Power (CW) <sup>2</sup>              | --              | --   | --   | 10    | W        |

### Mechanical

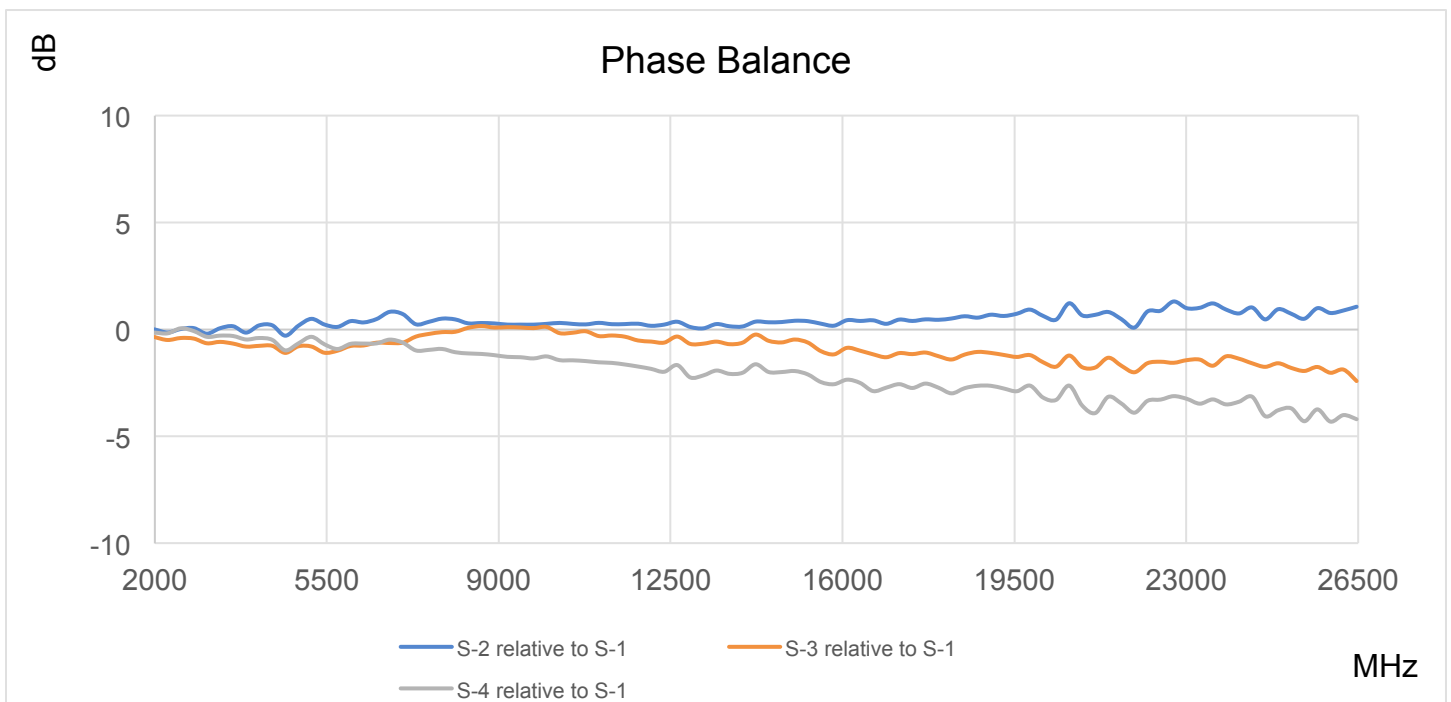
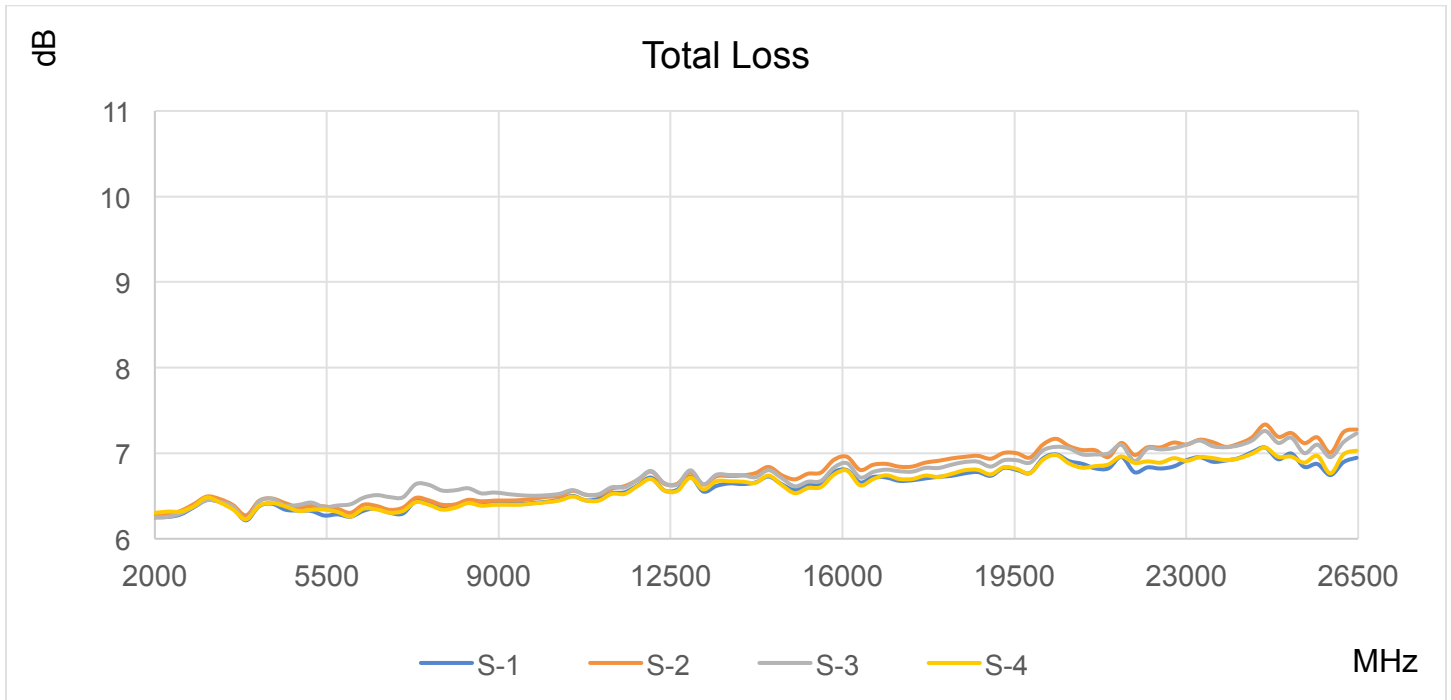
|                                    |                       |
|------------------------------------|-----------------------|
| Connector Interface                | SMA-Female            |
| Operating Temperature <sup>3</sup> | -55 to +85 °C         |
| Storage Temperature                | -55 to +100 °C        |
| Nominal Weight                     | 152 g (5.36 oz)       |
| Humidity                           | 10-90% non-condensing |
| Environment                        | Indoors Use Only      |
| CAGE Code                          | 87MG8                 |

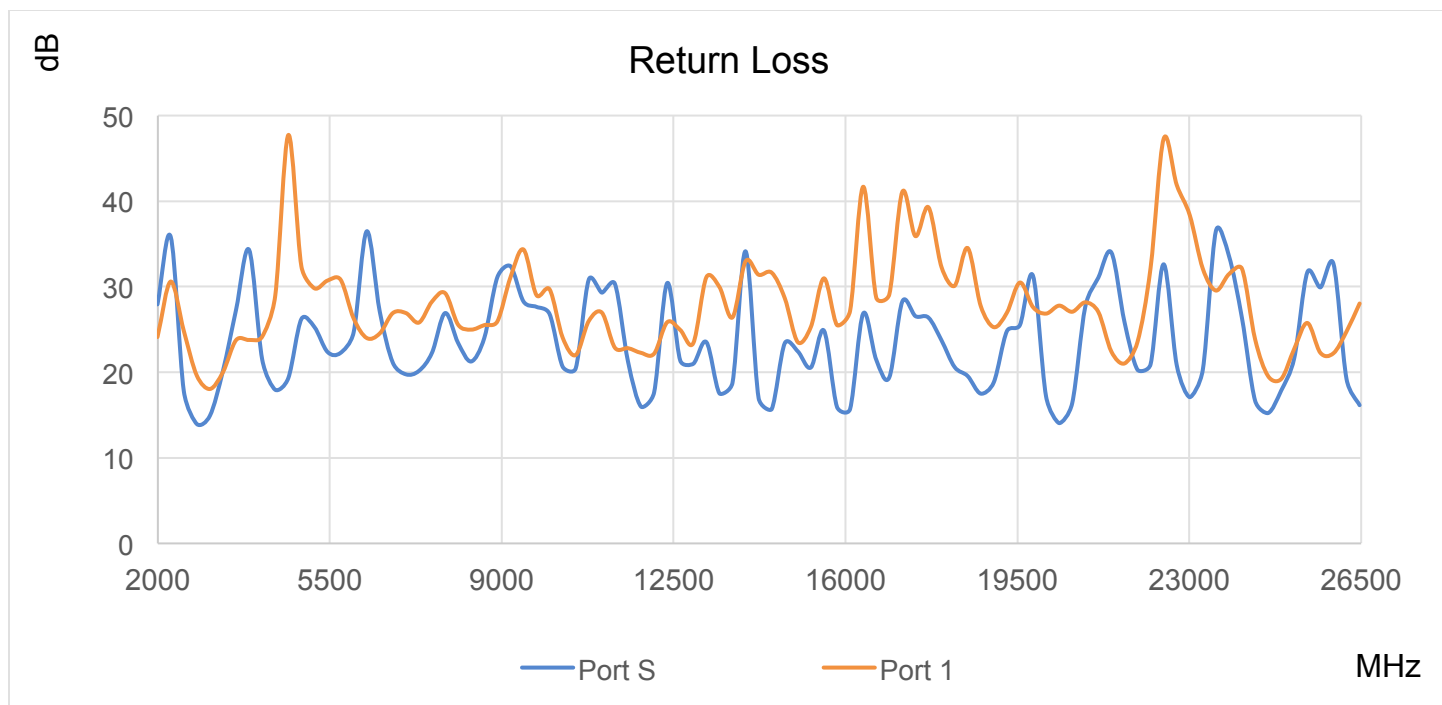
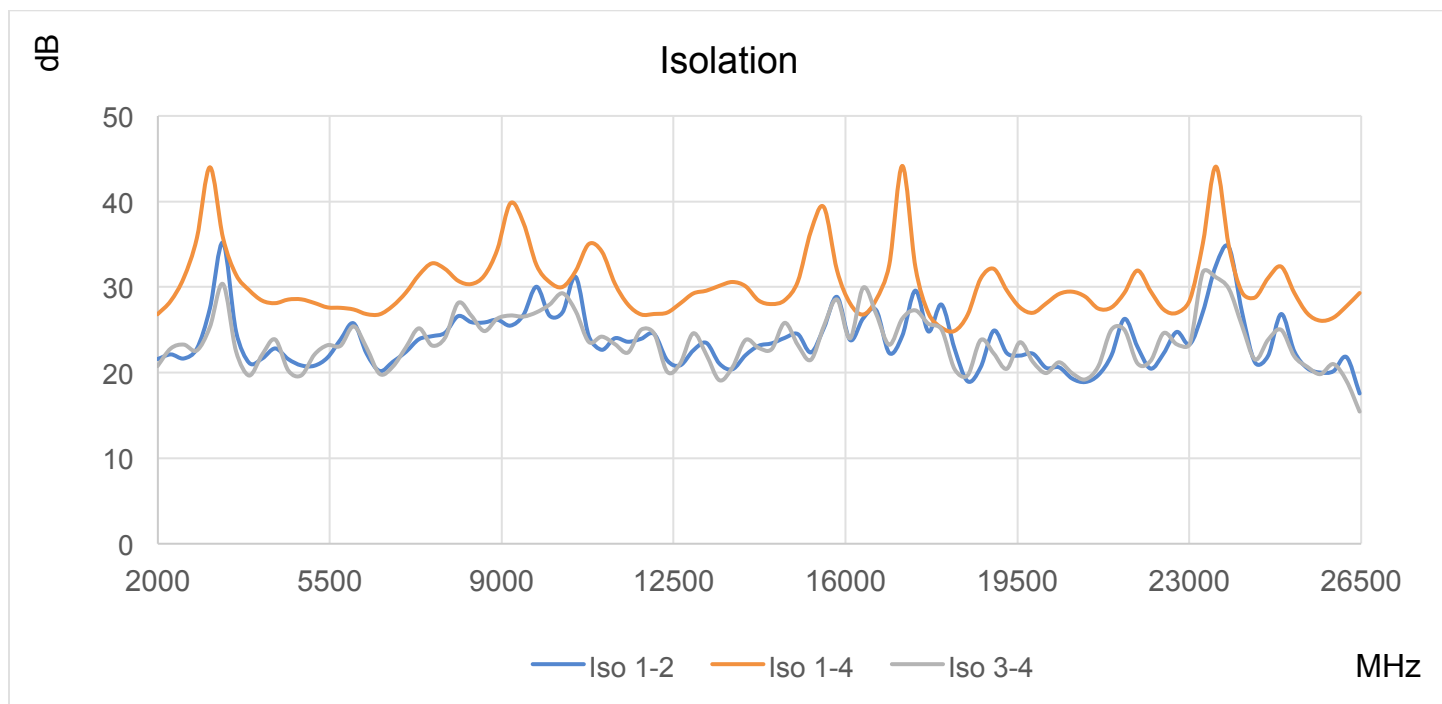
### Materials

|                              |                    |
|------------------------------|--------------------|
| RoHS Compliant <sup>4</sup>  | Yes                |
| REACH Compliant <sup>4</sup> | Yes                |
| Enclosure                    | Aluminum           |
| Connectors                   | Stainless Steel    |
| Contacts                     | Be Cu, Gold Plated |
| Insulators                   | PTFE               |
| Finish                       | Green Paint        |

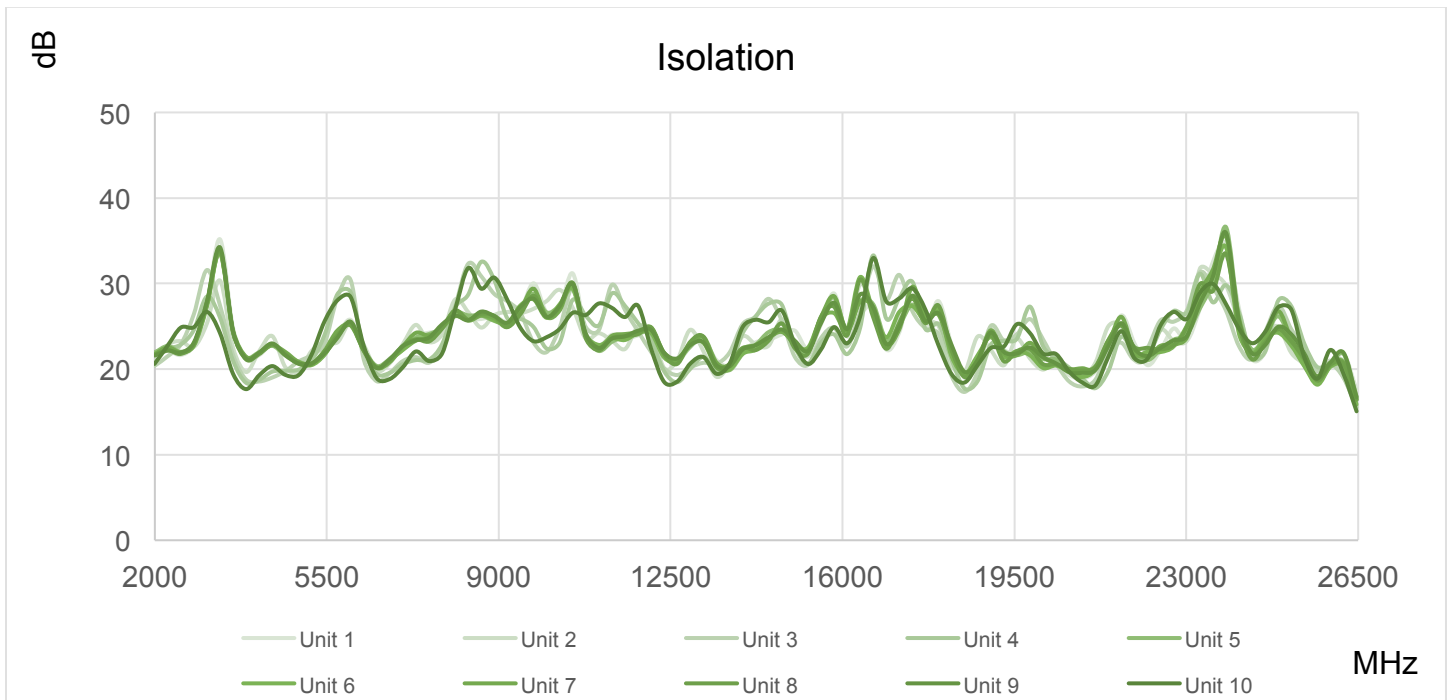
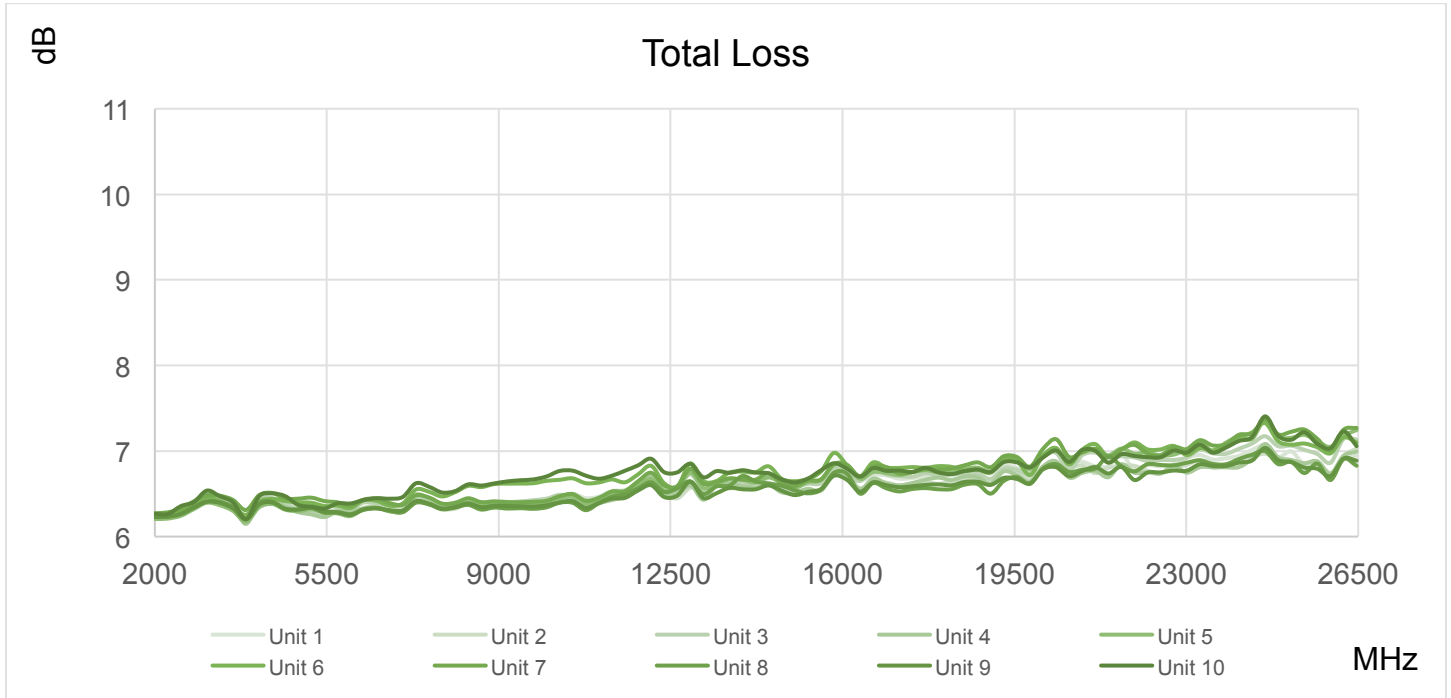
1. With reference to average.
2. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
3. Electrical specifications at +25 °C.
4. To the best of our knowledge at the time of publication.

## Typical Performance at +25 °C





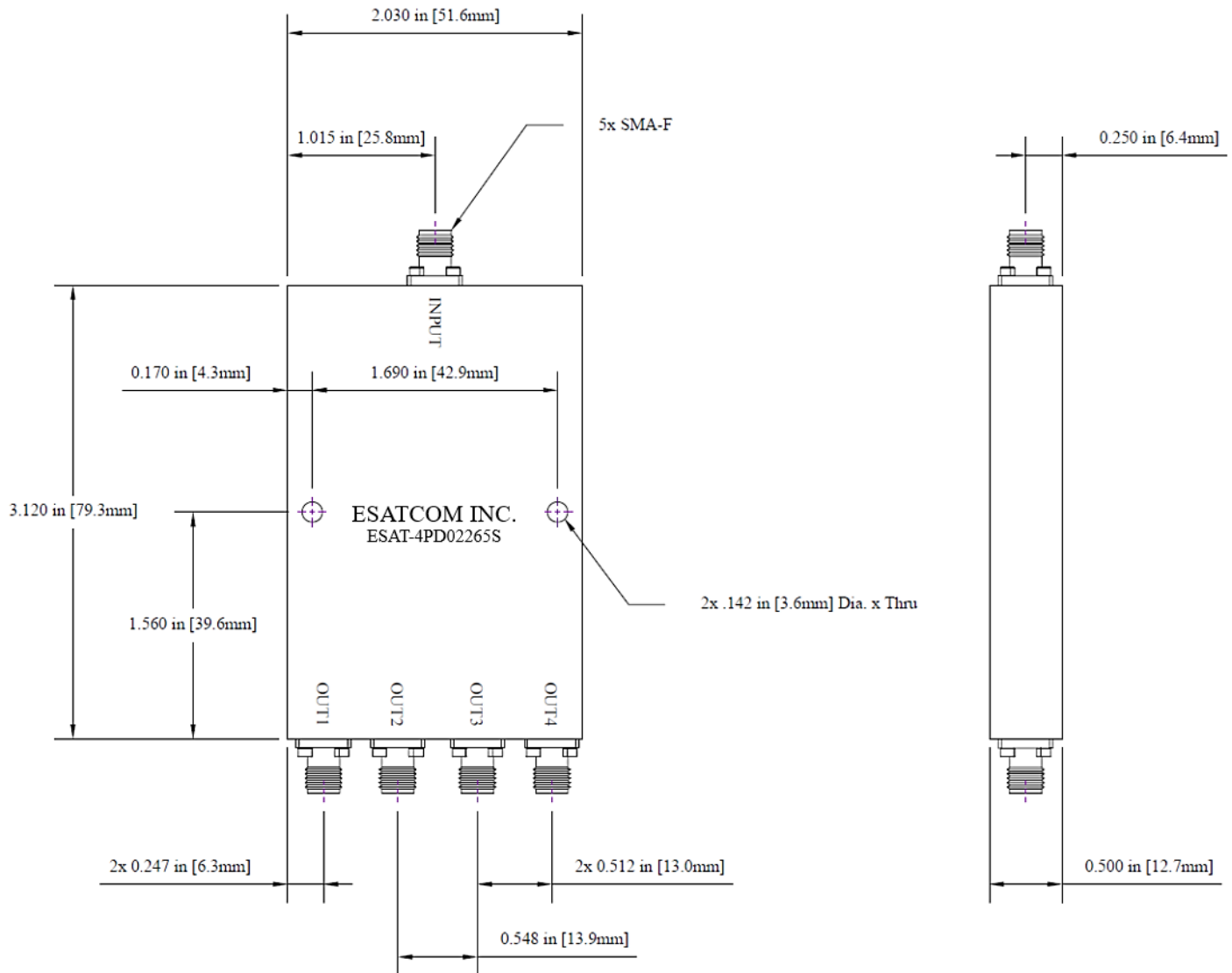
## Repeatability in Production



## Typical Performance Data

| Frequency<br>(MHz) | Return<br>Loss<br>(dB) |        |        | Total Loss<br>(dB) |      | Isolation<br>(dB) |       |
|--------------------|------------------------|--------|--------|--------------------|------|-------------------|-------|
|                    | Port S                 | Port 1 | Port 4 | S-1                | S-4  | 1-2               | 1-4   |
| 2000               | 27.74                  | 28.37  | 28.84  | 6.25               | 6.26 | 21.27             | 26.94 |
| 2500               | 18.08                  | 28.29  | 30.60  | 6.38               | 6.36 | 23.79             | 28.97 |
| 3000               | 14.62                  | 18.14  | 18.61  | 6.27               | 6.24 | 23.19             | 37.96 |
| 3500               | 26.34                  | 27.21  | 25.81  | 6.30               | 6.30 | 25.10             | 27.96 |
| 4000               | 26.26                  | 23.60  | 22.93  | 6.37               | 6.35 | 20.47             | 24.57 |
| 4500               | 18.84                  | 27.77  | 27.46  | 6.32               | 6.30 | 23.14             | 25.02 |
| 5000               | 30.05                  | 36.86  | 32.95  | 6.37               | 6.37 | 19.90             | 28.99 |
| 5500               | 22.00                  | 32.45  | 31.82  | 6.33               | 6.32 | 22.32             | 33.25 |
| 6000               | 25.40                  | 23.92  | 25.46  | 6.40               | 6.37 | 26.28             | 30.40 |
| 6500               | 30.43                  | 25.18  | 25.41  | 6.35               | 6.33 | 20.05             | 27.60 |
| 7000               | 18.93                  | 33.22  | 34.88  | 6.46               | 6.43 | 22.18             | 26.82 |
| 7500               | 21.39                  | 31.11  | 28.85  | 6.48               | 6.46 | 23.68             | 28.15 |
| 8000               | 28.24                  | 28.97  | 29.66  | 6.46               | 6.43 | 25.60             | 31.19 |
| 8500               | 21.99                  | 26.87  | 25.38  | 6.47               | 6.44 | 25.00             | 35.79 |
| 9000               | 30.17                  | 30.04  | 29.47  | 6.48               | 6.46 | 25.95             | 39.37 |
| 9500               | 29.21                  | 40.43  | 36.02  | 6.51               | 6.48 | 26.38             | 30.78 |
| 10000              | 26.22                  | 25.18  | 27.02  | 6.49               | 6.47 | 27.98             | 28.01 |
| 10500              | 20.57                  | 23.38  | 24.54  | 6.58               | 6.54 | 27.95             | 30.17 |
| 11000              | 28.87                  | 24.80  | 26.40  | 6.55               | 6.52 | 24.59             | 40.21 |
| 11500              | 22.04                  | 22.14  | 23.22  | 6.56               | 6.51 | 21.55             | 31.55 |
| 12000              | 16.51                  | 19.88  | 20.78  | 6.70               | 6.69 | 27.40             | 27.33 |
| 12500              | 26.90                  | 23.87  | 24.97  | 6.69               | 6.66 | 19.60             | 26.49 |
| 13000              | 25.15                  | 25.42  | 24.16  | 6.51               | 6.43 | 25.47             | 26.94 |
| 13500              | 16.07                  | 22.00  | 24.35  | 6.82               | 6.76 | 19.40             | 29.35 |
| 14000              | 25.82                  | 28.78  | 36.09  | 6.63               | 6.58 | 23.05             | 30.18 |
| 14500              | 16.45                  | 26.50  | 32.50  | 6.75               | 6.70 | 22.15             | 29.71 |
| 15000              | 19.94                  | 19.27  | 21.05  | 6.69               | 6.64 | 24.07             | 32.16 |
| 15500              | 27.05                  | 24.45  | 27.28  | 6.67               | 6.59 | 22.64             | 32.00 |
| 16000              | 14.57                  | 22.61  | 25.99  | 6.96               | 6.86 | 25.54             | 28.04 |
| 16500              | 24.03                  | 26.73  | 28.51  | 6.78               | 6.68 | 31.37             | 29.11 |
| 17000              | 24.31                  | 29.78  | 33.76  | 6.71               | 6.62 | 24.03             | 41.42 |
| 17500              | 22.61                  | 29.37  | 33.87  | 6.73               | 6.65 | 26.14             | 28.50 |
| 18000              | 20.19                  | 23.57  | 27.86  | 6.79               | 6.70 | 28.02             | 25.12 |
| 18500              | 23.14                  | 24.02  | 26.45  | 6.76               | 6.65 | 19.47             | 26.90 |
| 19000              | 19.02                  | 23.11  | 26.27  | 6.82               | 6.71 | 23.45             | 31.58 |
| 19500              | 23.02                  | 24.08  | 27.49  | 6.80               | 6.70 | 22.73             | 29.99 |
| 20000              | 19.14                  | 35.58  | 35.19  | 6.88               | 6.78 | 20.29             | 28.62 |
| 20500              | 16.84                  | 30.81  | 29.18  | 6.97               | 6.88 | 21.41             | 27.33 |
| 21000              | 28.16                  | 42.14  | 35.47  | 6.85               | 6.73 | 18.01             | 26.04 |
| 21500              | 27.56                  | 24.35  | 23.57  | 6.81               | 6.78 | 24.23             | 27.07 |
| 22000              | 20.83                  | 24.84  | 24.72  | 6.80               | 6.74 | 20.50             | 30.07 |
| 22500              | 44.02                  | 35.67  | 32.95  | 6.87               | 6.76 | 23.55             | 32.12 |
| 23000              | 17.35                  | 30.94  | 36.90  | 6.86               | 6.78 | 22.43             | 36.42 |
| 23500              | 26.36                  | 43.64  | 32.94  | 6.93               | 6.84 | 32.41             | 33.74 |
| 24000              | 32.90                  | 30.12  | 34.83  | 6.94               | 6.79 | 28.85             | 31.26 |
| 24500              | 13.74                  | 21.96  | 22.03  | 7.16               | 7.01 | 22.20             | 35.24 |
| 25000              | 22.09                  | 23.63  | 21.00  | 6.93               | 6.78 | 24.94             | 29.61 |
| 25500              | 26.71                  | 35.94  | 28.99  | 6.92               | 6.71 | 19.61             | 25.72 |
| 26000              | 29.48                  | 25.54  | 22.64  | 6.80               | 6.68 | 21.54             | 26.80 |
| 26500              | 15.77                  | 22.78  | 24.88  | 6.88               | 6.67 | 16.20             | 24.24 |

## Outline Dimensions



Outline drawing: OL-4200

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

Tolerances on 2-pl decimals:  $\pm .03$ . 3-pl decimals:  $\pm .015$ .

The information contained in this document is accurate to the best of our knowledge and representative of the part described herein. It may be necessary to make modifications to the part and/or documentation of the part, in order to implement improvements. Esatcom Inc. reserves the right to make such changes as required without notice. Unless otherwise stated, all specifications and dimensions are nominal. Esatcom Inc. does not make any representation or warranty regarding the suitability of the part described herein for any particular purpose, and Esatcom Inc. does not assume any liability arising out of the use of any part of documentation. This document gives only a description of the product(s) and shall not form part of any contract. Please contact a Esatcom Inc. Applications Engineer for the most current specification drawing.