

Power Divider, 4-way, 0.5-18 GHz, SMA Female

ESAT-4PD00518S

Description

ESAT-4PD00518S is a wideband 4-way in-line power splitter covering 500 MHz to 18 GHz with excellent return loss, low insertion loss, and high isolation performance. The device covers several military radios letter octave bands in one product, delivering much value to the program. The device is RoHS complaint, however Sn/Pb solder is available on special order. Aluminum enclosure measures 6.25 x 2.98 x 0.50 inches, includes four through-mounting holes, and has durable, stainless steel SMA female connectors. One device covers the upper UHF band, as well as L, S, C, X and Ku bands. Esatcom Inc.'s unique design approach allows for precision phase trimming and return loss matching to attain high production yields and short lead times. With low insertion loss and high isolation, this American designed, assembled, and tested product will serve you well.



Photo is representative.

Specifications		Min.	Typ.	Max.	Units
Frequency		500	--	18,000	MHz
Impedance		--	50	--	Ohm
Return Loss (Port S)		11	14	--	dB
Return Loss (Port I-4)		13	18	--	dB
Insertion Loss (above 6.02dB)	500-8000MHz		0.9	1.8	dB
	8000-12000MHz	--	1.4	2.8	
	12000-18000MHz		2.5	3.9	
Isolation	500-698MHz	12	14	--	dB
	698-18000MHz	15	20	--	dB
Amplitude Balance		--	0.3	1.9	dB
Phase Balance		--	2	18	Degrees
Input Power (CW) ¹		--	--	20	Watts

Mechanical

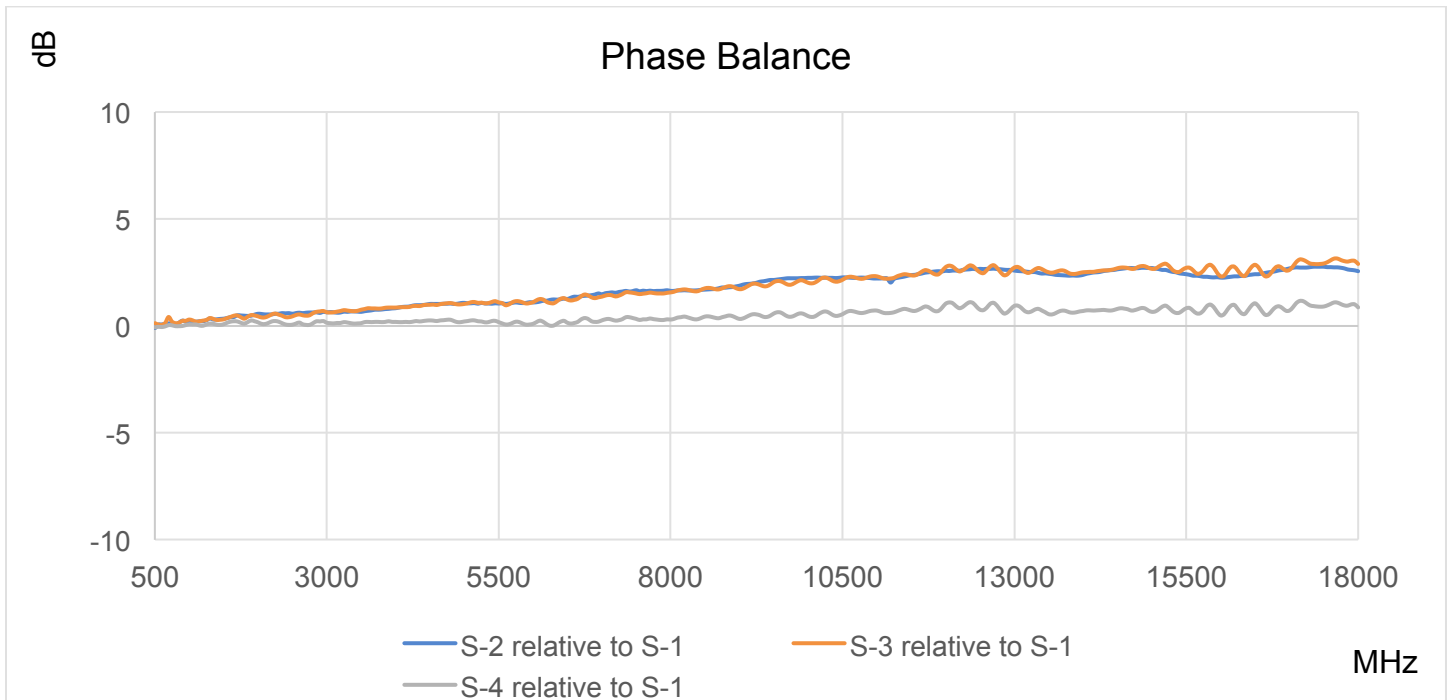
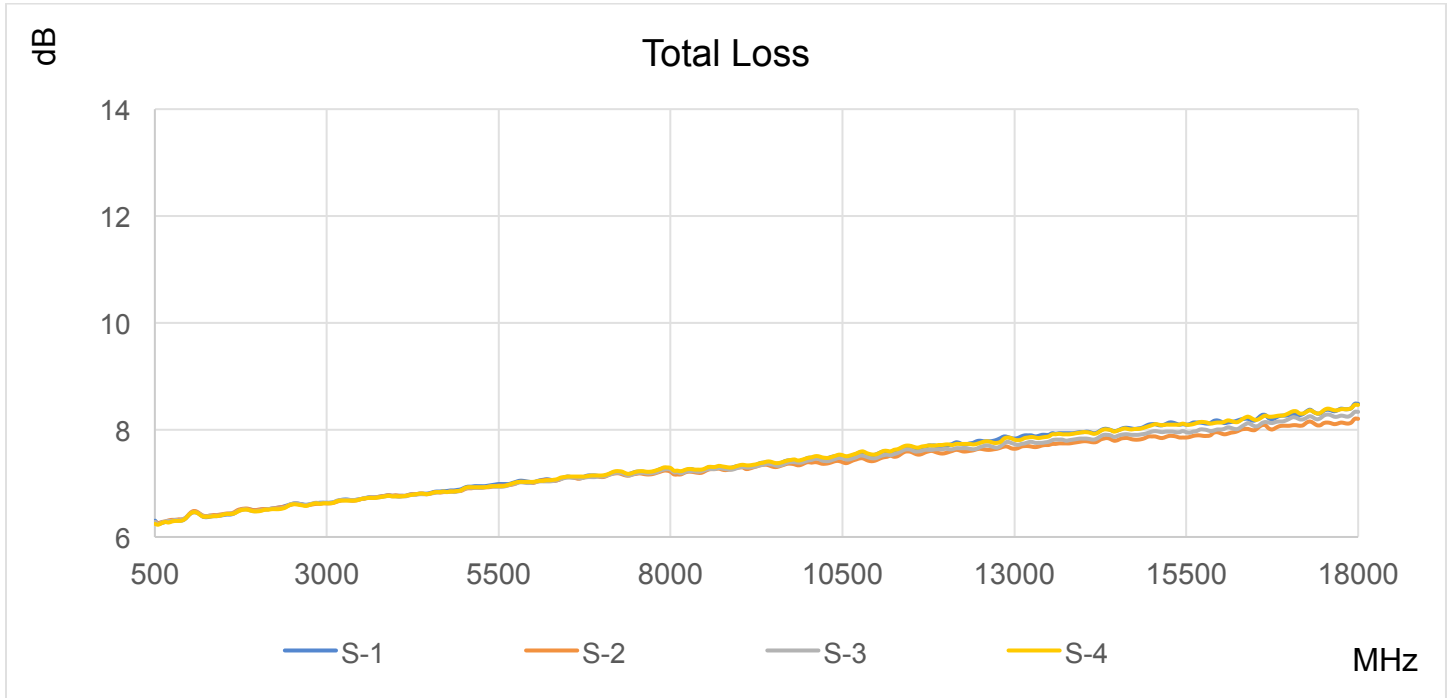
Connector Interface	SMA-Female
Functional Temperature ²	-55 to +85 °C
Storage Temperature	-55 to +100 °C
Weight Estimate	14 oz (410 g)
Humidity	10-90% non-condensing
Environment	Indoors Use Only
CAGE Code	87MG8

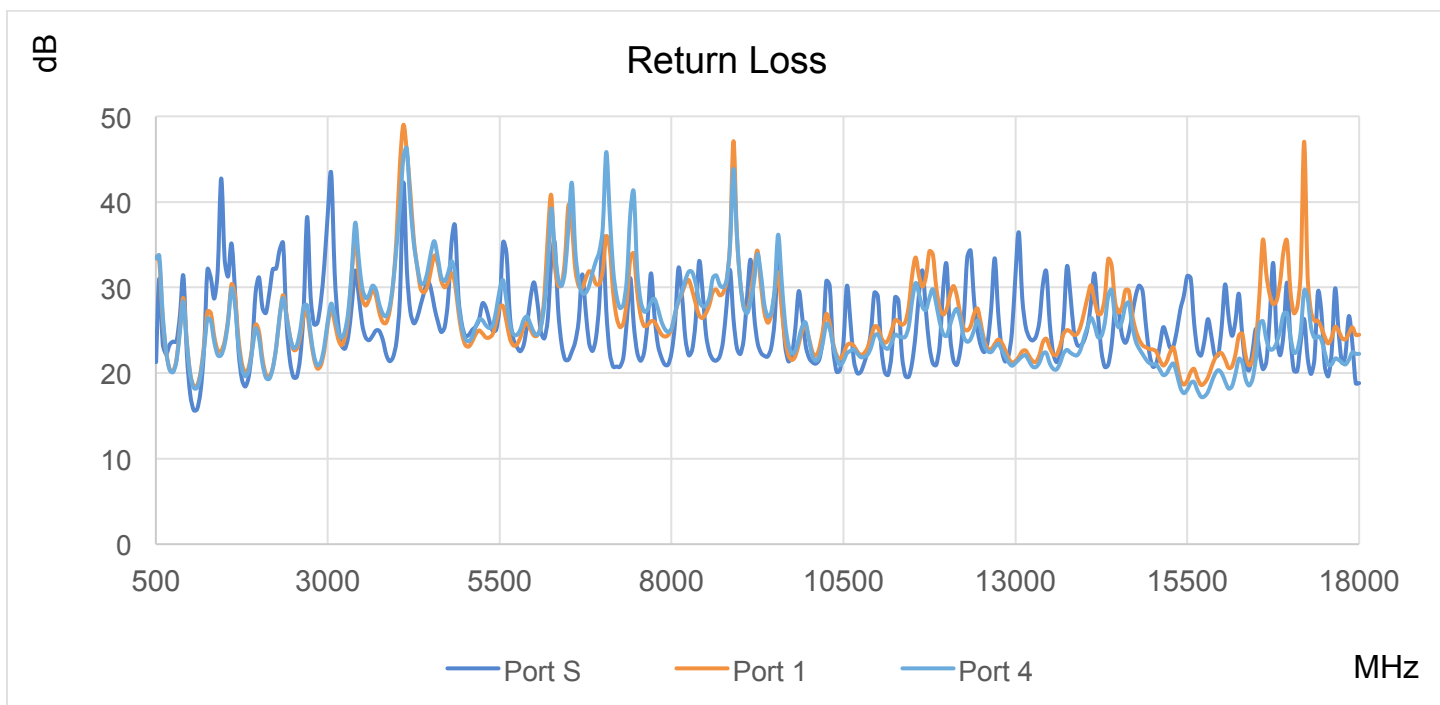
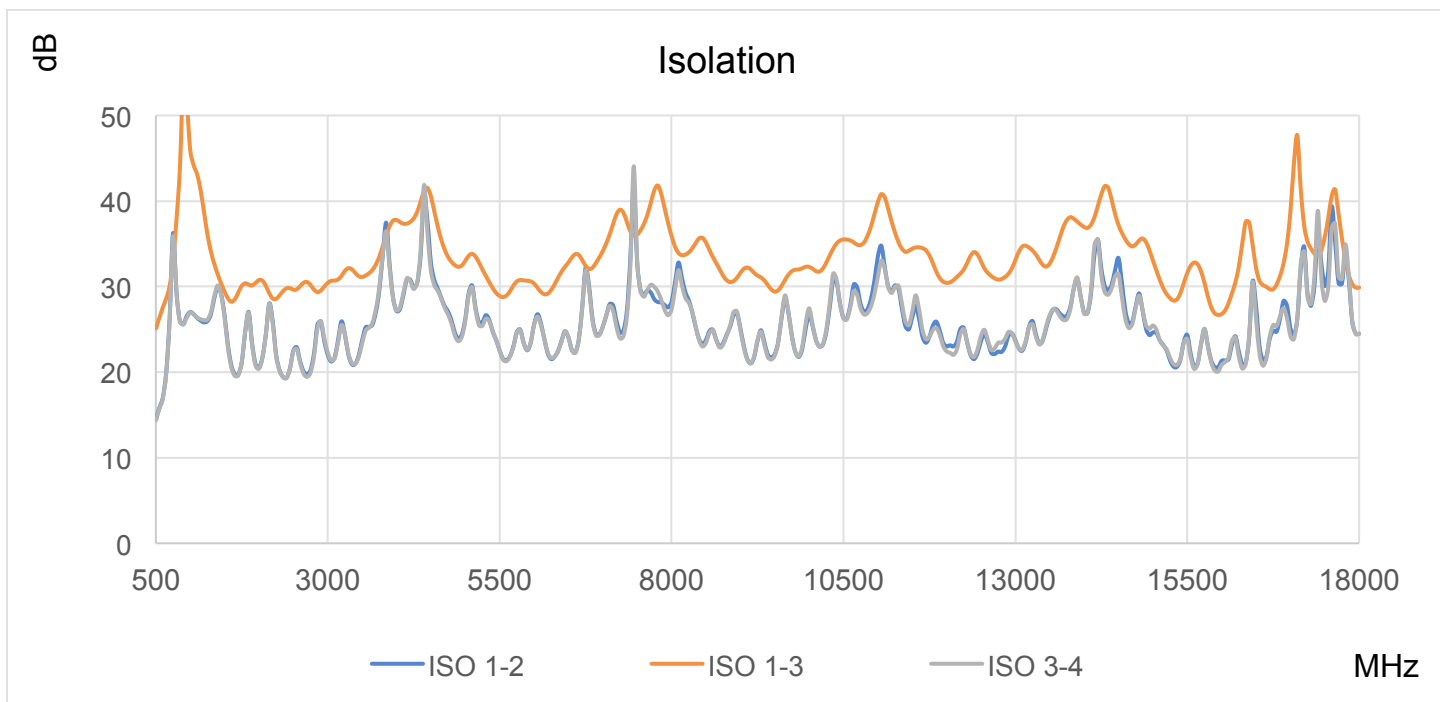
Materials

RoHS Compliant ³	Yes
REACH Compliant ³	Yes
Enclosure	Aluminum
Connectors	Stainless Steel
Contacts	Be Cu, Gold Plated
Insulators	PTFE
Finish	Green Paint

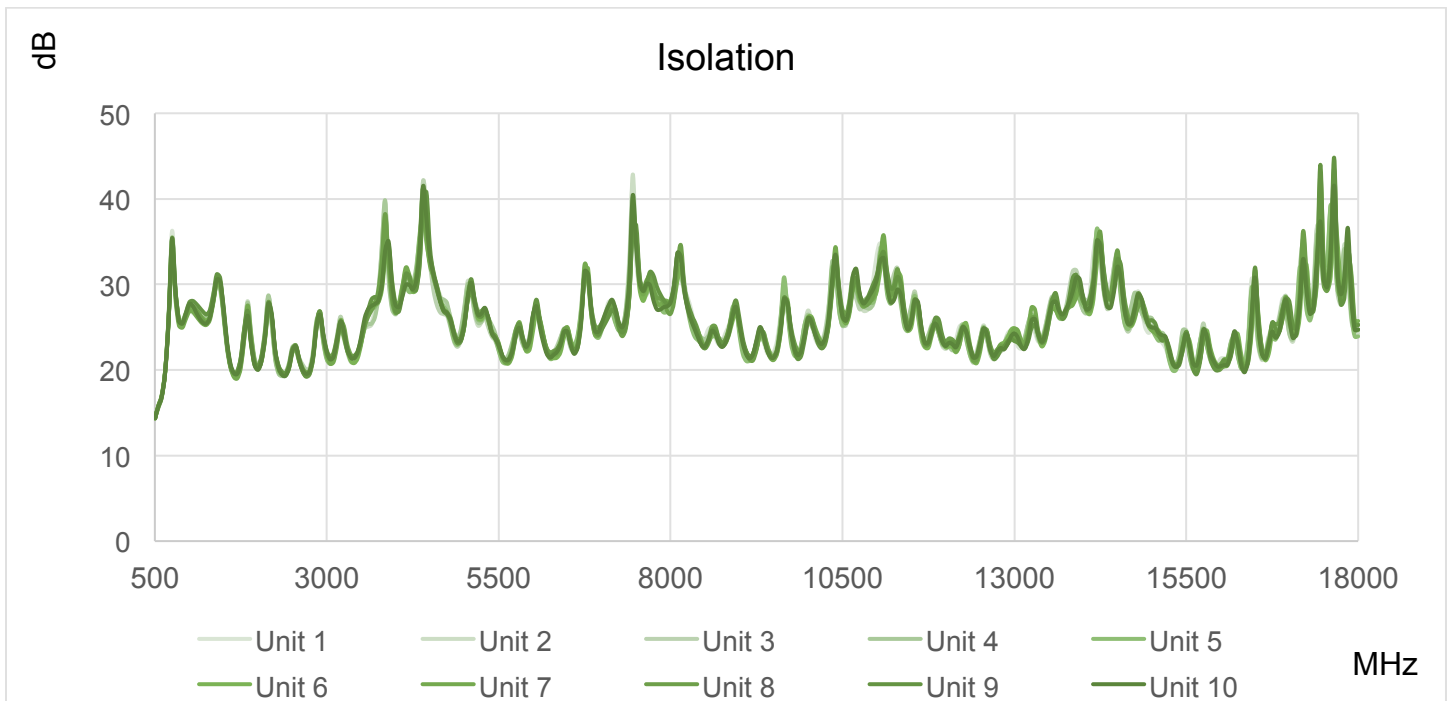
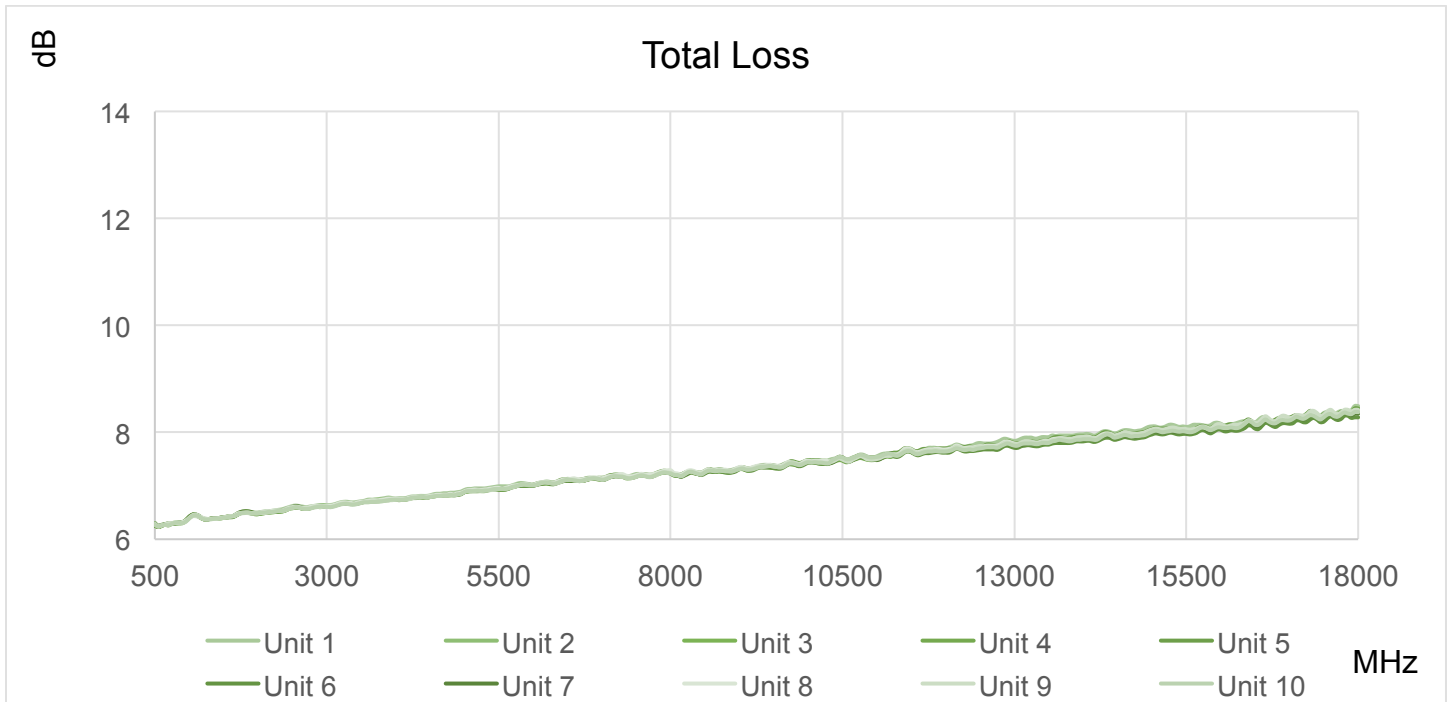
1. All output ports should be terminated in a 50-ohm load with 1.2:1 max VSWR.
2. Electrical specifications at +25 °C only.
3. To the best of our knowledge at the time of publication.

Typical Performance at +25 °C





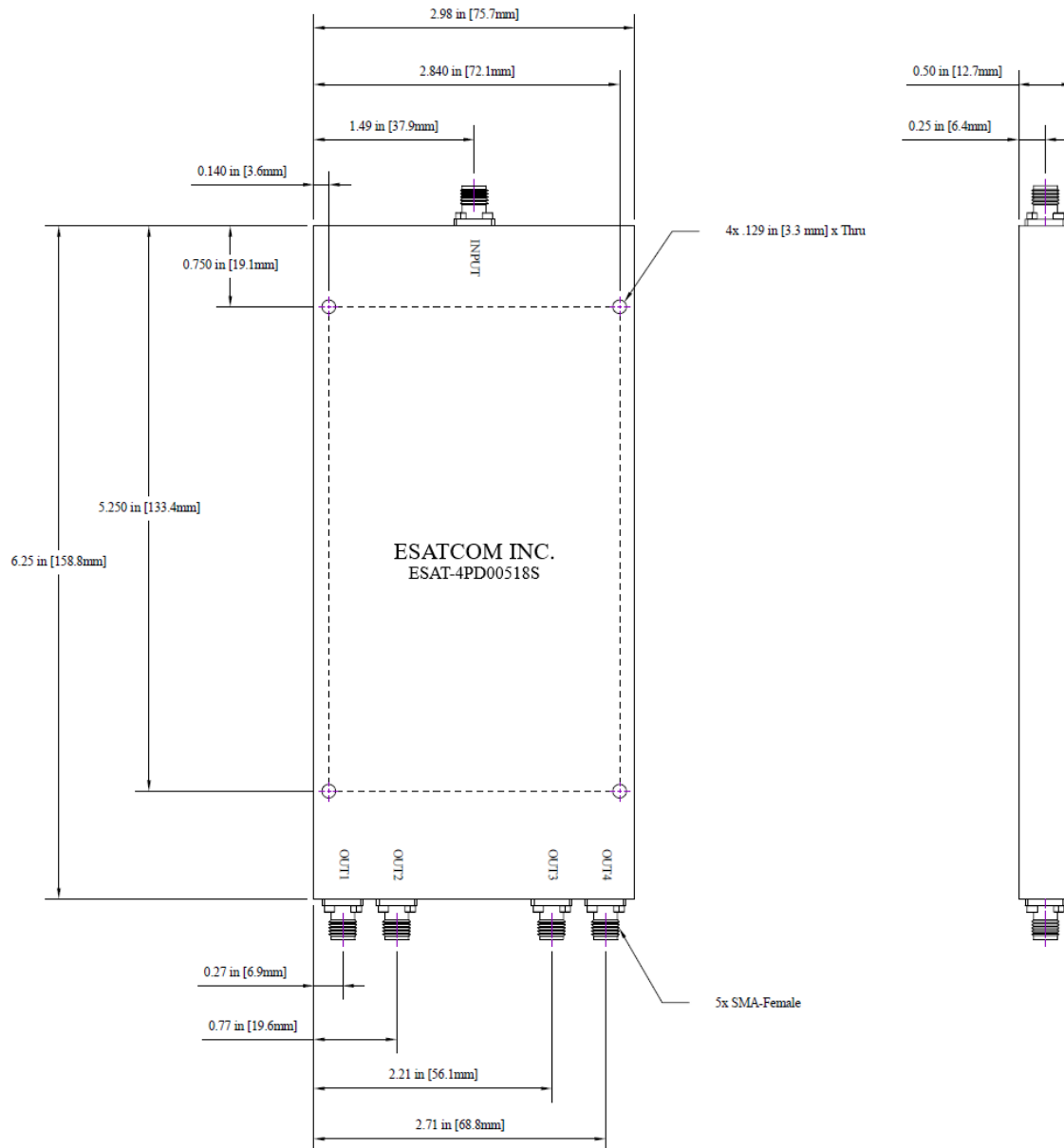
Repeatability in Production



Typical Performance Data

Frequency (MHz)	Return Loss (dB)			Total Loss (dB)		Isolation (dB)
	Port S	Port 1	Port 4	S-1	S-4	
500	19.8	33.4	19.8	6.3	6.3	15.4
1000	18.1	23.2	18.1	6.4	6.4	26.6
1500	21.4	22.3	21.4	6.4	6.3	27.3
2000	25.0	24.7	25.0	6.5	6.5	20.2
2500	17.4	24.4	17.4	6.7	6.7	17.8
3000	20.9	23.4	20.9	6.7	6.6	20.5
3500	33.5	32.0	33.4	6.7	6.7	20.9
4000	16.7	35.9	16.7	6.8	6.8	23.3
4500	26.2	37.7	26.2	6.8	6.8	25.9
5000	32.3	27.8	32.1	6.8	6.8	22.9
5500	17.5	26.5	17.5	7.0	7.0	21.2
6000	28.1	31.3	28.0	7.0	7.0	19.8
6500	24.3	31.3	24.4	7.0	7.0	19.8
7000	19.6	29.5	19.6	7.1	7.1	22.1
7500	39.7	29.8	40.0	7.2	7.2	24.6
8000	23.0	31.6	23.1	7.2	7.3	23.9
8500	18.7	36.2	18.7	7.4	7.4	22.3
9000	37.8	30.6	38.0	7.3	7.4	20.8
9500	18.8	29.6	18.8	7.5	7.5	21.0
10000	18.6	22.2	18.6	7.4	7.4	20.2
10500	23.3	23.6	23.3	7.8	7.7	22.3
11000	15.2	22.6	15.2	7.6	7.7	22.5
11500	24.7	32.1	24.8	7.7	7.7	23.7
12000	23.0	29.3	23.0	7.8	7.8	19.7
12500	17.6	23.4	17.6	7.9	7.9	20.6
13000	24.5	23.4	24.4	8.1	8.1	19.4
13500	26.4	22.3	26.4	7.9	7.9	21.4
14000	18.9	25.6	18.9	8.2	8.2	21.9
14500	22.5	23.3	22.6	8.1	8.1	28.1
15000	20.7	19.7	20.7	8.3	8.3	21.0
15500	22.6	22.6	22.6	8.3	8.3	21.6
16000	29.1	25.3	29.0	8.3	8.3	18.8
16500	13.6	33.2	13.6	8.8	8.8	19.3
17000	18.7	23.4	18.7	8.6	8.6	18.8
17500	25.0	26.0	25.1	8.6	8.6	28.2
18000	15.9	21.5	15.9	8.9	8.9	21.2
18500	21.6	27.9	21.5	8.8	8.7	18.9
19000	27.7	17.4	27.6	8.6	8.7	19.0
19500	16.0	23.5	16.0	9.3	9.3	16.1
20000	22.3	23.6	22.2	9.1	9.1	18.1

Outline Dimensions



Outline drawing: OL-4185

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

Tolerances on 2-pl decimals: ± 0.03 . 3-pl decimals: ± 0.015 . Angles: $\pm 1^\circ$.

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