

S12 STANDARD HOUSING

1x2 GPS Splitter

DESCRIPTION

The S12 GPS Splitter is a one-input, two-output GPS splitter device. The typical application for this splitter allows an active GPS roof antenna input which is then split evenly between two receiving GPS units. The S12 can be configured to pass the DC from an RF output (OUT1) to the antenna input port in order to power an active GPS antenna on that port. The second RF output would feature a 200Ω DC load to simulate an antenna DC current draw for any receiver connected to that port.

FEATURES

- Passes all GPS and GNSS frequencies
- Excellent Gain Flatness
- Gain | L1 - L2 | < 2 dB
- RoHS, REACH, and WEEE Compliant
- CE Certified

OPTIONS

- Amplified, Passive, and Custom Gain Options
- Pass Beacon
- Hermetically Sealed, EMI Shielding, and Waterproofing

The S12 GPS Splitter comes with many available options to meet specific needs. Please contact GPS Source via phone, email, or visit the website for further information on product options and specifications.



1. S12 Specifications

1.1 Electrical Specifications

Table 1-1. Operating Temperature -40°C to 85°C

Parameter			Conditions	Min	Typ	Max	Units
Frequency Range			Ant: OUT1, OUT2 50Ω	1.1		1.7	GHz
In/Out Impedance			Ant: OUT1, OUT2		50		Ω
Gain ⁽¹⁾	Standard	Amplified	Ant: OUT1, OUT2 50Ω	22	24	26	dB
	Custom	Amplified	Identify XXdB	XX - 2	XX	XX + 2	
	As Specified	Amplified by port	OUT1 (J1), OUT2 (J2) XXdB (0 to 23dB) by port	XX - 2	XX	XX + 2	
Loss-Passive			Ant: OUT1, OUT2 50Ω	-3	-4.5	-6	dB
Input SWR			All Ports 50Ω			2:1	—
Output SWR			All Ports 50Ω			2:1	—
1dB Comp. Pt		Amplified	All Ports 50Ω		-32		dBm
Input IP ₃		Amplified	All Ports 50Ω		-24		dBm
Noise Figure		Amplified	Ant: OUT1, OUT2 50Ω			1.8	dB
Gain Flatness		Amplified	[L1 – L2] Ant: OUT1, OUT2 50Ω			2	dB
		Passive				1	
Amplified Balance			OUT1 (J1) – OUT2 (J2) Ant: OUT1, OUT2 50Ω		0.5	1.0	dB
Phase Balance			Phase OUT1 (J1) – OUT2 (J2) Ant: OUT1, OUT2 50Ω			1	Degree
Group Delay Flatness			T _{d,max} - T _{d,min} ; OUT1 (Ant)			1	ns
Isolation ⁽¹⁾	Standard	Amp/Pass	Adjacent Ports: Ant 50Ω	13			dB
	High	Amplified		30			
Device Current (Amplified)			Current Consumption of Device (Excludes antenna current.)			16	mA
Antenna/ Through Current	Inline voltage		Non-Powered Configuration, DC Input on OUT1			250	mA
Max RF Input		Amplified	Max RF Input Without Damage			0	dBm
		Passive				30	

- Notes: 1. Decreased custom gain increases port-to-port isolation.
 2. Performance guaranteed for N(F) connectors.

Table 1-2. Input Voltage

Parameter		Conditions	Min	Typ	Max	Units
External AC Power	110VAC	Wall Mount Transformer		110		VAC
	230/240 VAC	Wall Mount Transformer (Various international plug opt.)		230		
External DC Power	PDC	Tinned Leads	8		28	VDC
	PM	Two-pin Mil DC connector and mate				
	PMS	Two-pin Mil DC connector and mate				
	PMS38999	Three-pin Mil DC connector, no mate				
Inline Voltage (Amplified/ Passive)	Pass DC	Non-Powered Configuration, Pass DC from OUT1 (J1) to Input	3		16	VDC
	Block DC ⁽¹⁾	OUT2 (J2) Block DC standard				

Notes: 1. All DC Blocked outputs include 200 Ohm resistive load to ground standard.

2. Performance Data

2.1 S12 Amplified

Figure 2-1. Amplified 10dB: Gain vs. Frequency

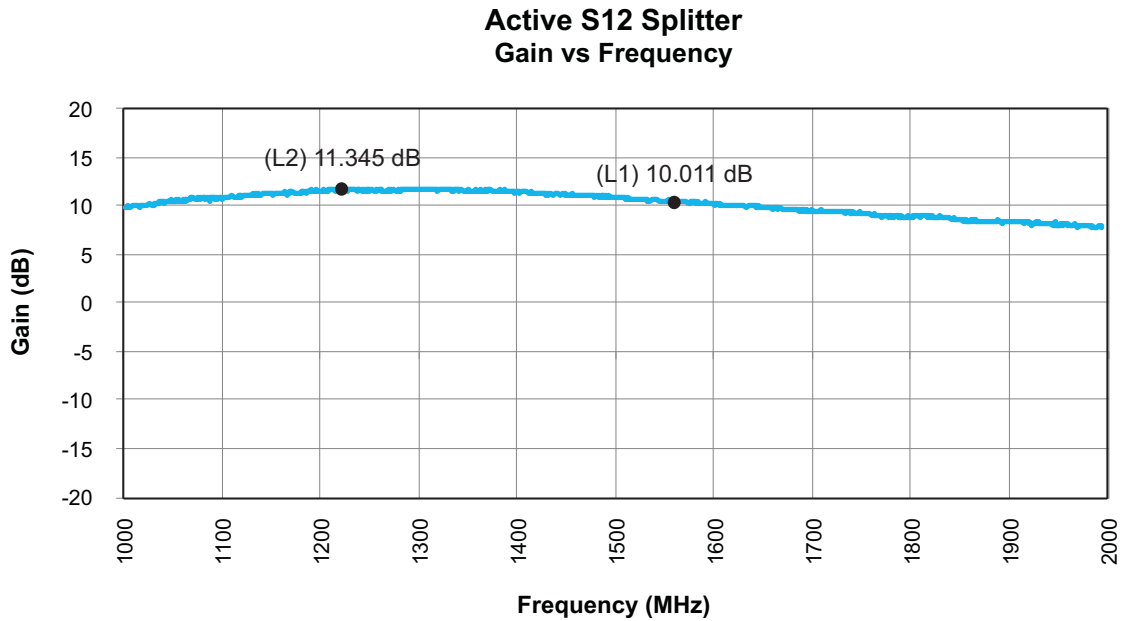
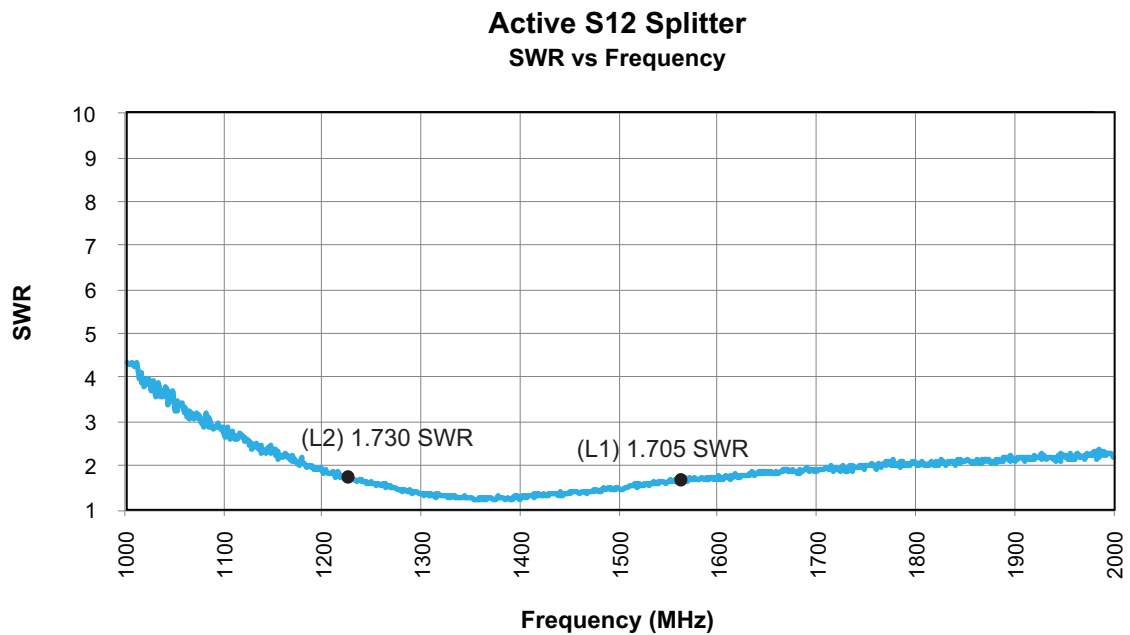


Figure 2-2. Amplified 10dB: SWR vs. Frequency



2.2 S12 Passive

Figure 2-3. Passive: Gain vs. Frequency

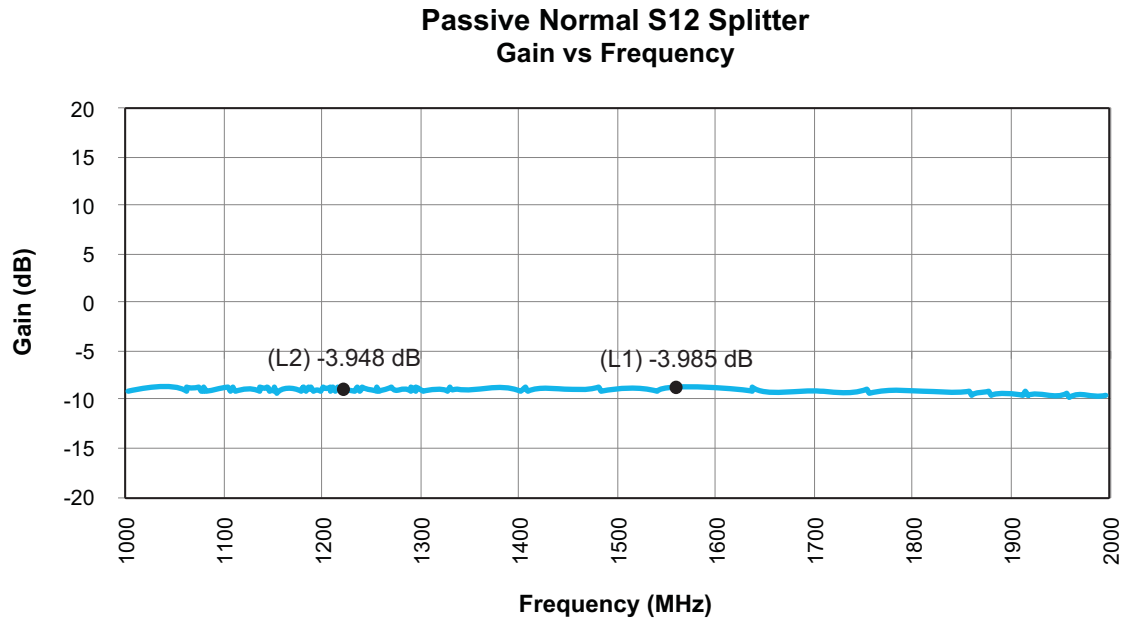
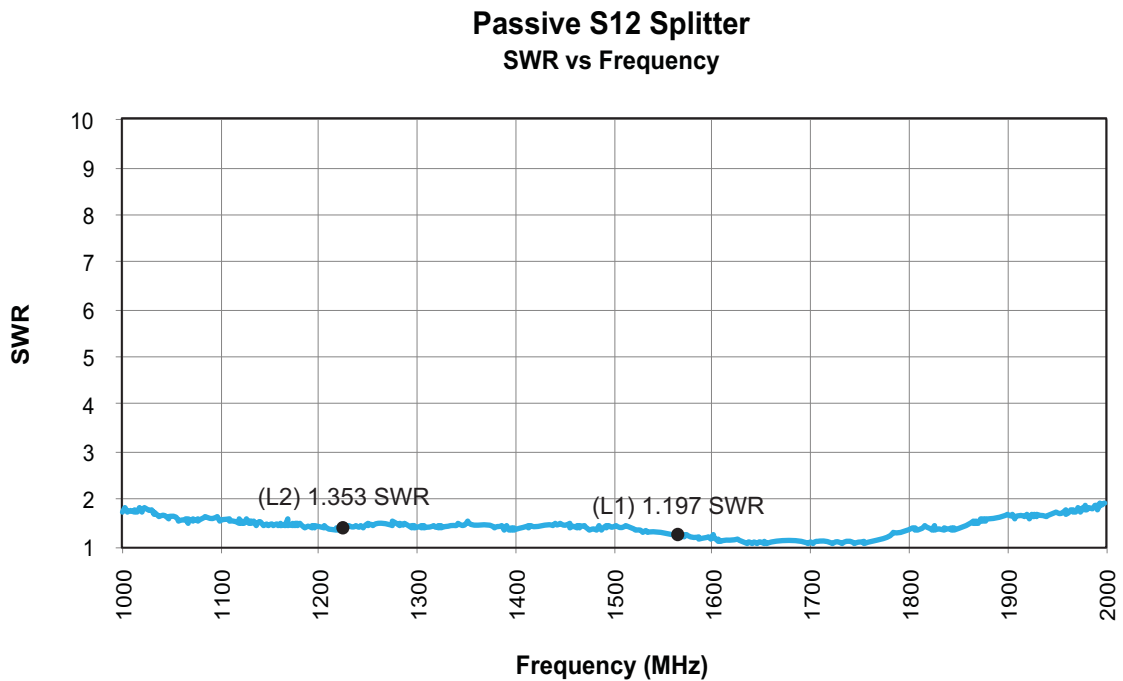


Figure 2-4. Passive: SWR vs. Frequency



2.3 S12 Active — High Isolation

Figure 2-5. Amplified High Isolation: Gain vs. Frequency

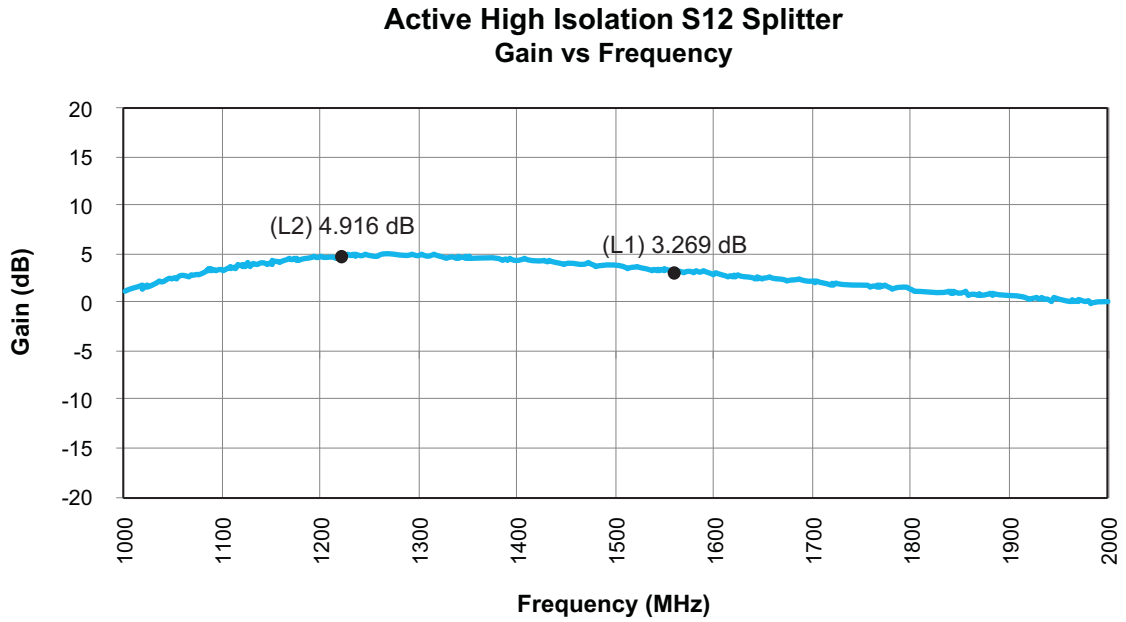
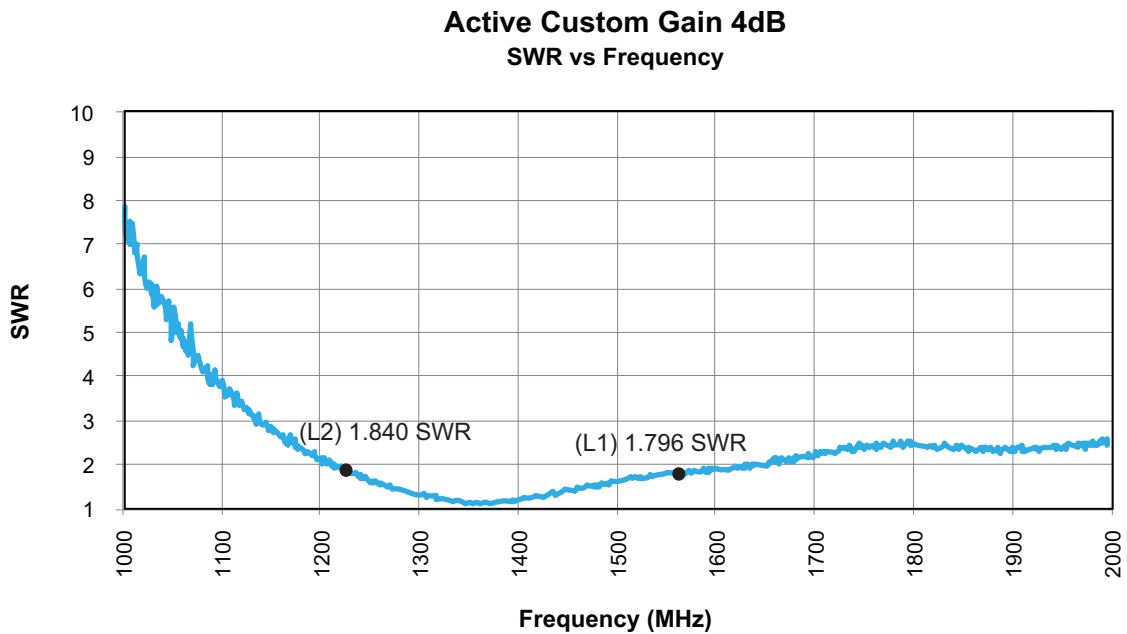


Figure 2-6. Amplified High Isolation: SWR vs. Frequency

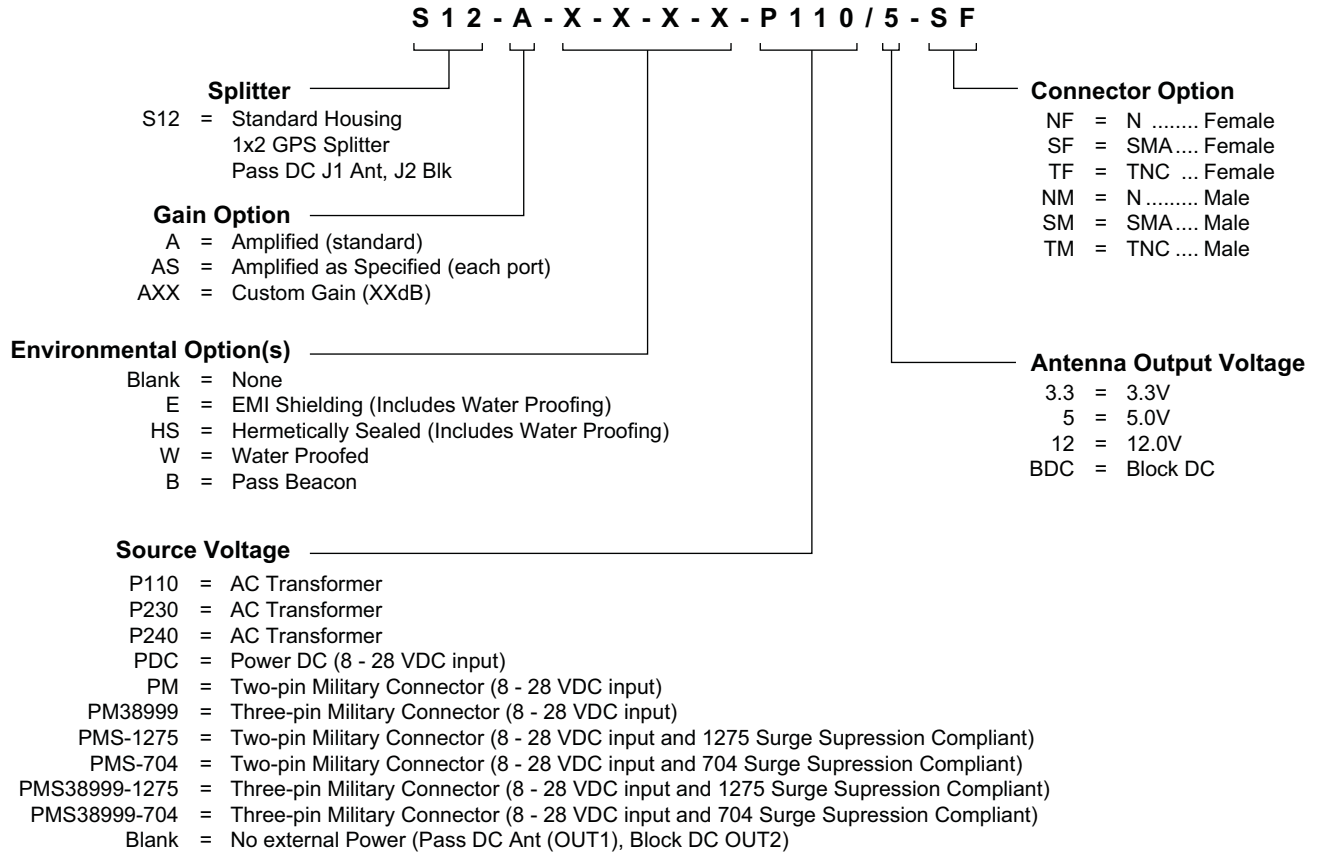


3. Product Options

Table 3-1. S12 Available Options

Power Supply			
Source Voltage Options		Voltage Input	Type
	P110	110VAC	Wall Mount Transformer
	P230	230VAC (Euro)	Wall Mount Transformer
	P240	240VAC (U.K.)	Wall Mount Transformer
	PM/PMS	8VDC to 28VDC	Two-pin Military Style Connector with mate
	PMS38999	8VDC to 28VDC	Three-pin Military Style Connector with mate
	PDC	8VDC to 28VDC	Tinned Leads, no mate
Output Voltage	DC Voltage Out		
		3.3	
		5.0	
		12.0	
		BDC (Block DC)	
RF Connector			
Connector	Connector Type		Limitations
	N	(Female/Male)	N/A
	SMA	(Female/Male)	N/A
	TNC	(Female/Male)	N/A
Housing			
Housings	Housing Type		Limitations
		Standard	None
Gain Options			
Gain	Amplified (-A)	Standard amplification is 24dB	All ports are the same gain
	Custom Gain (-AXX)	Custom gain range is 0 - 23dB	All ports are the same gain
	Amplified as Specified (-AS)	Provide gain for each port	Contact GPS Source for assistance configuring product code.
	Passive		

4. Product Code Decoder



Note: Use -AXX if all ports are the same gain, or -AS and provide gain on each port in description.

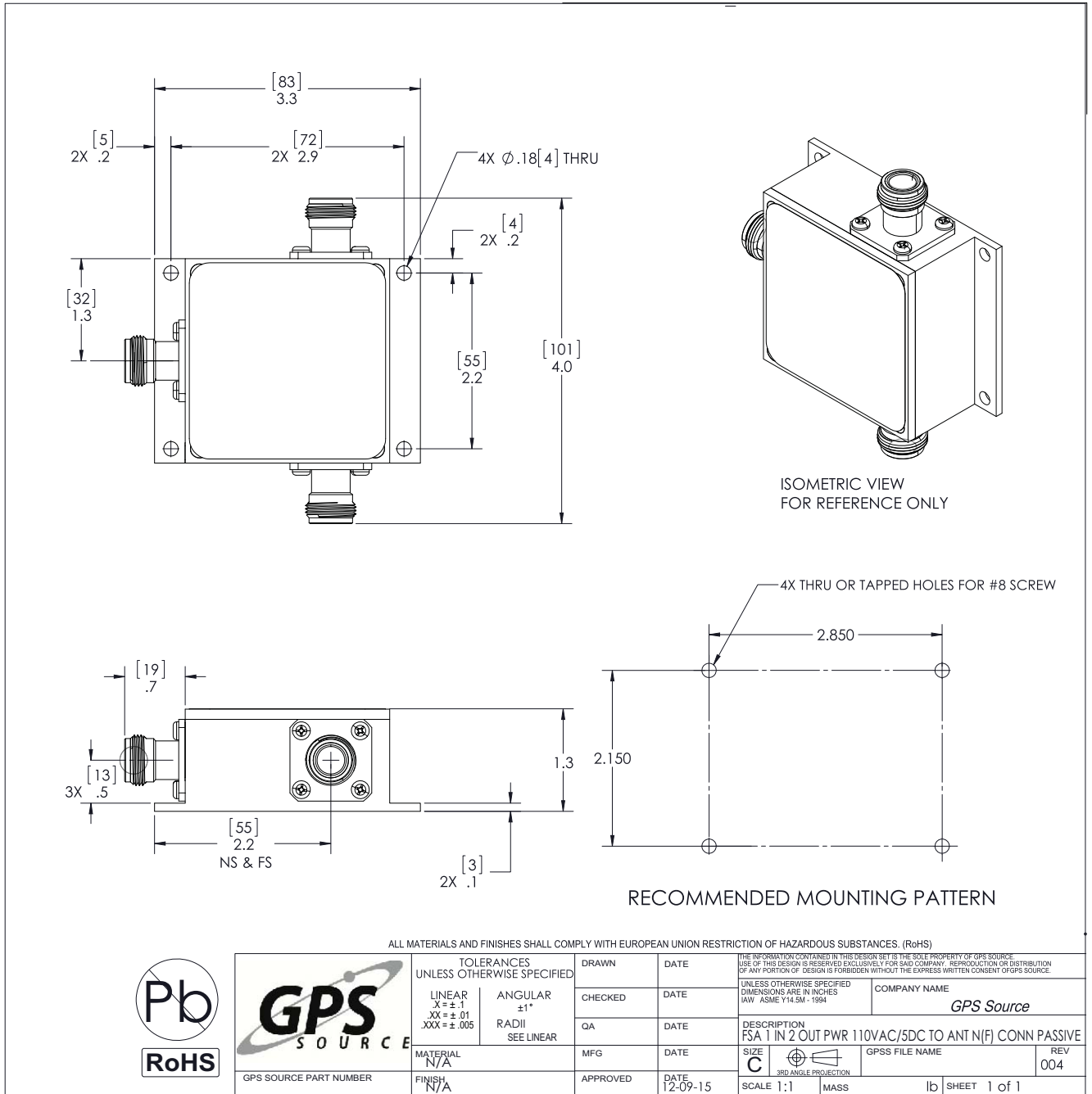
Note: Standard amplification is 24dB, custom gain range is 0-23dB.

Note: EMI shielding, hermetically sealed, and waterproof options applies to device only and are not available with AC power or PDC options, but are available with PM, PMS, and PMS38999

To have product/part codes customized to meet exact needs, contact GPS Source at GPSS-Sales@gd-ms.com or visit the website at www.gpssource.com.

5. Mechanical Drawing

S12 Standard Housing — FSA-ABA-AAX-BBZ



S12 Standard Housing Data Sheet

059-FSA-ABA-AAX-BBZ-006

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2121 Executive Cir., Ste 100
Colorado Springs, CO 80906
Phone: (+1)(719) 421.7300
Toll Free: (+1)(866) 289.4777
GPSS-Sales@gd-ms.com
www.gpssource.com

AS9100 and ISO 9001 Compliant Company



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