

S12T TINY GPS SPLITTER

1x2 Tiny GPS Splitter

DESCRIPTION

The S12T Tiny GPS Splitter is a one-input, two-output GPS splitter device in which input from an active GPS antenna is split evenly between two receiving GPS units. Ideal for platforms requiring very small, lightweight, and/or low-power equipment (i.e. Unmanned Aerial Vehicle, UAV). The S12T can be configured to pass DC from an RF output (J1) to the antenna input port in order to power an active GPS antenna on that port. The second RF output (OUT2 (J2)) is DC blocked and features a 200Ω resistive load to ground to simulate an antenna current draw for any receiver connected to that port.

FEATURES

- Passes all GPS and GNSS frequencies
- Ideal for UAV Applications
- Small, Lightweight, and Low-power (SWaP)
- Small Package: 1.875in x 1.750in x 0.438 in. (47.0mm x 44.5mm x 11.0mm)
- RoHS, REACH, WEEE Compliant
- CE Certified

OPTIONS

- Designed to MIL-STD-810
- Amplified, Passive, or Custom Gain
- Hermetically Sealed, EMI Shielding, and Waterproofing

The S12T Tiny 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.



S12T Tiny GPS Splitter Data Sheet

059-FSA-AAT-CCX-AGZ-003
04/17/2020

www.gpssource.com

AS9100 and ISO 9001 Compliant Company

1. S12T 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 (J1), OUT2 (J2) 50Ω	1.1		1.7	GHz
In/Out Impedance			Ant: OUT1 (J1), OUT2 (J2)		50		Ω
Gain ⁽¹⁾	Standard	Amplified	Ant: OUT1 (J1), OUT2 (J2) 50Ω	6	8	10	dB
	Custom	Amplified	OUT1 (J1) equals OUT2 (J2) XXdB (0 to 7dB)	XX - 2	XX	XX + 2	
	As Specified	Amplified by port	OUT1 (J1), OUT2 (J2) XXdB (0 to 7dB) by port	XX - 2	XX	XX + 2	
Loss-Passive			Ant: OUT1 (J1), OUT2 (J2) 50Ω	-3	-4.5	-6	dB
Input SWR			All Ports 50Ω			2:1	—
Output SWR			All Ports 50Ω			2:1	—
Input P1dB		Amplified	Ant: Any Port, Unused Ports 50Ω, Gain = 8dB	-20			dBm
Input IP ₃		Amplified	Ant: Any Port, Unused Ports 50Ω, Gain = 8dB Tone spacing = 1MHz	-10			dBm
Noise Figure		Amplified	Ant: OUT1 (J1), Out 2 (OUT2 (J2)) 50Ω			2	dB
Gain Flatness		Amplified	[L1 – L2] Ant: OUT1 (J1), OUT2 (J2) 50Ω			2.5	dB
		Passive				1	
Amplifier 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 (J1) (Ant)			1	ns
Isolation ⁽¹⁾	Standard	Amp/Pass	Adjacent Ports: Ant 50Ω	16			dB
	High	Amp 00dB		30			
Inline Voltage		Amplified	OUT1 (J1) pass DC Standard	3		12	VDC
		Passive	OUT1 (J1) pass DC Standard	3		12	
Current (Amplified)			Current Consumption of device (excludes Ant. Cur.)			7	mA
Draw Current		Pass DC	DC Input on OUT1 (J1)			250	mA
Max RF Input		Amplified	Max RF Input Without Damage			0	dBm
		Passive				30	

Notes: 1. Decreased gain increases port to port isolation.

2. Performance Data

2.1 S12T Active

Figure 2-1. Active: Gain vs. Frequency

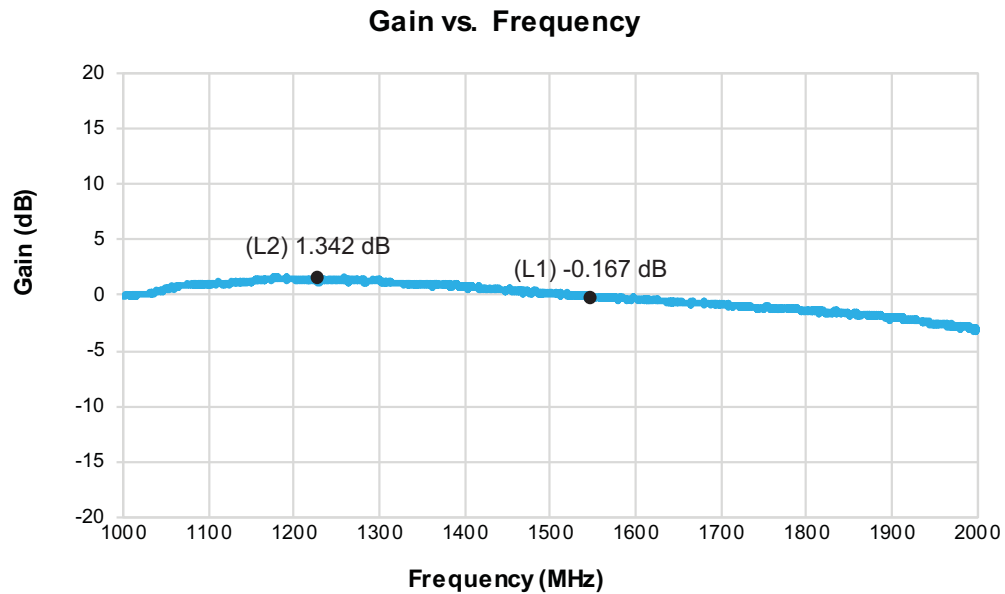
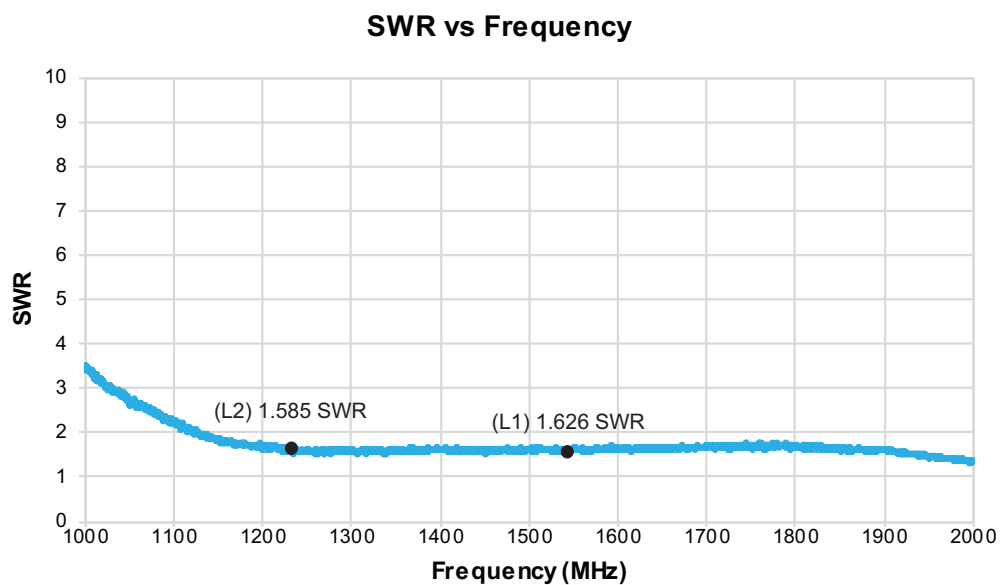


Figure 2-2. Active: SWR vs. Frequency

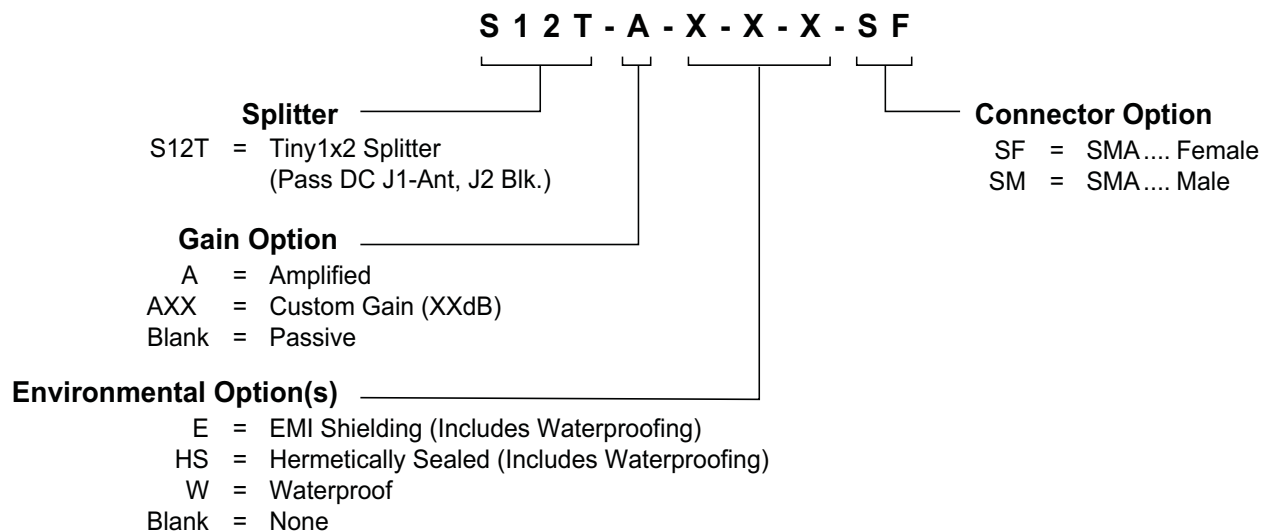


3. Product Options

Table 3-1. S12T Available Options

RF Connector		
Connector	Connector Type	Limitations
	SMA (Female/Male)	N/A
Housings	Housing Type	Limitations
	Tiny	Powered option not available. Connectors not available: N, TNC
Output Options (Standard)		
Pass DC	DC is passed OUT1 (J1) to antenna	
DC Blocked	OUT2 (J2) is DC Blocked with 200Ω Load	
Gain Options		
Gain	Amplified (-A)	Standard amplification is 8dB
	Custom Gain (-AXX)	Custom gain range is 0 - 7dB
	Amplified as Specified (-AS)	Provide gain for each port
	Passive	

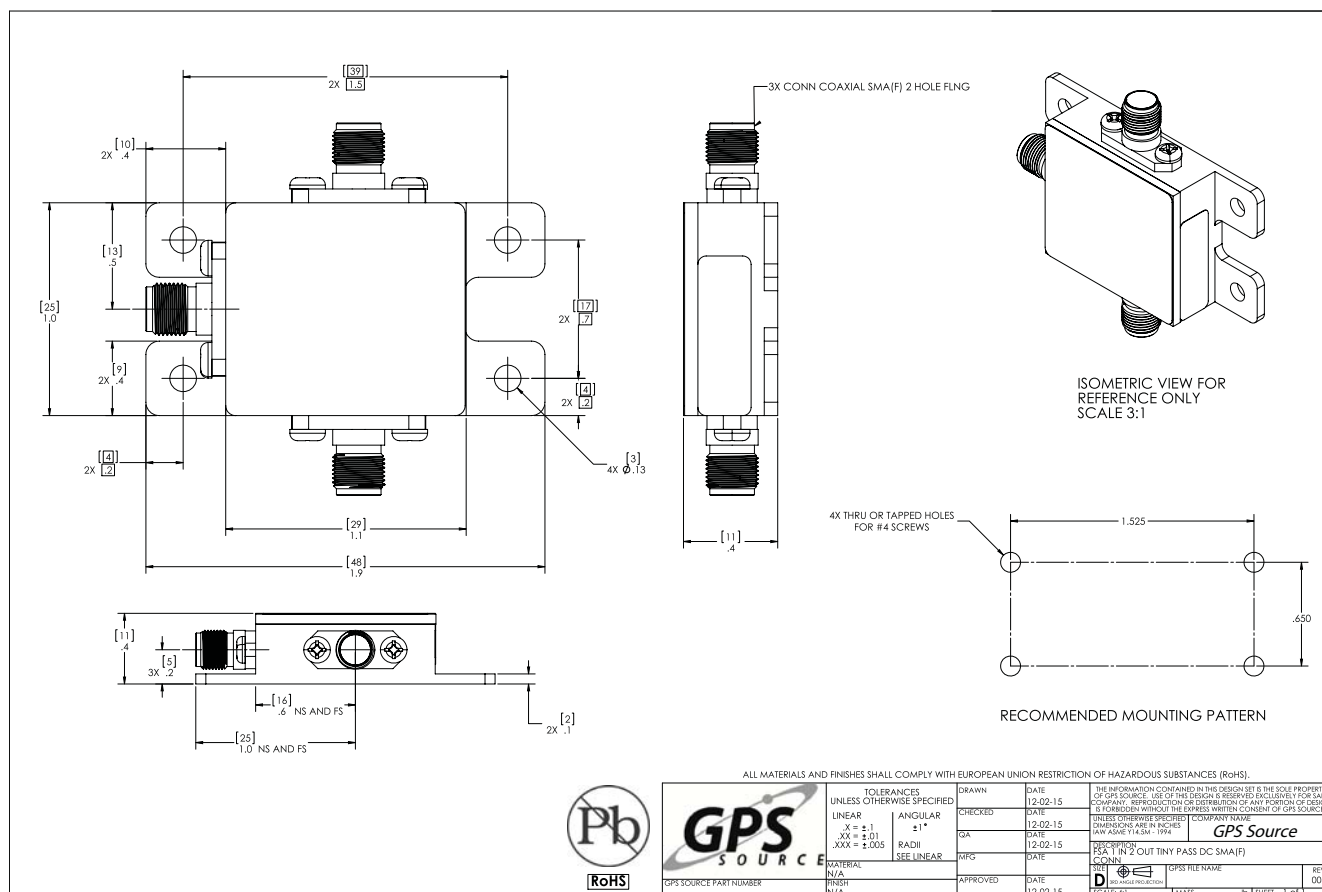
4. Product Code Decoder



Note: 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

S12T Tiny GPS Splitter — FSA-AAT-CCX-AGZ



Dimensions: 1.875" x 1.75" x 0.44" (47mm x 44.5mm x 11mm)
Weight: 15 grams



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