

# S12T

## GPS 1 x 2 Tiny Splitter

### Features

- ❖ Amplified and Passive Versions Available
- ❖ Passes GPS, GLONASS & Galileo
- ❖ Small, Lightweight & Low Power
- ❖ Ideal for UAV Applications
- ❖ Waterproof Option Available
- ❖ Designed to Mil. Std. 810
- ❖ Small Package 1.875 x 1.75 x 0.438 in.  
(47mm x 44.5mm x 11mm)



### Description

The S12 Tiny GPS Splitter is a one-input, two-output GPS device. This product typically finds application where an input from an active GPS antenna is split evenly between two receiving GPS units and the platform requires very small/lightweight & low power equipment, such as an Unmanned Aerial Vehicle (UAV). In this scenario, the S12 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 would feature a 200 Ohm DC load to simulate an antenna DC current draw for any receiver connected to that port.

Please call (719) 561-9520 or visit our website ([www.gpssource.com](http://www.gpssource.com)) for further information on how to order or details on product options.

S12T

Electrical Specifications, Operating Temperature  $-40^{\circ}$  to  $85^{\circ}$  C

Parameter		Conditions	Min	Typ	Max	Units
Freq. Range		Ant – J1, J2-50Ω or Ant – J2, J1-50Ω	1.1		2	GHz
In/Out Imped.		Ant, J1, J2		50		Ω
Gain <sup>(1)(2)</sup> -Amplified(Norm) -Amplified (Cust. Gain)	Ant – J1, J2-50Ω or Ant – J2, J1-50Ω		7	8	10	dB
	As specified (0-8 dB)		X-1	X	X+1	
Loss-Passive <sup>(2)</sup>		Ant – J1, J2-50Ω or Ant – J2, J1-50Ω	4	4.5	5	dB
Input SWR <sup>(2)</sup>		All Ports 50Ω			2.0:1	-
Output SWR <sup>(2)</sup>		All Ports 50Ω			2.0:1	-
Noise Figure -Amplified		Ant – J1, J2-50Ω or Ant – J2, J1-50Ω			2.0	dB
Gain Flatness <sup>(2)</sup> -Amplified: -Passive:	L1 – L2 , Ant – J1, J2-50Ω; Ant – J2, J1-50Ω				2.5	dB
					1	
Amp. Balance		J1 – J2 , Ant – J1, J2-50Ω; Ant – J2, J1-50Ω			0.5	dB
Phase Balance		Phase (J1 – J2), Ant – J1, J2-50Ω; Ant – J2, J1-50Ω			1.0	Deg
Group Delay Flatness		T <sub>d,max</sub> – T <sub>d,min</sub> , J1 – Ant			1	ns
Isolation <sup>(1)</sup> -Amp/Pass(Norm) -Amplified (Hi Iso.)	Adjacent Ports: Ant – 50Ω		16			dB
			30			
Input IP3 (Amplified)		Ant-Any Port, Unused Ports -50 Ω, Gain = 8 dB, Tone spacing = 1MHz	-10			dBm
Input P1dB(Amplified)		Ant-Any Port, Unused Ports -50 Ω, Gain =8 dB	-20			dBm
Device Voltage -Passive -Amplified		Any Port: Any Port:	-12 3.3		12 12	VDC
Device Current		Current Consumption of the device, excludes Ant. Cur.			7	mA
Ant/Thru Current	Pass DC	Non-Powered Configuration, DC Input on J1			250	mA
Max RF Input -Amplified -Passive		Max RF input without damage			0 30	dBm

Notes:

1. Choose Custom Gain Option to increase port-to-port isolation
2. Performance guaranteed for SMA(F) connectors

Performance Data:

S12T - Passive

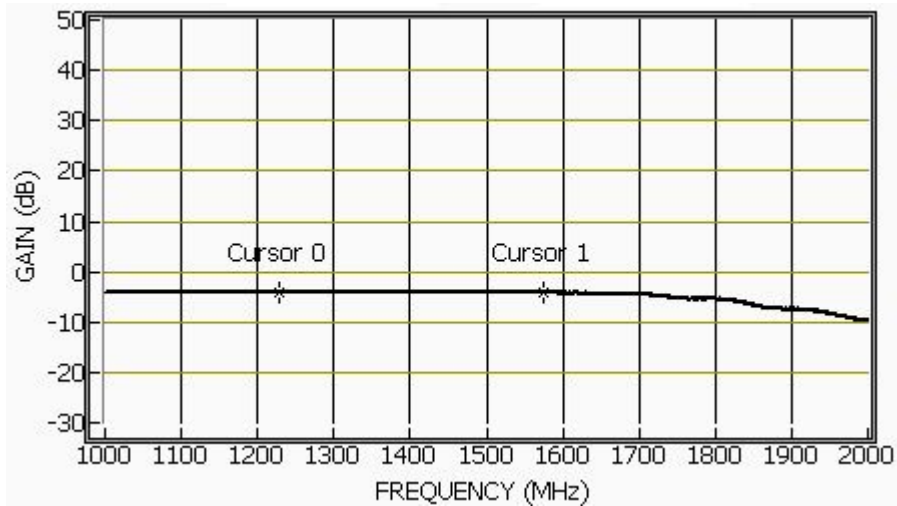


Figure 1. Gain vs. Frequency for S12T Passive Splitter

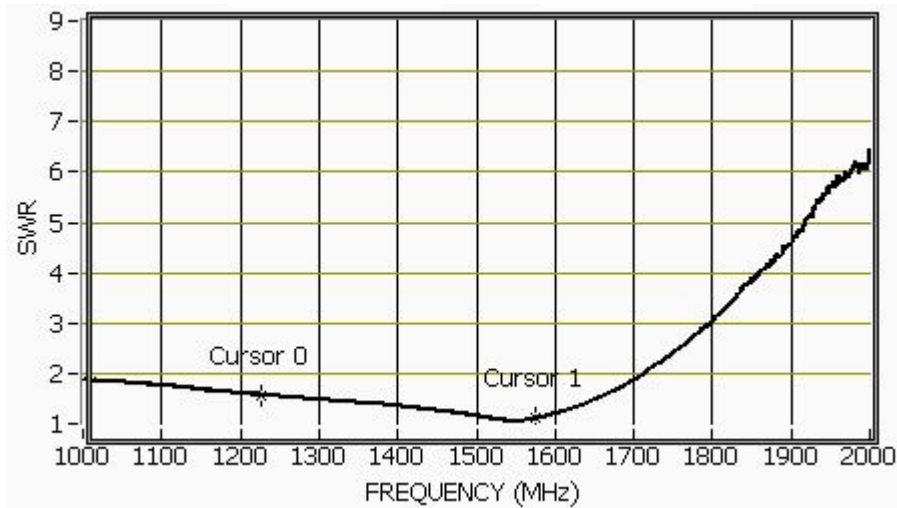


Figure 2. SWR vs. Frequency for S12T Passive Splitter

S12T – Active

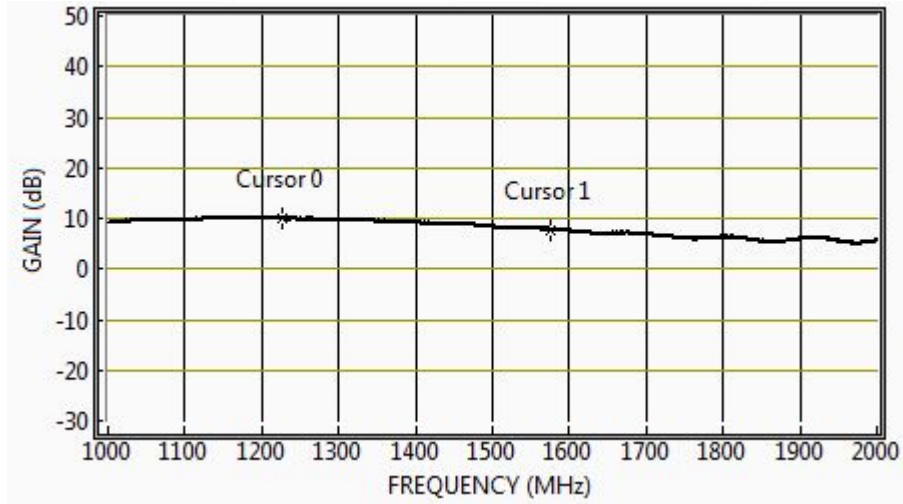


Figure 3. Gain vs. Frequency for S12T Active Splitter

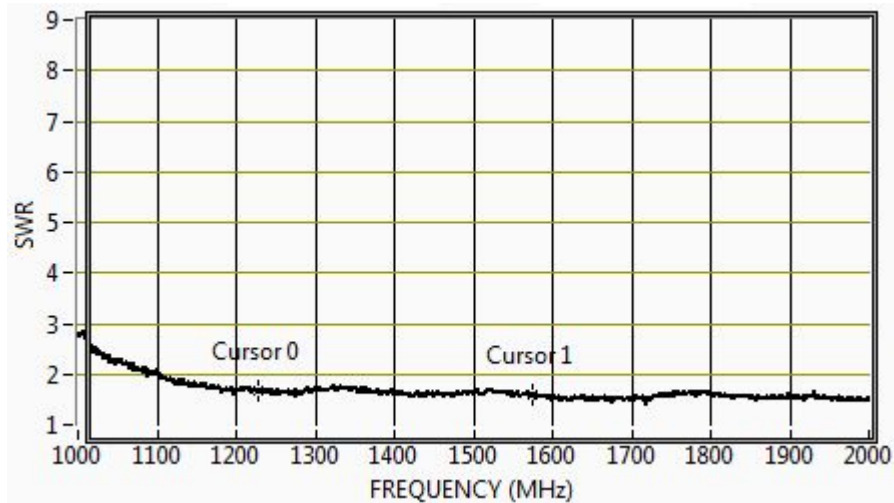


Figure 4. SWR vs. Frequency for S12T Active Splitter

Available Options:

RF Connector Options:		
Connector Options	Connector Type	Limitations
	SMA (Male & Female)	
Port Options:		
Pass DC	All Ports Pass DC	
DC Blocked	J2 is DC Blocked & 200Ω Load, DC is passed J1 to ANT	

Part Number:

S12T -A -X-X-X-X - SF

Product:

Tiny 1x2 Splitter  
(Pass DC J1-Ant, J2 Blk.)

Options:

**BLANK** – Passive  
**AXX** – Active (XX= Gain)

Environmental Option(s):

**X** = (Any or All of Following)  
**E** – EMI Shielding  
**HS** – Hermetically Sealed  
**W** – Waterproof

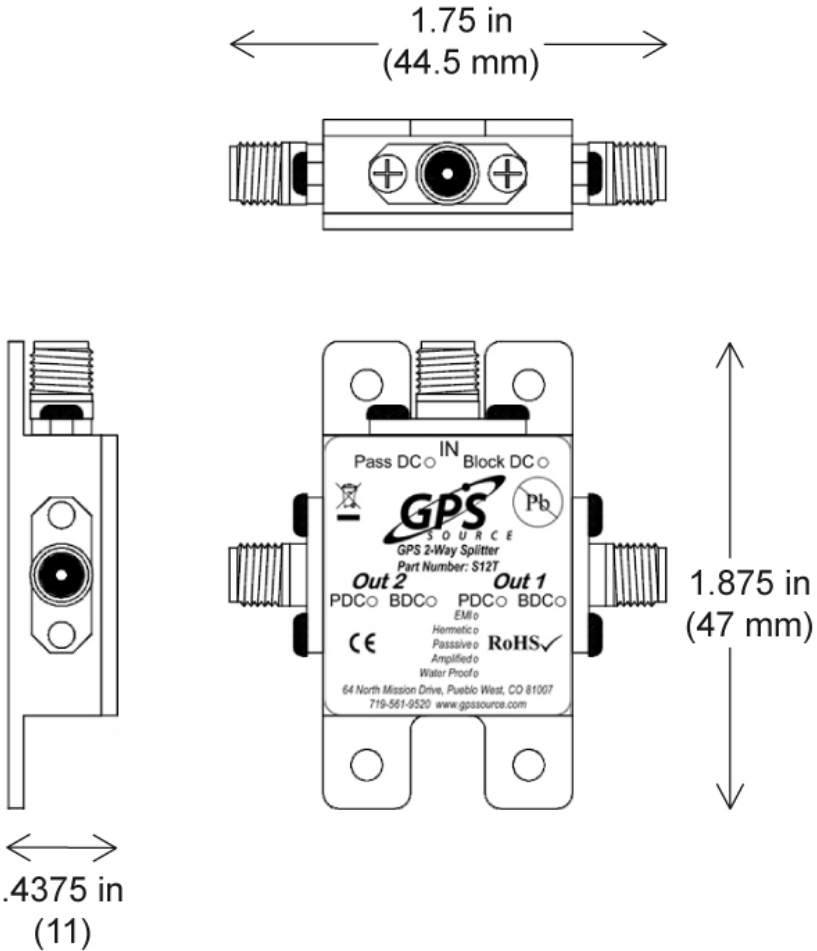
Connector Options:

**SF** – SMA Jack, Female  
**SM** – SMA Plug, Male

For help in creating the part number to meet your exact needs, contact us at [techsales@gpssource.com](mailto:techsales@gpssource.com) or visit our website at [www.gpssource.com](http://www.gpssource.com).

**Mechanical:**

Tiny 1 x 2 Housing - 1.875" x 1.75" x 0.44" (47mm x 44.5mm x 11mm):



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AS9100C:2009 & ISO 9001:2008 Compliant Company

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