

LA40FPDC

Technical Product Data

Features

- **Amplifier Gain of 40dB**
Gain \geq 40dB
- **Passes GPS L1/L2 & GLONASS**
- **Excellent Passband Ripple**
L1/L2 Ripple < 2.0 dB

Description

The LA40FPDC GPS Filtered Line Amplifier is a one input, one output device with a 40dB minimum gain block and L1/L2 filtering. The frequency response covers the GPS L1, L2 and GLONASS bands. In the normal configuration, the RF output (J1) passes DC from the connected GPS receiver through the amplifier to the antenna, allowing the GPS receiver to power both the antenna and the amplifier.

Electrical Specifications, $T_A = 25^{\circ}\text{C}$

Parameter	Conditions	Min	Typ	Max	Units
Pass Band: L1	Ant – J1	1.575		1.615	GHz
Pass Band: L2	Ant – J1	1.227		1.256	GHz
In/Out Imped.	Ant, J1		50		Ω
Gain	Ant – J1, L1 & L2 Passbands	40	41	42	dB
Input SWR	J1 - 50 Ω , L1 & L2 Passbands			2.2:1	-
Output SWR	Ant - 50 Ω			1.6:1	-
Noise Figure	Ant – J1	9.0	10.0	10.5	dB
Passband Ripple	Ant – J1, L1 & L2 Passbands		1	2	dB
Stopband Rej: L1	1595 +/- 200MHz, Relative to the passband	30			dB
Stopband Rej: L2	1241 +/- 150MHz	35			dB
Reverse Isolation	J1 – Ant	38			dB
Group delay Ripple: L1	$\tau_{d,max} - \tau_{d,min}$: Ant – J1, Across L1 Passband			3	ns
Group delay Ripple: L2	$\tau_{d,max} - \tau_{d,min}$: Ant – J1, Across L2 Passband			4	ns
Req. DC Input V.	Non-Network Configuration, DC Input on J1	4.0		15	Vdc
Current ⁽¹⁾	Amplifier Current Draw, All ports - 50 Ω			42	mA

(1) Current draw on J1 port in the non-networked configuration.

Available Options

Network Power Supply		
Source Voltage Options	VOLTAGE INPUT	STYLE
	110VAC	Transformer (Wall Mount)
	220 VAC	Transformer (Wall Mount)
	240 VAC (UNITED KINGDOM)	Transformer (Wall Mount)
	Customer Supplied DC 9-32 VDC	Military Style Connector
Output Voltage Options ⁽¹⁾	DC VOLTAGE OUT	MAX CURRENT OUT FOR CORRESPONDING V _{out} ⁽²⁾
	5 V	85mA
	7.5V	105mA
	9V	115mA
	12V	145mA
	15V	185mA
	Custom	TDB
Pass/Block DC Options		
Pass DC ⁽¹⁾	All Ports Pass DC	
DC Blocked ⁽¹⁾	Ant is DC blocked, Pass DC J1	
RF Connector Options		
Connector Options	CONNECTOR STYLE	CHARGE
	Type N	NC
	Type SMA	NC
	Type TNC	NC
	Type BNC	NC

(1) With Network Option, any RF port (input or output) can be DC blocked or can pass the network DC voltage.

(2) T_A = +50°C. Assuming Source of 110V, 220V, or 240V Wall Mount Transformer: In general, maximum output current can be determined by:

$$I_{out} \leq 2.2 / (V_{sourceDC} - V_{out}) A$$

Part Number

N LA40F PDC - S / 5 / 110

Network Option:

N = Network Option; **Blank** = No Network

DC Options:

DCB = Ant. DC Blocked; **PDC** = Pass DC

Connector Options:

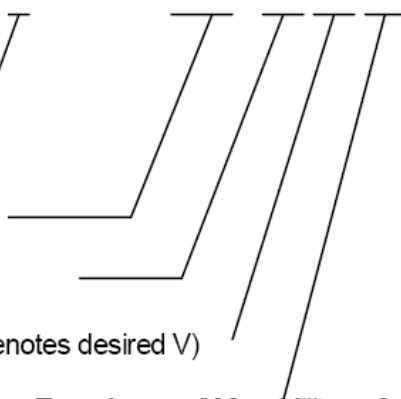
N = N type; **S** = SMA; **T** = TNC; **B** = BNC

DC Output Voltage:

3.3, 5, 7.5, 9, 12, 15, **CXX** (Custom: "XX" denotes desired V)

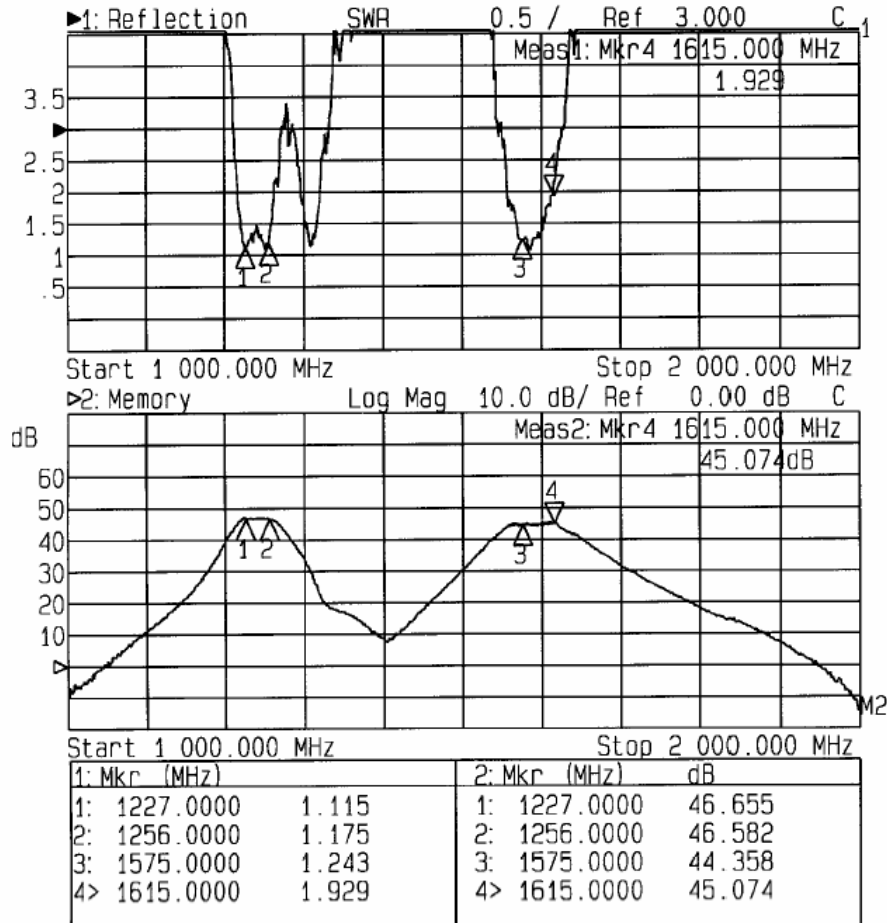
Source Voltage:

110 -Transformer, **220** – Transformer, **240** – Transformer, **MC** – Military Conn. (User supplies DC Voltage)



Performance

Input SWR (Ant. Port) and Frequency Response: Ant. To J1 (Typical, type N connector):



Mechanical

Dimensions: Height: 1.3"
Length (not including connectors) Body: 4.5"
Base Plate: 5.25"
Width: 2.5"

Weight: 14.2 oz. (403 grams)

Operating Temp. Range: -40° to + 75°C