



LDCBS1X2

Technical Product Data

Features

- **Excellent Gain Flatness**
 $|L1 - L2| < 0.5\text{dB}$,
- **Extremely Flat Group Delay**
 Less than 1ns variation
- **Phase Matched Outputs**
 $\text{Phase (J1 - J2)} < 1.0^\circ$

Description

The LDCBS1X2 GPS Splitter is a one input, two output device based on the Wilkinson splitter design. The frequency response covers the GPS L1 & L2 bands with excellent gain flatness. In the normal configuration, one of the splitter RF outputs (J1) passes DC from the connected GPS receiver through the splitter to the antenna. The other RF output (J2) is DC loaded with a 200Ω resistor to block the DC voltage and to simulate the antenna current draw to prevent false antenna fault detection.

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

| Parameter | Conditions | Min | Typ | Max | Units |
|------------------------|---|------|------|-------|-------|
| Freq. Range | Ant - J1, J2 - 50Ω ; Ant - J2, J1 - 50Ω | 1.1 | | 1.7 | GHz |
| Input/Output Impedance | Ant, J1, J2 | | 50 | | Ω |
| Input SWR | All ports - 50Ω | | | 1.5:1 | - |
| Output SWR | All ports - 50Ω | | | 1.5:1 | - |
| Insertion Loss | Ant - J1, J2 - 50Ω ; Ant - J2, J1 - 50Ω | -5.0 | -5.5 | -6.0 | dB |
| Gain Flatness | $ L1 - L2 $; Ant - J1, J2 - 50Ω ; Ant - J2, J1 - 50Ω | | | 0.5 | dB |
| Amplitude 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 |
| Isolation | J1 - J2, Ant - 50Ω | 19 | | 30 | dB |
| Group delay Flatness | $\tau_{d,max} - \tau_{d,min}$; Ant - J1, J2 - 50Ω ; Ant - J2, J1 - 50Ω | | | 1 | ns |

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 Vout ⁽²⁾ |
| | 5 V | 120mA |
| | 7.5V | 140mA |
| | 9V | 150mA |
| | 12V | 180mA |
| | 15V | 220mA |
| | Custom | TDB |
| Pass/Block DC Options | | |
| Pass DC ⁽¹⁾ | All Ports Pass DC | |
| DC Blocked ⁽¹⁾ | J2 is DC blocked, Pass DC from J1 to ANT. | |
| 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 or 220V Wall Mount Transformer. In general, maximum output current can be determined by:

$$I_{out} \leq 2.9 / (V_{sourceDC} - V_{out}) A$$

Part Number

N L DCB S1X2- S / 5 / 110

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

DC Options:
DCB = DC Blocked; **PDC** = Pass DC

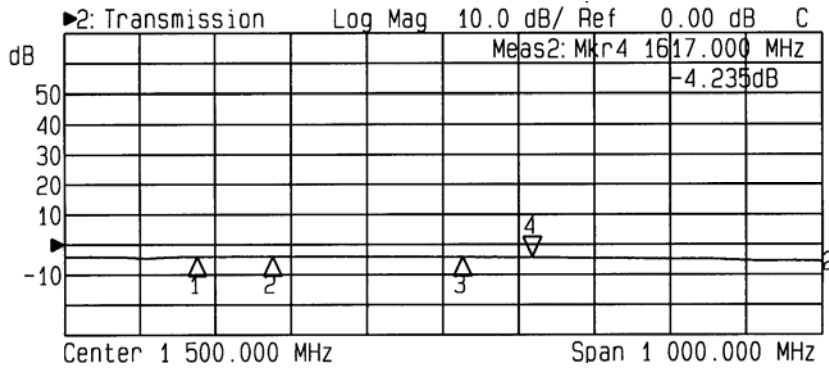
Connector Options:
N = N type; **S** = SMA; **T** = TNC; **B** = BNC

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

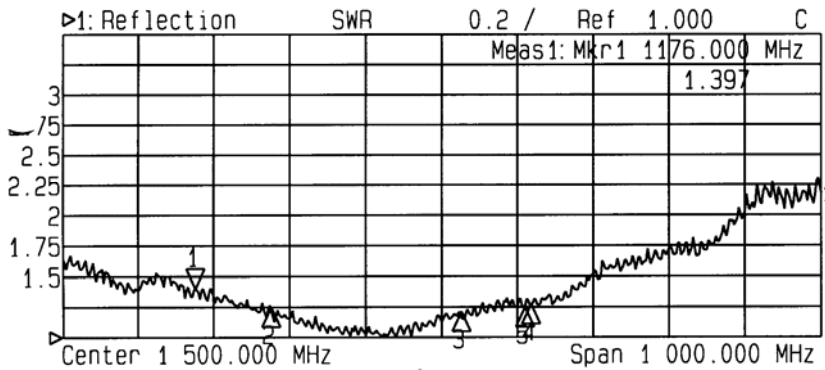
Source Voltage:
110 -Transformer, **220** – Transformer, **240** – Transformer, **MC** – Military Conn. (User supplies DC Voltage)

Performance

Frequency Response: Ant. To J1, J2 (Typical, type N connector):



Input SWR: Ant. J1, J2 -50Ω (Typical)



Mechanical

Dimensions: Height: 1.3"
Length (not including connectors) Body: 2.5"
Base Plate: 3.25"

Width (not including connectors): 2.5"

Weight: 10.2 oz. (295 grams)

Operating Temp. Range: -40° to + 75°C