DCB

DCB Technical Product Data

Features

- Blocks DC voltage
- Small Form Factor
  - 2.5" x 0.75" x 0.875" (not including connectors)
- Extremely Flat Group Delay
  - Less than 1ns variation
- Wide Accepted Frequency Range
  - Accepts signals from the entire L-Band, covering all major GNSS constellations.
- Excellent Flatness
  - Gain $|\text{L1} - \text{L2}| < 1.0 \text{ dB}$
- Low Insertion Loss $< 1.0 \text{dB}$ typical

Description

The DCB GPS DC Block (GNSS DC Block) is a one input, one output device that is designed to block unwanted DC voltage anywhere in a system network. The DCB features a miniaturized housing for use when small form factors are required. The frequency response covers the GPS L1, L2, L5, Galileo and GLONASS frequencies (entire L-band) with excellent flatness. In the normal configuration, the RF input and output will block DC from both the input and output.

Use Cases

- Block unwanted DC voltage anywhere in a system network.
- Protecting expensive receivers by blocking the DC path from the antenna.
# Electrical Specifications, TA=25°C

## General Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Notes</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequency Range</td>
<td>Covers all major GNSS constellations.</td>
<td>1.1</td>
<td>1.7</td>
<td>GHz</td>
<td></td>
</tr>
<tr>
<td>Characteristic Impedance</td>
<td>Input and output ports matched to 50Ω.</td>
<td>50</td>
<td>50Ω</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## GPS L1 & L2 RF Specification

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Notes</th>
<th>Min</th>
<th>Typ</th>
<th>Max</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain</td>
<td>The relative increase in signal power provided by the amplifier.</td>
<td>-2</td>
<td>-1</td>
<td>0</td>
<td>dB</td>
</tr>
<tr>
<td>Input SWR</td>
<td>Input Standing Wave Ratio: S11 at L1 and L2</td>
<td>1.5:1</td>
<td>2:0:1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Output SWR</td>
<td>Output Standing Wave Ratio: S22 at L1 and L2</td>
<td>1.5:1</td>
<td>2:0:1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Band Gain Flatness</td>
<td>The difference in loss or gain between the L1 and L2 frequencies.</td>
<td>0.25</td>
<td>1</td>
<td>dB</td>
<td></td>
</tr>
</tbody>
</table>

## Standard DC Configuration

<table>
<thead>
<tr>
<th>Connector Options</th>
<th>All Ports DC Block</th>
</tr>
</thead>
<tbody>
<tr>
<td>Connector Style</td>
<td>Charge</td>
</tr>
<tr>
<td>Type N-female</td>
<td>No Charge</td>
</tr>
<tr>
<td>Type SMA-female</td>
<td>No Charge</td>
</tr>
<tr>
<td>Type TNC-female</td>
<td>No Charge</td>
</tr>
<tr>
<td>Type BNC-female</td>
<td>No Charge</td>
</tr>
<tr>
<td>Other</td>
<td>Contact GPS Networking</td>
</tr>
</tbody>
</table>

For sales or technical support contact us at 1-800-463-3063 or salestech@gpsnetworking.com
DCB
Part Number Configuration

Hermetically Sealed:
HS: Hermetically Sealed; Blank

EMI Shielding:
E: EMI Shielding; Blank

Weatherproofing:
W: Weatherproofed; Blank

Product Type:
DCB: DCB Block

Connector Options (Type Female Standard):
N: N type: S: SMA; T: TNC; BNC: BNC
Performance

LA20RPDC (Standard Gain)

Each LA20RPDC ships with a test sheet that verifies critical performance characteristics, such as gain, input VSWR, and amplitude balance; a typical VNA test sheet is shown below. Noise figure test data is available upon request.
DCB-TNC
DC Block

Dimensions:
Depth: 0.90"
Height: Body: 0.75"
Width: 2.5"

Dimensions listed above do not include connectors
Maximum weight is with female N-connector option
Weight will vary by connector type

Operating Temperature Range:
-57°C to +87°C

Housing and Baseplate Finish:
Electroless Nickel Plated
(MIL-C-26074C, Class 1 0.0001-0.0003 MAX)

Lid Finish: Anodize, Type II,
Class 2, Black, per MIL-A-8625

Tolerances:
X±0.000
X±0.0005
X±0.0003

Contact us at sales@gpsnetworking.com for 3D models or CAD drawings.