Monarch Series: Satellite Navigation System

Antenna GPS/GLONASS/Beidou/Galileo

Part# W3010

(Ground cleared under antenna, clearance area 10.80 x 6.25mm)

Features
- Omni directional radiation
- Low profile
- Compact size W x L x H (3.2 x 10.0 x 2.0 mm)
- Low weight (310 mg)
- Fully SMD compatible
- Lead free soldering compatible
- Tape and reel packaging
- RoHS Compliant Product

Applications
- Systems: GPS/GLONASS/Beidou/Galileo
- 1560 - 1610 MHz
- Global Navigation
- Asset and Fleet Tracking
- Mobile Devices
- Industrial, Internet of Things

Electrical specifications @ +25 °C
Note: Electrical characteristics depend on test board (GP) size and antenna positioning on GP and Ground Clearance area size.
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**Part# W3010**

Covered positioning systems: GPS, GLONASS, Beidou, Galileo

Typical performance (test board size 80x37 mm, PWB ground clearance area 10.80 x 6.25 mm)

<table>
<thead>
<tr>
<th>ELECTRICAL SPECIFICATIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>FREQUENCY (MHz)</td>
</tr>
<tr>
<td>NOMINAL IMPEDANCE (Ω)</td>
</tr>
<tr>
<td>RETURN LOSS</td>
</tr>
<tr>
<td>VSWR min</td>
</tr>
<tr>
<td>EFFICIENCY</td>
</tr>
<tr>
<td>EFFICIENCY</td>
</tr>
<tr>
<td>GAIN MAX</td>
</tr>
<tr>
<td>GAIN MAX RHCP</td>
</tr>
<tr>
<td>POWER WITHSTANDING</td>
</tr>
<tr>
<td>CONNECTOR TYPE</td>
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<tr>
<th>ENVIRONMENTAL SPECIFICATIONS</th>
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<tr>
<td>OPERATING TEMPERATURE</td>
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<tr>
<th>MECHANICAL SPECIFICATIONS</th>
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<tbody>
<tr>
<td>SIZE</td>
</tr>
<tr>
<td>WEIGHT</td>
</tr>
</tbody>
</table>
Ceramic Chip Antenna (Ground cleared under antenna, clearance area 10.80 x 6.25 mm)

Terminal Configuration

Layout

<table>
<thead>
<tr>
<th>No.</th>
<th>Terminal Name</th>
<th>Terminal Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Feed</td>
<td>1.70 x 1.45 mm</td>
</tr>
<tr>
<td>2</td>
<td>GND</td>
<td>1.70 x 1.45 mm</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>1.70 x 3.20 mm</td>
</tr>
</tbody>
</table>

GROUND CLEARANCE AREA (10.80 x 6.25 mm) all metallization should be removed from all PWB layers.
Ceramic Chip Antenna

Ceramic Chip Antenna (Ground cleared under antenna, clearance area 10.80 x 6.25 mm)

*Terminal Configuration*

*Antenna*

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</tr>
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<tbody>
<tr>
<td>1</td>
<td>Feed / GND</td>
<td>1.50 x 2.75 mm</td>
</tr>
<tr>
<td>2</td>
<td>Feed / GND</td>
<td>1.50 x 2.75 mm</td>
</tr>
</tbody>
</table>

Antenna is symmetrical. Either of terminals 1 or 2 can be Feed / GND
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Typical Electrical Characteristics (T=25 °C)
Measured on the 80 x 37 mm test board without matching circuit

Typical Return Loss S11/ impedance

Free space efficiency and maximum gain

Total Efficiency

Gain

RHCP Gain

pulelectronics.com/products/antennas
Typical Free space Radiation Patterns

Radiation pattern coordinates

XZ-Plane

Legend:
- Green: L1, L2, L5, L6
- Orange: L1, L2, L5, L6
- Blue: L1, L2, L5, L6

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YZ-Plane

XY-Plane

pulseelectronics.com/products/antennas

L192.C 2/16
Antenna Packing

Packing form

CARRIER TAPE HB5-00188
width=24.00 depth=2.20
COVER TAPE HB5-00159
width=21.20

LENGTH OF TAPE:
- Leader section: min 350 mm before component section
- Trailer section: min 40 mm after component section.

Empty part cavities at leader and trailer section of the tape must be sealed with top cover tape.

BOX HB5-00128
(182x182x125)
- LABEL
  1 pcs/BOX
- REEL HBS-00160
  (D180xW28)
- REEL LABEL
  1 pcs/REEL

MATERIAL
H90-DY113-F01P01

Packing Form