Concurrent GNSS Module:

The A5100-A is a compact high-sensitivity concurrent GNSS module that integrates CSR’s latest SiRFstarV technology into a single, compact and easy to integrate SMT device. By supporting simultaneous GLONASS, GPS, QZSS and SBAS measurements with the industry’s best sensitivity engine, the highest accuracy, ground tracks and fastest time-to-first-fix (TTFF) are ensured even under tough operating conditions. The jammers removal algorithm not only facilitates integration in today’s ever more complex communication devices, but guarantees performance even in hostile situations. SiRFaware’s advanced low power management modes, high level of integration and multiple communication ports in a small form-factor makes the A5100-A suitable for a broad spectrum of GNSS applications where performance, cost and time to market are prime considerations.

**Features**

- GPS / GLONASS concurrent GNSS module
- BeiDou / Galileo ready
- Pin-to-pin compatible with A2200-A
- Lowest tracking power consumption
- SiRFaware™ for constant Hot Start

**Benefits**

- Improved availability and accuracy in urban canyon environments
- Future-proof design
- Fastest design-in
- Ideally suited for battery powered GPS applications
The A5100-A module is housed in a 15.0 x 10.2 x 2.5mm 22-pin SMD package with castellated edge that includes all RF matching elements, antenna DC control, RF SAW filtering, various thermal and peripheral components and the TCXO crystal reference.

**Ordering information:**
Part number: A5100-A
MOQ: 1 reel / 1300pcs

**Evaluation Kit:**
Part number: EVA5100-A
MOQ: 1 piece

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**Technical Details A5100-A**

**PERFORMANCE**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Channels</td>
<td>52</td>
</tr>
<tr>
<td>Frequency</td>
<td>L1 - 1,575 MHz</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>GPS GLONASS</td>
</tr>
<tr>
<td>Tracking</td>
<td>-165 dBm</td>
</tr>
<tr>
<td>Navigation</td>
<td>-160 dBm</td>
</tr>
<tr>
<td>Acquisition (cold start)</td>
<td>-147 dBm</td>
</tr>
<tr>
<td>Position Accuracy (horizontal)</td>
<td>≤2.5 m CEP (autonomous)</td>
</tr>
<tr>
<td>Time To First Fix</td>
<td>≤1 s</td>
</tr>
<tr>
<td>Hot Start</td>
<td>≤30 s</td>
</tr>
<tr>
<td>Warm Start</td>
<td>≤35 s</td>
</tr>
<tr>
<td>Cold Start</td>
<td></td>
</tr>
</tbody>
</table>

**COMMUNICATION**

**UART - OSP**

- Protocol: SiRF binary protocol for SiRFstar product family up to SSIII
- Switchable Baud rate: 115.2k (default) 1,200 to 115.2k
- Ports: Tx (Binary output) Rx (Binary input)

**UART - NMEA (default)**

- NMEA message Switchable: GGA, RMC, GSA, GSV, VTG, GLL, ZDA
- Switchable Baud rate: 1,200 to 115.2k Default 9600
- Ports: Tx (NMEA output) Rx (NMEA input)

**HIGHLIGHTS**

- **SiRFnav™**
  - High availability and coverage; improved TTFF in weak signal environments
- **SiRFaware™**
  - Keeps module in a state of readiness for rapid navigation (hot start)
- **Jammer remover technology**
  - Detects and removes up to 8 in-band jammers with minimal loss of sensitivity
- **A-GPS**
  - Embedded Extended Ephemeris (SiRFInstantFix) and Ephemeris Push support
- **MEMS I2C interface**
  - Prepared to use additional sensor information for improved navigation

**POWER**

- **Supply voltage**: 3.0 to 3.6 VDC
- **Average Current Draw (typical)**
  - Full power mode (Searching) 40mA
  - Full power mode (Searching) 37mA
  - Full power mode (Tracking) 31mA
  - Micro Power Mode (SiRFaware™) 300uA
  - Hibernate Status 180uA

**MECHANICAL**

- **Dimensions**
  - L x W x H 15 x 10.2 x 2.5 mm
  - L x W x H 0.59" x 0.4" x 0.1"
- **Weight**
  - 1.2 g / 0.04 oz.

**ENVIRONMENT**

- **Temperature**
  - Operating -40°C to +85°C
  - Storage -40°C to +85°C
- **Humidity**
  - Non condensing
Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Maestro Wireless:
EVA5100-A  A5100-A