High-Performance Automotive AM/FM Radio Receiver and HD Radio™/DAB/DAB+/DMB/DRM Tuner

The Si47901/02 analog AM/FM receiver and digital radio tuner sets a new standard for automotive broadcast reception.

The Si47901/02 is the most integrated automotive tuner in the industry with the smallest external bill of materials. Si47901/02 based systems can scale from a low-cost single tuner AM/FM radio to the highest performance systems with multiple tuners and multiple antennas, enabling the radio suppliers to reuse their R&D across multiple product lines, all with a common software API. The Si47901/02 A-grade parts meet rigorous automotive quality standards.

Applications

- OEM automotive infotainment systems
- Aftermarket car radio systems

KEY FEATURES

- Worldwide FM band support (64–108 MHz)
- Worldwide AM band support (520–1710 kHz)
- LW band support (144–288 kHz)
- DAB/DAB+/DMB support (Si47902 only) (170–240 MHz)
- SW band support (2.3–30 MHz)
- NOAA Weather band support
- On-chip soft-decision RDS/RDBS demodulator/decoder
- AM/FM
  - Comprehensive AM/FM signal processing firmware
  - Integrated active AM/FM buffers
  - Fully integrated AGC
- HD Radio
  - Digital I/Q interface to HD Radio Processor
  - Fast FM HD Radio band scan
- DRM30/DRM+ (Si47902 only)
  - DRM detect
  - Digital I/Q interface to DRM processor
  - Fully integrated AGC
- DAB/DAB+/DMB (Si47902 only)
  - Digital I/Q interface to DAB/DAB+/DMB processor
  - Integrated active Band III buffer
  - Fast DAB/DAB+/DMB band scan
  - Fully integrated AGC for Band III
- Two analog audio outputs
- Two digital audio ports (I^2S)
- Integrated clock oscillator
- 1.8 V or 3.3 V digital IO power supplies
- 3.3 V analog power supply and 1.8 V digital power supply
- QFN 48-pin, 7 x 7 x 0.85 mm
- Pb-free/RoHS compliant
- AEC-Q100 qualified (A-grade parts)
1. Pin Descriptions

Figure 1.1. Si47901-02 Pinout Diagram
2. Package Outline

![Diagram of 48-Pin QFN Package](image)

**Figure 2.1. 48-Pin QFN**

**Table 2.1. Package Dimensions**

<table>
<thead>
<tr>
<th>Dimensions</th>
<th>Min</th>
<th>Nom</th>
<th>Max</th>
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<tr>
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<td>0.85</td>
<td>0.90</td>
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<tr>
<td>A1</td>
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<td>0.05</td>
</tr>
<tr>
<td>b</td>
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<td>0.25</td>
<td>0.30</td>
</tr>
<tr>
<td>D</td>
<td>7.00 BSC</td>
<td>7.00 BSC</td>
<td>7.00 BSC</td>
</tr>
<tr>
<td>D2</td>
<td>5.20</td>
<td>5.30</td>
<td>5.40</td>
</tr>
<tr>
<td>e</td>
<td>0.50 BSC</td>
<td>0.50 BSC</td>
<td>0.50 BSC</td>
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<tr>
<td>E</td>
<td>7.00 BSC</td>
<td>7.00 BSC</td>
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<tr>
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**Note:**
1. All dimensions shown are in millimeters (mm) unless otherwise noted.
3. This drawing conforms to JEDEC outline MO-220, Variation VJJD-2.
4. Recommended card reflow profile is per the JEDEC/IPC J-STD-020 specification for Small Body Components.
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