Safety at your fingertips
new, highly integrated, very accurate automotive radar sensors for collision warning and parking assistance

Collision warning radar frontend
3 antenna beams / -10° 0° +10°

Size with radom:
98 x 92 x 9 mm
Automotive Radar Sensor for Collision Warning
(Model MRS 77)

Typical Applications

- Crash impact prediction sensor (to dynamically adjust airbag sensitivity)
- Automatic (emergency) braking sensor
- Traffic sensor to aid Stop & Go operation

Sensor Features

- Vehicle separation distance measurement
- Relative velocity measurement
- Multiple object detection capability
- Parallel operation (supports multiple sensors, even with overlapping fields of view)
- Resistant to jamming by other radar sensors
- Three switchable antenna beams

Performance Data (parking aid and pre-crash exemplary)

<table>
<thead>
<tr>
<th>Feature</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmit-Frequency</td>
<td>76 to 77 GHz</td>
</tr>
<tr>
<td>Bandwidth, Modulation</td>
<td>&lt; 490 MHz, FMCW</td>
</tr>
<tr>
<td>Transmit-Power</td>
<td>8 mW typical</td>
</tr>
<tr>
<td>Distance measurement</td>
<td>1 to 50 meter</td>
</tr>
<tr>
<td>Distance-measurement accuracy</td>
<td>&lt; 0.5 m or 5% of distance</td>
</tr>
<tr>
<td>Velocity-measurement accuracy</td>
<td>&lt; 1 km/h</td>
</tr>
<tr>
<td>Antenna-Beamwidth (3dB)</td>
<td>10 x 10 degrees</td>
</tr>
<tr>
<td>Beam-Positions</td>
<td>0°, +10°, -10°</td>
</tr>
<tr>
<td>Update-rate</td>
<td>&lt; 100 msec</td>
</tr>
<tr>
<td>Mechanical dimensions</td>
<td>98.5 mm x 92.5 mm x 34 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>&lt; 500 g</td>
</tr>
<tr>
<td>Power Supply</td>
<td>typ. 12 V, min. 9 V, max. 15V</td>
</tr>
<tr>
<td>Current at 12 V</td>
<td>&lt; 750 mA</td>
</tr>
<tr>
<td>Power consumption</td>
<td>max. 9 Watt</td>
</tr>
<tr>
<td>Interface</td>
<td>RS232, CAN (optional)</td>
</tr>
</tbody>
</table>

Technology

Compact planar design with microstrip patch antennas and active components mounted on antenna surface. Fulfils high volume, low cost, fully automated production.
Automotive Radar Sensor for Parking Assistance
(Model SRS 77)

Application

- Parking assistance
- Automatic parking
- Crash impact prediction sensor
  (to dynamically adjust airbag sensitivity)

Sensor Features

- Vehicle separation distance measurement
- Relative velocity measurement
- Multiple object detection capability
- Parallel operation (supports multiple sensors, even with overlapping fields of view)
- Resistent to jamming by other radar sensors
- five switchable antenna beams

Performance Data

- Transmit-Frequency: 76 to 77 GHz
- Bandwidth, Modulation: < 900 MHz, FMCW
- Transmit-Power: 8 mW typical
- Distance measurement: 0 to 5 meter
- Distance-measurement accuracy: < 5 cm or 5% of distance
- Velocity-measurement accuracy: < 0.5 km/h
- Antenna-Beamwidth (3dB): 30 x 20 degrees
- Beam-Positions: 0°, +30°, -30°, +60°, -60°
- Update-rate: < 100 msec
- Mechanical dimensions: 84 mm x 70 mm x 35 mm
- Weight: < 300 g
- Power Supply: typ.12 V, min. 9 V, max. 15V
- Current at 12 V: < 700 mA
- Power consumption: max. 8.4 Watt
- Interface: RS232, CAN

Technology

Compact planar design with microstrip patch antennas and active components mounted on antenna surface. Fulfils high volume, low cost, fully automated production.
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