



Epsilon Lambda Electronics

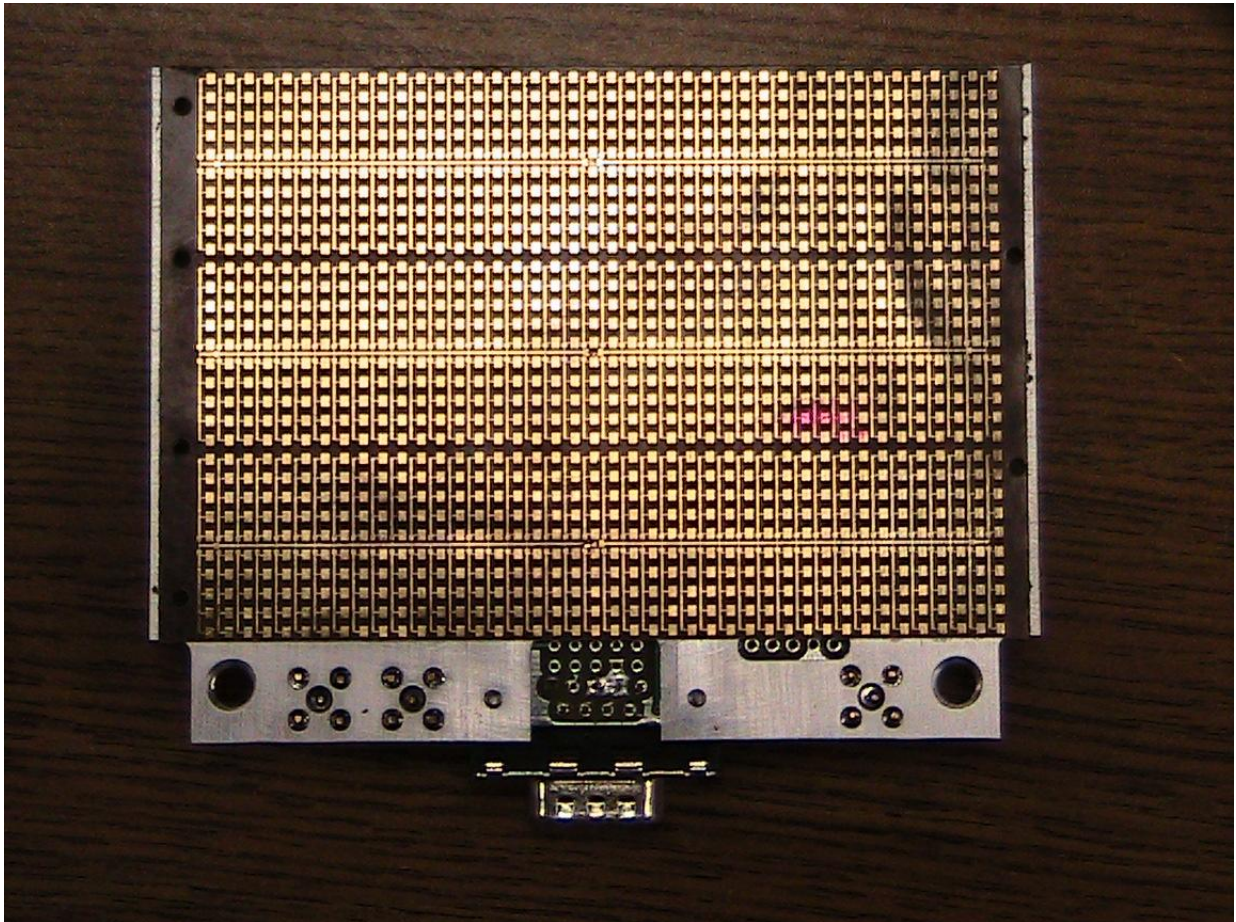
Since 1974

**Celebrating 35 Years as the Millimeter Wave Industry
Technology Leader**

OBSTACLE DETECTOR FOR ROBOTIC VEHICLES

Three Dimensional 360 Degree Obstacle Detection

Radar Sensor Operating at 94 GHz



Epsilon Lambda Electronics

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PRODUCT FEATURES

- FM-CW Ranging Radar – Millimeter Wavelength (High Resolution)
- High Gain Antenna with range up to 150 meter (10 dB RCS)
- Azimuth and Elevation Object Angle Determination
- Azimuth scan Selectable 360° or user designated F.O.V.
- Low Phase Noise Transceiver
- Operable from Battery Supply Voltages
- Compact Size, Rugged Construction
- Code embedded to DSP Circuit Card
- F.O.V. Image maps displayed on Laptop

This 3D radar sensor is suitable for highway vehicles, off road vehicles, ground robots, helicopters, etc. Object data reported includes range, azimuth angle, elevation angle, relative velocity, and signal return amplitude.

Model ELSO92-3E Specifications

Transmitter Power	+10 dBm
Center Frequency	94.0 ± 0.5 GHz
Number of Obstacles in Image Map	4 in beam width
Temperature Range	-20 to +85 degree C
Antenna Gain	>27 dB
Azimuth FOV	360 degree or user settable
Azimuth Beam Angle	2 degree
Azimuth Angle Resolution	1.8 degree
Elevation Beam Angle	7.6 degree
Elevation Angle Accuracy	1.0 degree
Polarization	Linear
Maximum Operating Range (Rmax)	1-150 meters (10 dB RCS)
Obstacle List Update Rate (Ts)	400 ms
Typical Range Resolution	0.2 meter (minimum to 0.05 meter)
DC Power (Electronics)	9-16 V / max 1.5 A
DC Power (Stepper Motor)	22- 32 V / 0.3A
Weight	3.5 Kg
DSP Board	Supplied
I/O Connection	USB to Laptop computer for map display

- Please contact Epsilon Lambda Electronics sales department for further information regarding this innovative radar sensor product.
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