



# Epsilon Lambda Electronics

Since 1974

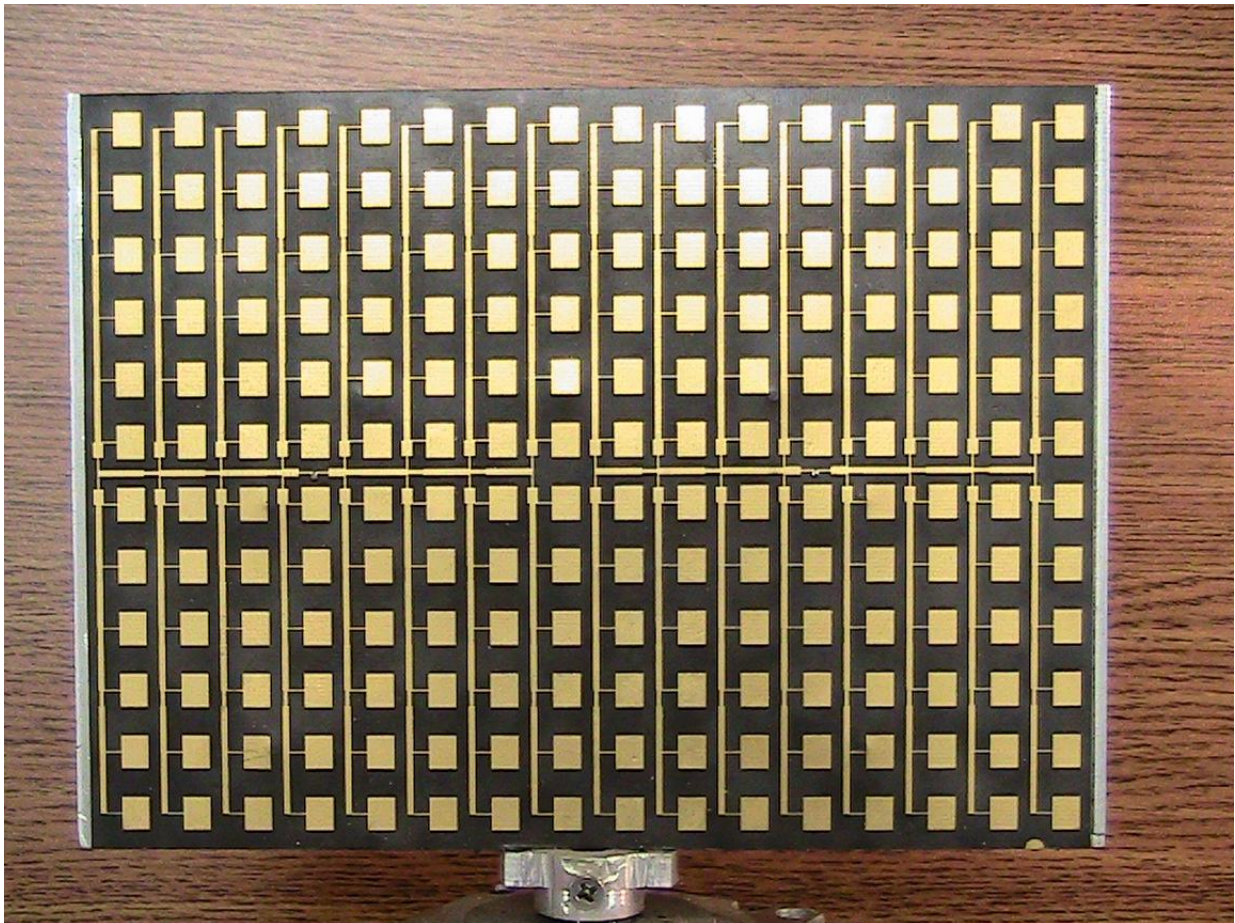
**Celebrating 36 Years as the Millimeter Wave Industry  
Technology Leader**

---

## VEHICLE DETECTION SENSOR

Vehicle Tracking - Range and Speed

Radar Sensor for Traffic Management and Law Enforcement



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

[bobk@epsilonlambda.com](mailto:bobk@epsilonlambda.com)

Epsilon Lambda Electronics  
396 Fenton Lane Suite 601 \*West Chicago IL 60185 \* 630 293 7118 \* 630 293 5809 fax

## --FEATURES--

**OVERHEAD SENSOR:** Detects speed of multiple vehicles on roadway at any range

**ROADSIDE SENSOR:** Detects accurate speed of all vehicles by lane location

- FM-CW Ranging Radar with instantaneous speed measurement
- High Gain Antenna with range up to 300 meter (compact car)
- Vehicle ranging and Doppler speed measurement by FM-CW modulation
- Low Phase Noise Transceiver
- Operable from Battery Supply Voltages
- Compact Size, Rugged Construction
- Code embedded to DSP Circuit Card
- Roadway Traffic Image maps displayed on Laptop
- Vehicle size indication

This low cost, high resolution ranging radar vehicle detection sensor is suitable as infrastructure for intersection safety enhancement or for vehicle and traffic detection, classification and management. Vehicle data reported includes range, instantaneous speed and signal return amplitude.

## Model ELST22-1M Specifications

Transmitter Power	+10 dBm
Center Frequency	24.125 ± 0.0005 GHz
Swept Band B	200 MHz
Modulation fm	Triangular linear (3 in 15 ms) plus CW (25ms)
Linearity	<0.05%
Antenna Type	Dual patch array in elevation direction
Antenna Gain	>27 dB
Azimuth FOV	Fixed by antenna beam angle
Azimuth Beam Angle	3.8 degree
Elevation Beam Angle (and FOV)	10.6 degree
Polarization	Linear, horizontal
Maximum Operating Range	300 meters (for 10 dB RCS object)
Obstacle List Update Rate	40 ms
Range Resolution	< 1 meter
Maximum Velocity	80 m/s (288 km/hr or 180 mph)
Velocity Resolution	<0.25 m/s (1 km/hr or 0.63 mph)
Update Rate	40 ms
DC Power (Electronics)	9-16 V / max 1.5 A
Interface	SMA for maximum of six targets—coded TTL Ethernet for maximum of 16 objects; for map Ethernet for maximum of 150 objects; data
Weight	<1.5 Kg
DSP Board	Dual DSP and FPGA processor 1024 FFT for maximum 400 KHz beat signal
Temperature Range	-40 to +85 C
Package Dimensions	7.5X6.1X1.2 in.

Epsilon Lambda Electronics

396 Fenton Lane Suite 601 \*West Chicago IL 60185 \* 630 293 7118 \* 630 293 5809 fax