PV85Q/PV88Q
VCSEL Array Module (Lextar)
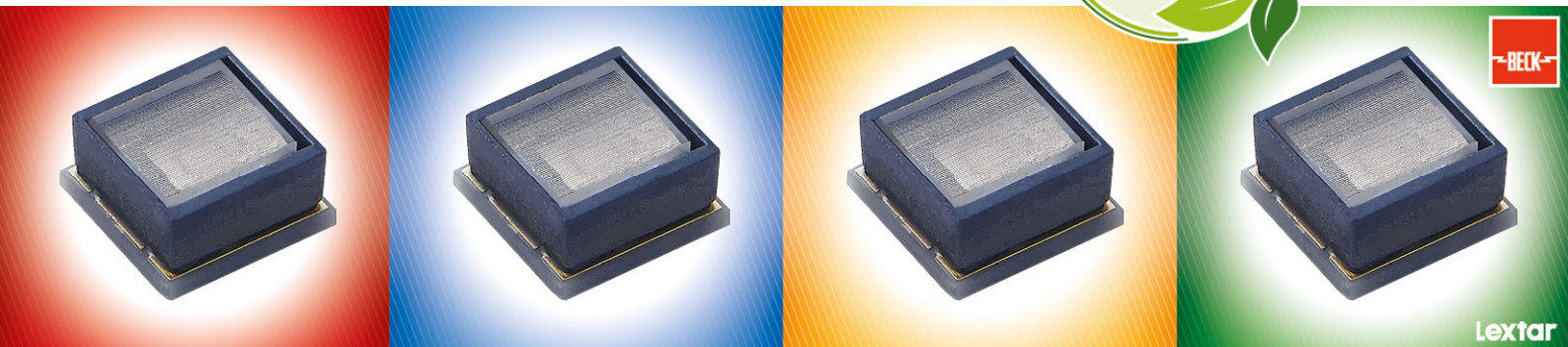
REACH &RoHS compliant

BECK

Lextar

Photo with kind approval by Lextar

**Beck Elektronik extends its VCSEL (Vertical Cavity Surface Emitting Lasers) product portfolio with the AEC-Q102 certified PV85Q and PV88Q series.**

Due to the VCSELs typical characteristics, like extremely fast rise and fall times, very narrow optical spectrum of typically 1nm, and a high optical output power of up to 3.4W, these parts are suitable for time-of-flight applications in cars. The wavelength of 940nm improves sunlight rejection to keep interferences as low as possible.

With the implementation of ToF systems, driving cars becomes safer and more comfortable.

The car can automatically detect the driver and adjust the seat and mirrors accordingly. During driving the infotainment system can be operated with gesture control which makes distracting views to the centre console needless. Continuous monitoring of the driver can detect fatigue at an early stage and warn the driver or even allow the car to actively engage into driving.

Both types have ceramic packages with low thermal resistance and a sophisticated diffusor lens which ensures homogenous light distribution. The PV88Q has a 3535 package, whereas the PV85Q comes in a 3532 package and incorporates a monitoring photo diode. The integrated photo diode allows monitoring of the VCSEL condition and temperature compensation of the optical output power.
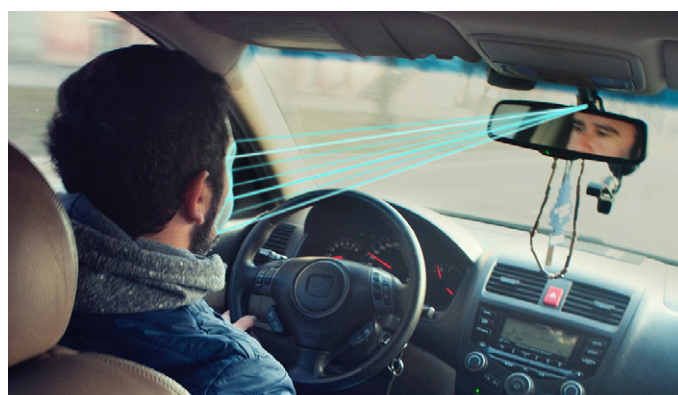
The car manufacturers in the photos are exemplary and have no connection to the advertised product.

MODELS

PART NUMBER	WAVELENGTH (nm)	OPTICAL POWER (mW)	OPERATING CURRENT(A)	FOV (°)	DIMENSION (mm)
PV85QB5 V2	850	2100	3,0	100x85	3.5x3.2x1.3
PV85Q64 V3	940	2400	3,5	60x45	
PV85QB4 V3	940	2400	3,5	100x85	
PV85QC4 V3	940	2400	3,5	120x90	
PV85Q64 V5	940	3400	4,5	60x45	
PV85QB4 V5	940	3400	4,5	100x85	
PV85QC4 V5	940	3400	4,5	120x90	
PV88Q64 V5	940	2700	3,5	60x45	3.5x3.5x1.6
PV88QB4 V5	940	2700	3,5	110x85	

FEATURES

- Peak wavelength: λ_p = 850 and 940 nm
- Radiant power 2.1W to 3.4W
- Narrow spectral bandwidth (1nm typ.)
- FOV 60°x45°, 100°x85°, 110°x85°, 120°x90°
- Environmental friendly ; RoHS compliance

APPLICATIONS

- Gesture control
- Face recognition
- Driver monitoring
- Object detection