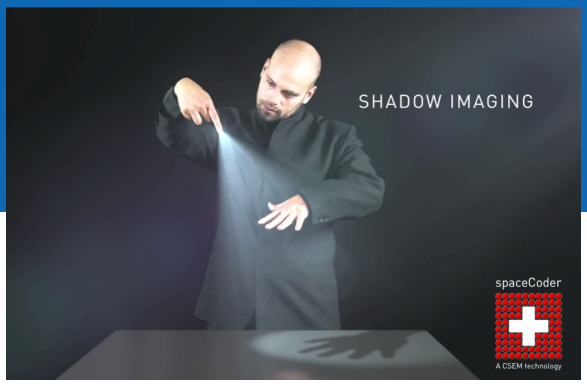


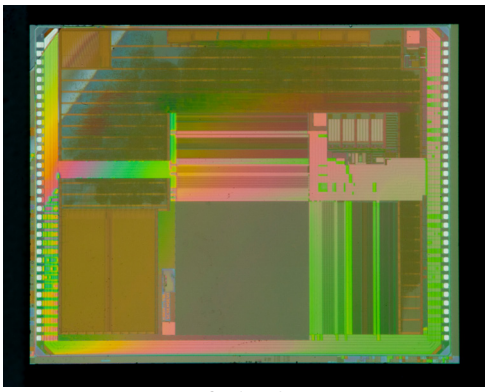
spaceCoder™ SOC-V1 ASIC

Dedicated ASIC for spatial position measurement

spaceCoder™ System-On-Chip (SOC) is a dedicated ASIC for fast and versatile computation of spatial position. It is one implementation of spaceCoder™ technology in a highly integrated and programmable device. Prototypes are under evaluation and fulfill expecations.

This device allows implementing high-precision fast optical encoders and other spatial position measurement devices, specifically for power optimized high-speed and compact solutions, even in harsh environment.

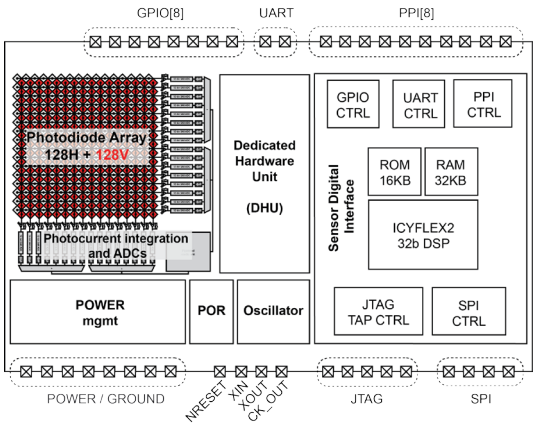
Specification	Unit	Value
Size	mm²	20
Power dissipation	mW	80
Clock frequency	MHz	48
Number of pixels	#	128 + 128
Integration time	µs	1-5
Total computing time	µs	10-15
Expected resolution	nm	≈



spaceCoder device

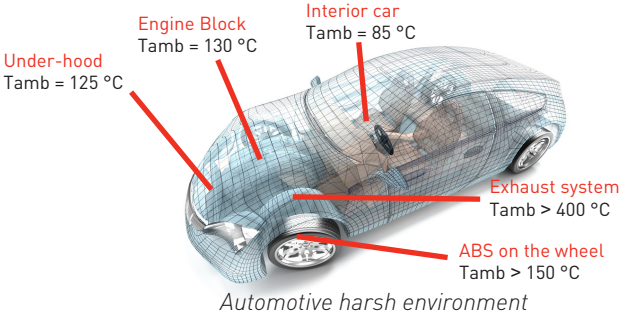
Characteristics of the spaceCoder™ SOC-V1

- Fast & versatile spatial position measurement
- Direct vertical and horizontal projection computations
- Hardwired parallel phase computation
- Dedicated customizable optics (µlenses, etc.)
- 10 nm resolution
- 200 kHz sampling rate
- 140 °C ambient temperature functionality
- Single or multichip implementation
- Up to multi dimensions of synchronized measures
- SDK: programming tools, spaceCoder™ libraries



Applications of the spaceCoder™ SOC-V1

- High-precision and high speed optical encoders (10nm resolution, 200 kHz sampling)
- Metrological applications
  linear, rotary, multi-dimensional encoders
- Automotive applications
- Harsh-environment applications
- Compact integration of the ASIC into a device (< 1 cm³ volume for the complete solution)



Automotive harsh environment

Bishop encoder

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