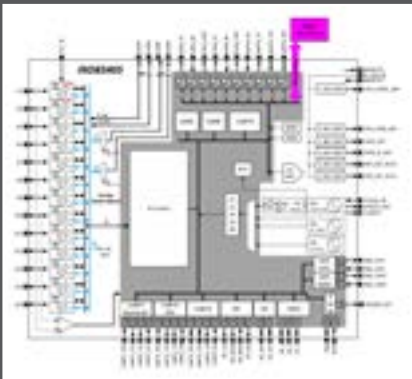


OnBrD™ – iND83405

OBD-II Interface Solution

OnBrD™ Features

- 13x Automotive IO pins, supporting multiplexing any combination of SAE J1850 PWM, SAE J1850 PWM/VPW, ISO9141-2, ISO14230-4 (KWP2000), ISO 15765-4/SAE J2480
- 112MHz 32-bit Arm® M4 MCU with 2MB of Flash and 256kB of SRAM
- Integrated 3.3, 1.8 and 1.2V LDOs
- 26x GPIOs, 4xUART, SPI + I2C interfaces
- 16 channel 8-bit SAR ADC
- Full turnkey firmware solution for rapid product integration and time to market
- The only J1979 hot plug safe and J1850 compliant controller on the market, critical for OBD-II car compatibility applications
- AEC-Q100 grade 1 qualified



The OnBrD™ is a complete hardware/software solution for high-performance OBD-II applications. It includes the full stack from PHY through the application layer in a single, easy to drop in package for new and existing designs.

This device is designed to direct wire to the J1962 interface. An innovative crossbar function inside the design enables the multiplexing of any protocol on any connector pin, providing software configurable support for government mandated pinouts as well as proprietary, per vehicle/machine interfaces. All pins are capable of being driven by the CPU or commonly, through the built-in hardware protocol accelerator.

A key benefit of OnBrD™ is that it integrates an application processor, reducing BOM cost by enabling the user application to run on the single-chip solution. Provided reference software includes support for a world-class turnkey J1979 stack supporting vehicle compatibility, ignition algorithms and safety functions including crash detection. Additionally, the firmware provides support for common peripherals including radio/location/MEMS sensors and includes integrated RTOS, filesystem and logging infrastructure. Peripherals available to the CPU include GPIO, UART, RTC, PWM, I2C and SPI.

This solution is capable of supporting a sub 2mA sleep mode, ensuring ultra-low battery drain when directly fed from the 12V vehicle battery. Wakeup and auto-sleep functions are provided by the hardware from both internal and external sources.

OnBrD™ is manufactured using indie's field-proven, mixed-signal automotive technology and has been production-qualified to AEC-Q100 grade 1. It is available in production quantities immediately. Reference designs include J1979, system-on-module, vehicle simulator and cable accessory based products.

Applications

- Vehicle tracking
- Geofencing
- Connectivity
- Real-time automotive diagnostics
- Black box event data recorders

Ordering Information

Device Name	Platform	Temp Range	Package	Pins
iND83405 OnBrD™	Automotive	-40C to +125C	10x10 mm QFN	72 Pins @ 0.5 mm Pitch

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Preliminary – Features and specifications are subject to change at the discretion of indie Semiconductor.
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