

Microchip MCP9843 :: Temperature Sensor

The [Microchip MCP9843](#) is a sensor that converts the temperature of -40°C and +125°C into a digital word. This sensor complies with the JEDEC specification TSE3000B3 Mobile Platform Memory Module Thermal Sensor Component. It offers an accuracy of $\pm 0.2^{\circ}\text{C}/\pm 1^{\circ}\text{C}$ (typical/maximum) from +75°C to +95°C.

The software is architected with long-term maintainability, portability across MCU platforms, and adherence to high software quality standards as core design principles.

- ✓ Layered architecture with clear HAL abstraction
- ✓ Conforms to ISO C99 standard
- ✓ Portable across multiple MCU platforms
- ✓ Supports both RTOS and bare-metal environments
- ✓ CMake build system for scalable integration
- ✓ Seamless integration with GCC toolchain
- ✓ Statically analyzed for MISRA, CERT, and CWE compliance

Initialization Interface

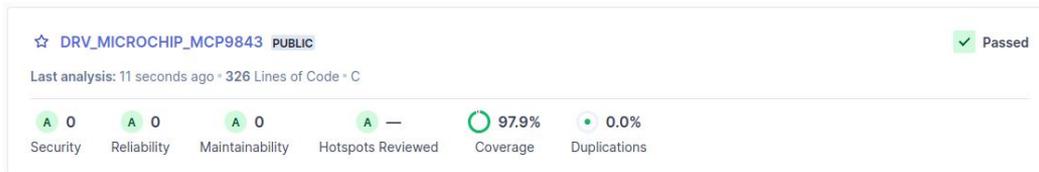
```
mcp9843_result_t mcp9843_init( mcp9843_handle_t*, ... )
```

Configuration Interface

```
mcp9843_result_t mcp9843_calibrate( mcp9843_handle_t*, ... )
mcp9843_result_t mcp9843_set_mode( mcp9843_handle_t*, ... )
mcp9843_result_t mcp9843_set_resolution( mcp9843_handle_t*, ... )
```

Data Retrieval Interface

```
mcp9843_result_t mcp9843_get_device_info( mcp9843_handle_t*, ... )
mcp9843_result_t mcp9843_get_celsius( mcp9843_handle_t*, ... )
mcp9843_result_t mcp9843_get_kelvin( mcp9843_handle_t*, ... )
```



Communication Interface:

