

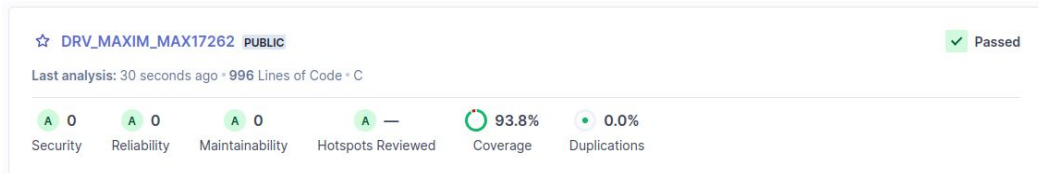
Maxim MAX17262 :: Battery Fuel-Gauge Sensor

The [Maxim MAX17262](#) is a low-power single-cell lithium battery fuel gauge. Its small dimensions, low power consumption and ModelGauge m5 EZ algorithm provide accurate state-of-charge, remaining capacity, voltage, current and temperature measurements. It supports battery capacities from 100mAh to 6Ah and automatically compensates for temperature, battery aging and discharge rate without requiring battery characterization.

Typical applications for this fuel gauge are portable and battery-powered devices, including handheld electronics, IoT devices, wearables, power banks and other single-cell lithium battery applications requiring accurate battery monitoring and runtime estimation.

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

```
max17262_result_t max17262_init( max17262_handle_t*, max17262_attr_t )
```

Configuration Interface

```
max17262_result_t max17262_set_alert( max17262_handle_t*, ... )
```

Data Retrieval Interface

```
max17262_result_t max17262_get_device_info( max17262_handle_t*, ... )
max17262_result_t max17262_get_voltage( max17262_handle_t*, ... )
max17262_result_t max17262_get_current( max17262_handle_t*, ... )
max17262_result_t max17262_get_capacity( max17262_handle_t*, ... )
max17262_result_t max17262_get_soc( max17262_handle_t*, ... )
max17262_result_t max17262_get_temp( max17262_handle_t*, ... )
max17262_result_t max17262_get_time_estimate( max17262_handle_t*, ... )
max17262_result_t max17262_get_health( max17262_handle_t*, ... )
```

Process Interface

```
max17262_result_t max17262_process_alert( max17262_handle_t*, ... )
```

Communication Interface:

I²C