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[Embedded - Microcontrollers - Application Specific](#): Tailored Solutions for Precision and Performance

[Embedded - Microcontrollers - Application Specific](#) represents a category of microcontrollers designed with unique features and capabilities tailored to specific application needs. Unlike general-purpose microcontrollers, application-specific microcontrollers are optimized for particular tasks, offering enhanced performance, efficiency, and functionality to meet the demands of specialized applications.

What Are [Embedded - Microcontrollers - Application Specific](#)?

Application specific microcontrollers are engineered to

Details

| | |
|-------------------------|---|
| Product Status | Obsolete |
| Applications | Automotive |
| Core Processor | XC800 |
| Program Memory Type | FLASH (36kB) |
| Controller Series | - |
| RAM Size | 3.25K x 8 |
| Interface | LIN, SSI, UART |
| Number of I/O | 5 |
| Voltage - Supply | 3V ~ 27V |
| Operating Temperature | -40°C ~ 150°C (TJ) |
| Mounting Type | Surface Mount |
| Package / Case | 48-VFQFN Exposed Pad |
| Supplier Device Package | PG-VQFN-48-31 |
| Purchase URL | https://www.e-xfl.com/product-detail/infineon-technologies/tle9831qv |



TLE983x System-on-Chip

Smart LIN-based Relay Driver IC & Switch Panel Interface with integrated 8-bit MCU

The TLE983x is a single chip solution that integrates a high performance 8-bit microcontroller derived from the established XC800 family with application specific power drivers, control and communication modules in an automotive qualified new Smart-Power Technology.

The TLE983x family concept offers scalability in terms of Flash memory sizes ranging from 36kB to 64kB with pin-compatible devices.

The TLE983x family was specifically designed to fit to a wide range of LIN-slave applications where a small package form factor and a minimum number of external components is essential.

Targeted Automotive Applications

- Window Lift
- Power Seats
- Sun Roof
- Fan/Blower Control
- Key Pad Interface
- Switch Panel Interface

Key Features

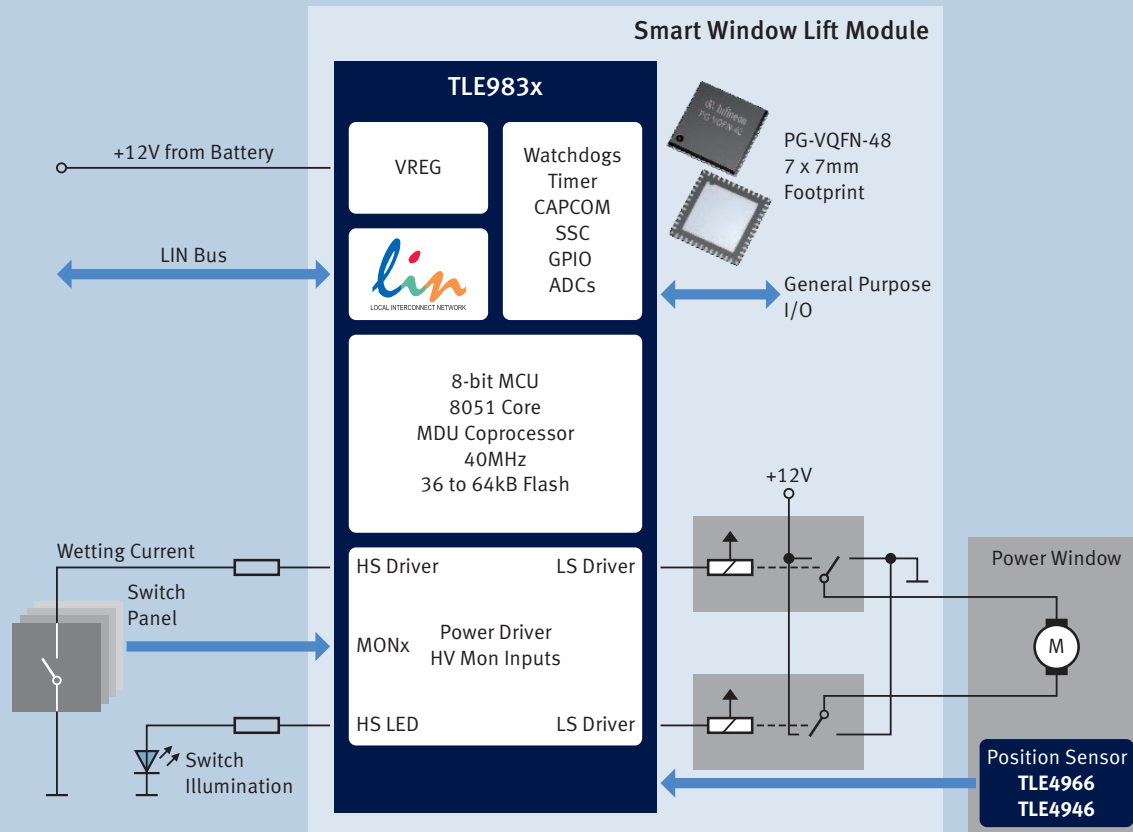
- 8051-based MCU @40MHz
- 36 to 64kB Flash memory
- 4kB EEPROM emulation
- On-chip debug interface (2-wire)
- LIN Transceiver compliant with LIN standards 1.3, 2.0, 2.1 and SAE J2602 – supports fast programming via LIN
- Voltage Regulator for supply of internal and external circuits (5V)
- High-Side & Low-Side Switches with PWM capability
- Integrated measurement interface for monitoring battery voltage and chip temperature
- 10-bit ADC converter
- CAPCOM6 for ext. motor control

Key Benefits

- Complete system-on-chip (SoC) for ECU's that communicate via LIN interface with main ECU
- High-voltage monitoring inputs for off-board switch control
- Highly flexible SoC through dedicated configuration registers for e.g. current and voltage settings as well as power saving modes
- High pin-count VQFN package with 7×7mm footprint enables space saving PCB designs

TLE983x System-on-Chip

Smart Window Lift Module



Product Summary

| Product P/N | Flash [kB] | Frequency [MHz] | HSS | HV MON | GPIO | OP-AMP | PN MOS DRV |
|-------------|------------|-----------------|-----|--------|------|--------|------------|
| TLE9835QX | 64 | 40 | 2 | 5 | 11 | Yes | Yes |
| TLE9834QX | 64 | 40 | 2 | 5 | 11 | No | No |
| TLE9833QX | 48 | 40 | 2 | 5 | 11 | No | No |
| TLE9832-2QX | 36 | 40 | 2 | 5 | 11 | No | No |
| TLE9832-2QV | 36 | 40 | 2 | 5 | 11 | No | No |
| TLE9832QX | 36 | 40 | 1 | 5 | 11 | No | No |
| TLE9832QV | 36 | 40 | 1 | 5 | 11 | No | No |
| TLE9831QV | 36 | 40 | 1 | 5 | 5 | No | No |

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