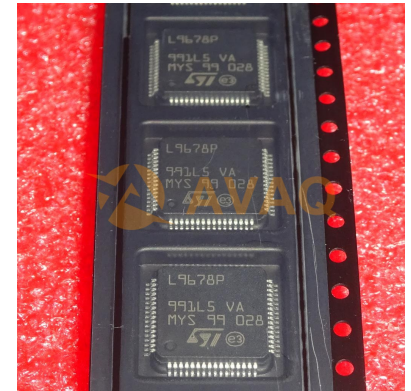


Automotive Advanced Airbag IC 6V to Automotive 64-Pin LQFP T/R



Images are for reference only

[Inquiry](#)

Manufacturer: [STMicroelectronics, Inc](#)

Package/Case: LQFP-64

Product Type: Power Management ICs

RoHS: RoHS Compliant/Lead free 

Lifecycle: Active

General Description

The L9678P IC is a system chip solution targeted for emerging market applications. Base system designs can be completed with the L9678P, SPC560Px microcontroller and an on-board acceleration sensor or PSI5 sensor. Energy reserve voltage is derived through a cost effective high frequency boost regulator. High frequency operation allows the user to pick up low value and cheap inductance. The voltage is programmable to 23 V or 33 V nominal. Battery voltage is sensed through the VBATMON pin providing start-up and shutdown control for the system. Once battery voltage drops below the minimum operating voltage, the device enables the integrated crossover switch to permit orderly shutdown. L9678P offers two linear regulators (5 V with external pass transistor and fully integrated 3.3 V). User can use one of these regulators to supply μ C. Input/output pins are compatible with both ranges by dedicated supply pin VDDQ. External pass transistor gives the flexibility to easily address different current loads in case of different micro-controllers. One optional 7.2 V linear regulator with external pass transistor can be used to supply remote sensor interface. External acceleration data is received through the PSI-5 remote sensor interface. Both channels have independent decoders. Sensor data and diagnostics are available via SPI. The safing logic monitors inertial sensors (remote sensors via PSI-5 or on-board sensors via SPI) to determine if a crash event is in progress, thereby enabling deployment to occur. Parameters for sensor configuration and thresholds are user programmable. Squib/pyroswitch/pyroswitch deployment uses four independent high and low side drivers, capable of deploying at 25 V max. Diagnostic data control is provided through the SPI interface. The Hall-effect, resistive or switch sensor interface can be used to determine the state of external switch devices, such as buckle switches, seat track position sensors, weight sensors, deactivation switches. The integrated clock module provides a fixed clock signal for the microcontroller. The clock module provides the user the option of deleting the commonly used resonator or crystal.

Key Features

AEC-Q100 qualified

Energy reserve voltage power supply

High frequency boost regulator, 1.882 MHz

Output voltage user selectable, 23 V or 33 V \pm 5%

High frequency boost regulator, 1.882 MHz

Output voltage user selectable, 23 V or 33 V \pm 5%

User configurable linear power supplies

5.0 V and 7.2 V \pm 4% output voltages

~~External pass transistor~~

5.0 V and 7.2 V $\pm 4\%$ output voltages

External pass transistor

Fully integrated 3.3 V $\pm 4\%$ linear regulator

Battery voltage monitor and shutdown control with wake-up control

System voltage diagnostics with integrated ADC

Crossover switch

Crossover performance, max 3 Ω , 600 mA max.

Crossover performance, max 3 Ω , 600 mA max.

Squib/pyroswitch deployment drivers

4 channel HSD/LSD

25 V maximum deployment voltage

1.2 A @ 2 ms and 1.75 A @ 0.5/0.7 ms deployment profiles

Integrated safing FET linear regulator, 20 V/25 V nominal

Current monitoring

Rmeasure, STB, STG and leakage diagnostics

High and low side driver FET tests

Safing FET test

4 channel HSD/LSD

25 V maximum deployment voltage

1.2 A @ 2 ms and 1.75 A @ 0.5/0.7 ms deployment profiles

Integrated safing FET linear regulator, 20 V/25 V nominal

Current monitoring

Rmeasure, STB, STG and leakage diagnostics

High and low side driver FET tests

Safing FET test

User customizable safing logic

Two channel PSI-5 remote sensor interface (asynchronous mode), [only for L9678P-S version]

Four channel hall-effect, resistive or switch sensor interface

ISO9141 transceiver

Dual channel configurable high-side/low-side LED driver

Watchdog timer

Two integrated oscillators: 7.5/16 MHz

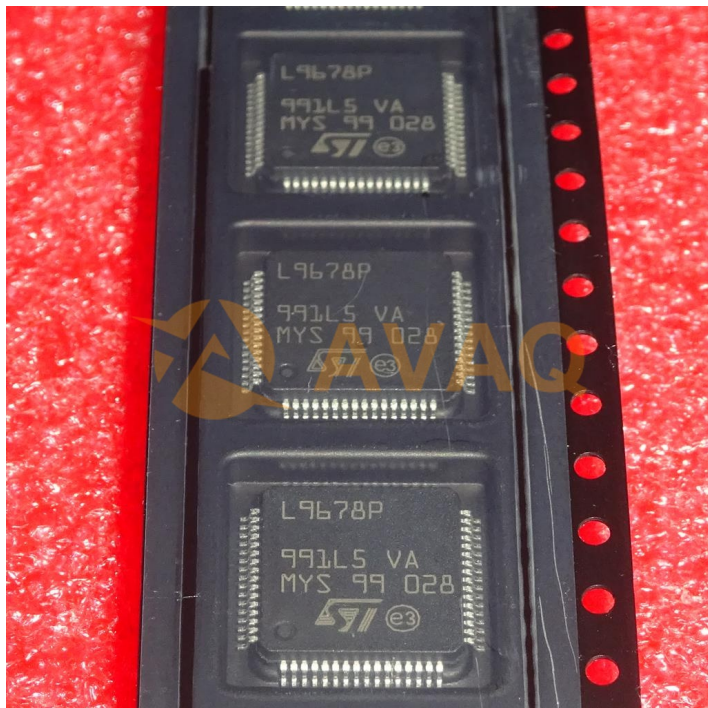
Temperature sensor

32 bit SPI communications

Minimum operating voltage = 6 V

Operating temperature, -40 °C to 95 °C

Packaging - 64 pin



Recommended For You

L9651

STMicroelectronics, Inc

HSOP20

L9904

STMicroelectronics, Inc

SOP20

L9822EPD

STMicroelectronics, Inc

HSOP20

L9951

STMicroelectronics, Inc

HSSOP36

L9680IR

STMicroelectronics, Inc

LQFP100

L9949

STMicroelectronics, Inc

HSOP20

L9950

STMicroelectronics, Inc

HSSOP36

L9848

STMicroelectronics, Inc

SOP28

L9950XP

STMicroelectronics, Inc

SSOP36

L9952GXP

STMicroelectronics, Inc

SSOP36

L9733XP

STMicroelectronics, Inc

SSOP28

L9958SBTR

STMicroelectronics, Inc

SSOP16

L9651-TR

STMicroelectronics, Inc

HSOP20

L9374TRLF

STMicroelectronics, Inc

SSOP36

L9952GXPIR

STMicroelectronics, Inc

SSOP36