L99PM60J

Power management system IC

Features

- One 5 V low-drop voltage regulator (100 mA, continuous mode)
- Low standby current: V_{BAT}-standby, 7 μA; V_1-standby, 45 μA
- Window watchdog and fail-safe functionality
- Configurable fail safe output
- Programmable reset threshold (4.6 V, 3.5 V)
- VS monitoring / temperature measurement
- LIN 2.1 compliant (SAEJ2602 compatible) transceiver
- High-speed LIN Flash mode up to 100 kbit/s
- ST SPI interface for mode control and diagnostic
- 2 high-side drivers for e.g. LED or HALL ($R_{DSon,typ}$ = 7 Ω)
- 2 relay drivers ($R_{DSon,typ}$ = 2 Ω)
- Outputs are short-circuit protected
- Direct drive feature for high-sides
- Temperature warning and thermal shutdown

PowerSSO-16

Applications

- Automotive ECU such as door zone and body control modules.

Description

The L99PM60J is a power management system IC containing one low-drop regulator direct drive feature for high-side drivers and a LIN 2.1 compliant SAEJ602 transceiver.

The integrated standard serial peripheral interface (SPI) controls all L99PM60J operation modes and provides driver diagnostic functions.
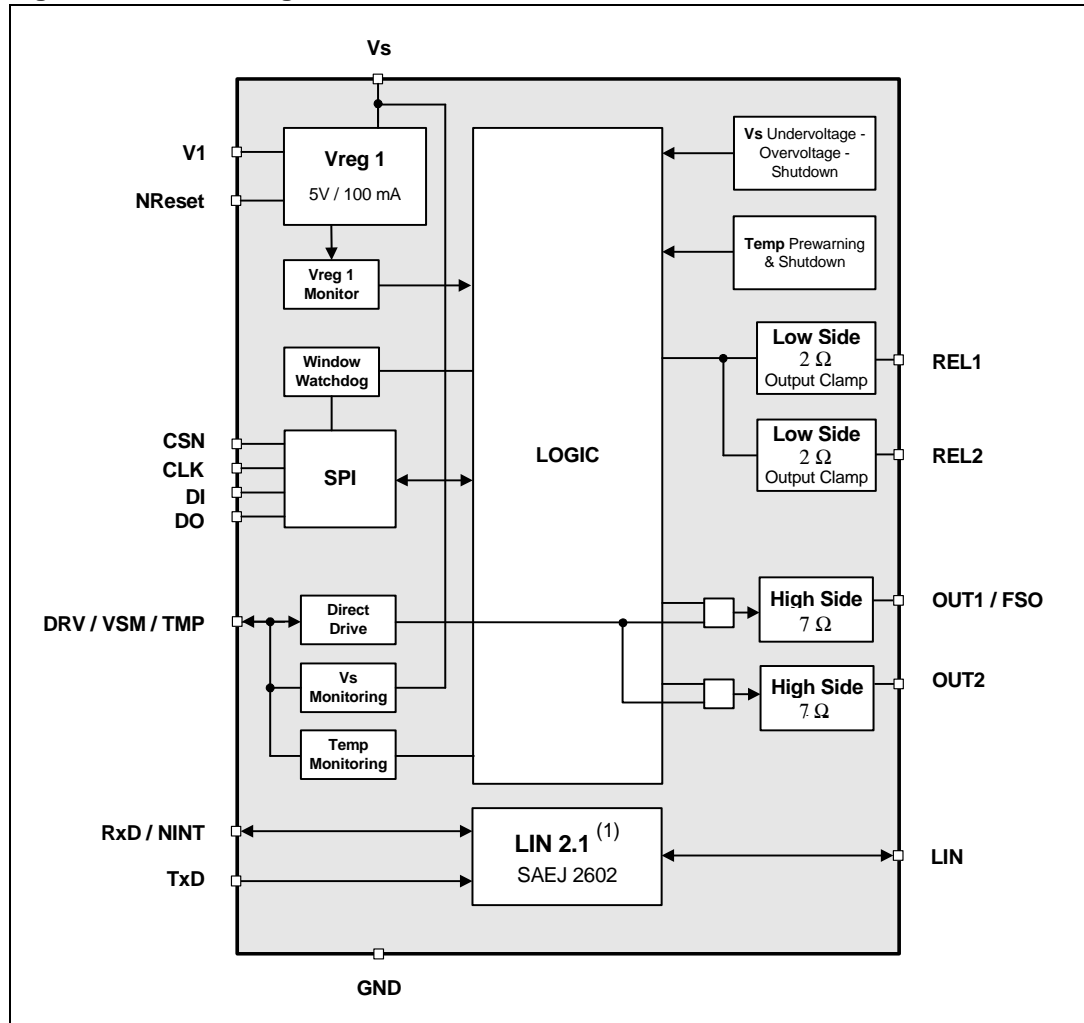
Table 1.   Device summary

Package	Order codes	
	Tube	**Tape and reel**
PowerSSO-16	L99PM60J	L99PM60JTR

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Contents

1 Block diagram

Figure 1. Block diagram

1. LIN 2.1 compliant

2 Pin definitions and functions

Table 2. Pins definitions and functions

Pin	Symbol	Function
1	GND	Ground
2	NRESET	NRESET output to microcontroller; internal pull-up of typ. 100 KΩ (reset state = low)
3	DO	SPI: serial data output
4	DI	SPI: serial data input
5	V_1	Voltage regulator 1 output: 5 V supply e.g. microcontroller
6	CLK	SPI: serial clock input
7	RXD/NINT	Receiver output of the LIN 2.1 transceiver or interrupt:
8	DRV/VSM/TMP	Direct drive for high-side drivers OUT1/OUT2; V_S and temperature monitoring
9	CSN	SPI: chip select not input
10	OUT2	High-side drivers (7 Ω, typ.) : to supply e.g. LED's, HALL sensors, external contacts
11	OUT1/FSO	High-side driver (7 Ω, typ.) : to supply e.g. LED's, HALL sensors, external contacts. Default configuration is Fail Safe output.
12	TXD	Transmitter input of the LIN 2.1 transceiver
13	V_S	Power supply voltage
14	REL1	Low-side driver (2 Ω typ.): e.g. relay
15	REL2	Low-side driver (2 Ω typ.): e.g. relay
16	LIN	LIN bus line

Figure 2. Pins configuration
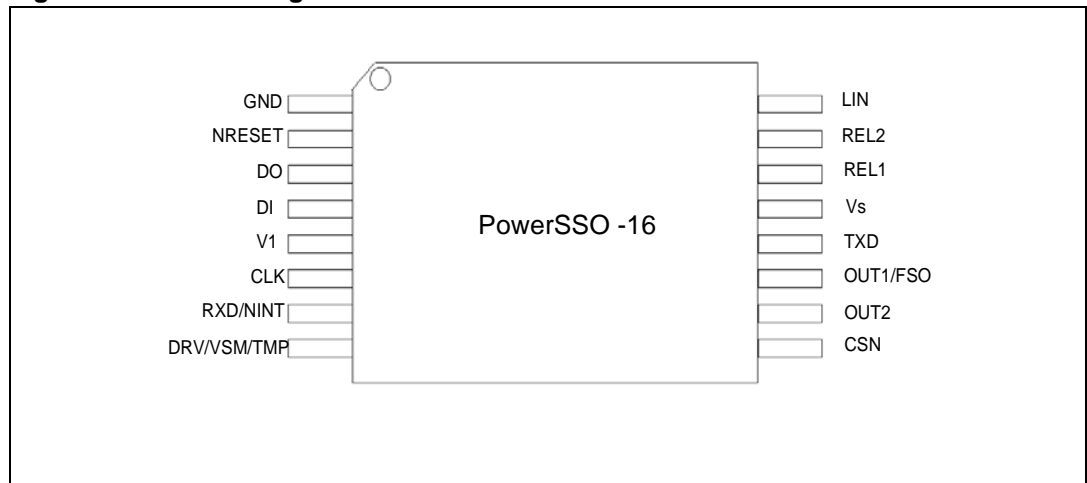
3 Revision history

Table 3. **Document revision history**

Date	Revision	Description of changes
08-Feb-2010	1	Initial release.
24-Sep-2013	2	Updated disclaimer.

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