

Power management system IC

Data brief

Features

- One 5 V low-drop voltage regulator (100 mA, continuous mode)
- Low standby current: V_{BAT} -standby, 7 μ A; V_1 -standby, 45 μ A
- 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 ($R_{DSon,typ} = 7 \Omega$)
- 2 relay drivers ($R_{DSon,typ} = 2 \Omega$)
- Outputs are short-circuit protected
- Direct drive feature for high-sides
- Temperature warning and thermal shutdown



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

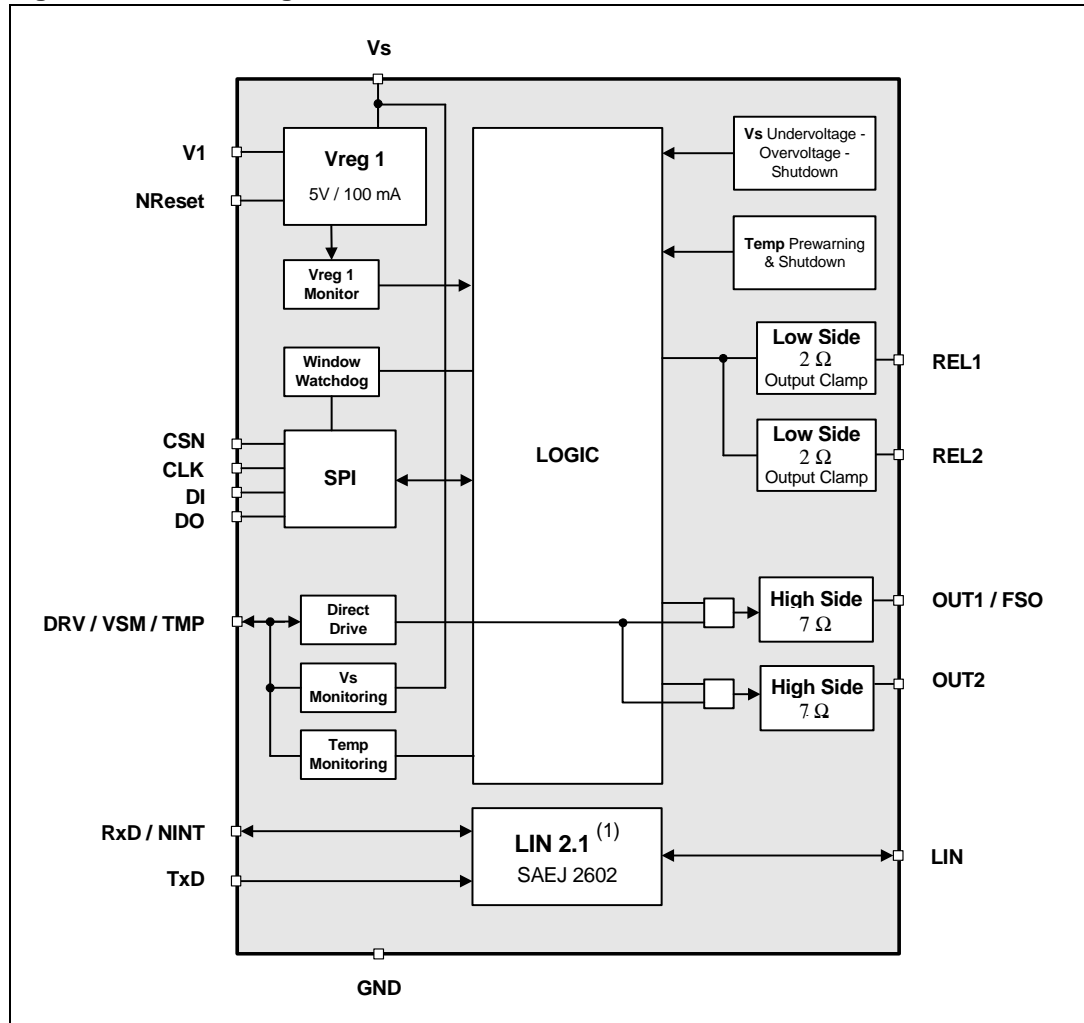
Package	Order codes	
	Tube	Tape and reel
PowerSSO-16	L99PM60J	L99PM60JTR

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1 Block diagram

Figure 1. Block diagram



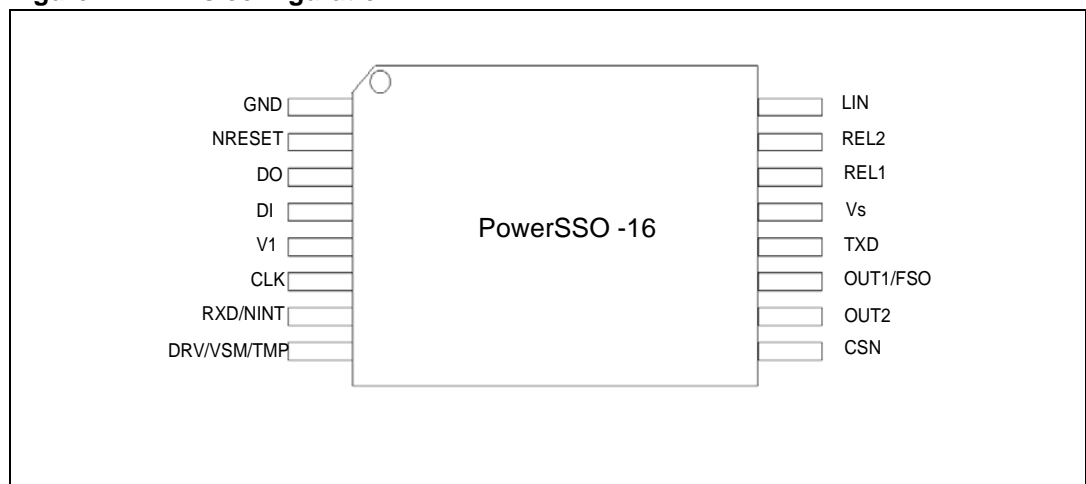
1. LIN 2.1 compliant

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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