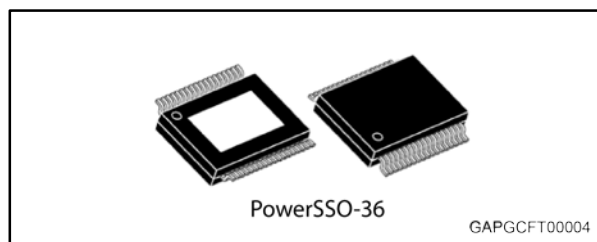


Double channel high-side driver with MultiSense analog feedback for automotive applications

Data brief



- Configurable latch-off on overtemperature or power limitation with dedicated fault reset pin
- Loss of ground and loss of V_{CC}
- Reverse battery with self switch of the PowerMOS
- Electrostatic discharge protection

Features

Max transient supply voltage	V_{CC}	40 V
Operating voltage range	V_{CC}	4 to 28 V
Typ. on-state resistance (per Ch)	R_{ON}	4 m Ω
Current limitation (typ)	I_{LMH}	100 A
Standby current (max)	I_{STBY}	0.5 μ A

- Automotive qualified
- General
 - Double channel smart high-side driver with MultiSense analog feedback
 - Very low standby current
 - Compatible with 3 V and 5 V CMOS outputs
- MultiSense diagnostic functions
 - Multiplexed analog feedback of: load current with high precision proportional current mirror, V_{CC} supply voltage and T_{CHIP} device temperature
 - Overload and short to ground (power limitation) indication
 - Thermal shutdown indication
 - OFF-state open-load detection
 - Output short to V_{CC} detection
 - Sense enable/disable
- Protections
 - Undervoltage shutdown
 - Overvoltage clamp
 - Load current limitation
 - Self limiting of fast thermal transients

Applications

- All types of Automotive resistive, inductive and capacitive loads
- Specially intended for Automotive headlamps, glow plug applications

Description

The device is a double channel high-side driver manufactured using ST proprietary VIPower® M0-7 technology and housed in PowerSSO-36 package. The device is designed to drive 12 V automotive grounded loads through a 3 V and 5 V CMOS-compatible interface, providing protection and diagnostics.

The device integrates advanced protective functions such as load current limitation, overload active management by power limitation and overtemperature shutdown with configurable latch-off.

A $\overline{\text{FaultRST}}$ pin unlatches the output in case of fault or disables the latch-off functionality.

A dedicated multifunction multiplexed analog output pin delivers sophisticated diagnostic functions including high precision proportional load current sense, supply voltage feedback and chip temperature sense, in addition to the detection of overload and short circuit to ground, short to V_{CC} and OFF-state open-load.

A sense enable pin allows OFF-state diagnosis to be disabled during the module low-power mode as well as external sense resistor sharing among similar devices.

1 Order codes

Table 1: Device summary

Package	Order codes
	Tape and reel
PowerSSO-36	VND7004AYTR

2 Revision history

Table 2: Document revision history

Date	Revision	Changes
04-Jan-2016	1	Initial release.

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