

High-side driver with CurrentSense analog feedback for automotive applications

Data brief



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 mΩ
Current limitation (typ)	I _{LIMH}	112 A
Stand-by current (max)	I _{STBY}	0.5 μA

- Automotive qualified
- General
 - Single channel smart high-side driver with CurrentSense analog feedback
 - Very low standby current
 - Compatible with 3.0 V and 5 V CMOS outputs
- Diagnostic functions
 - 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
- Loss of ground and loss of V_{CC}
- Reverse battery
- Electrostatic discharge protection

Applications

- All types of Automotive resistive, inductive and capacitive loads
- Specially intended for Automotive Headlamps

Description

The device is a single channel high-side driver manufactured using ST proprietary VIPower® technology and housed in the Octapak 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.

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.

Table 1: Device summary

Package	Order codes
	Tape and reel
Octapak	VN7004CHTR

1 Revision history

Table 2: Document revision history

Date	Revision	Changes
04-Jan-2016	1	Initial release

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