

Product Brief

Industrial PROFET™ ITS42k5D

Protected dual high-side switches with integrated diagnosis

The ITS42k5D-LD-F is a 2.5 Ω dual channel high-side PMOS power switch including protection and diagnostic functions. Each channel of the device is able to drive loads up to 250 mA.

Due to its integrated freewheeling diodes, the ITS42k5D-LD-F is perfectly suitable for driving decentralized loads with long cables or any other kind of inductive loads. The integrated freewheeling diode enables simplified design as no external components are necessary. The ITS42k5D-LD-F is the right product for applications with space constraints as it offers even two channels inside the very small leadless PG-TSON-10 package.

Key Benefits

- › Reduced boardspace: two channels in one small package and no external components required
- › PG-TSON-10 package: very small, thermally enhanced, exposed PAD package with AOI capability
- › Integrated free wheeling diode to minimize devices stress when switching off inductive loads
- › Upintegration increases reliability: reduced number of soldering points and reduced number of devices
- › Optimized EMC requirements and low noise due to no charge pump emissions (PMOS-switch inside)
- › Integrated diagnosis & protection for safe system operation

Target Applications

- › 24 V industrial systems
- › Decentralized sub applications
- › Industrial automation applications
- › Sensor units
- › Indicators, displays, LEDs
- › Switching relays, valves, magnetic actuators
- › Applications with long wiring or any other kind of inductive loads
- › Applications with space constraints

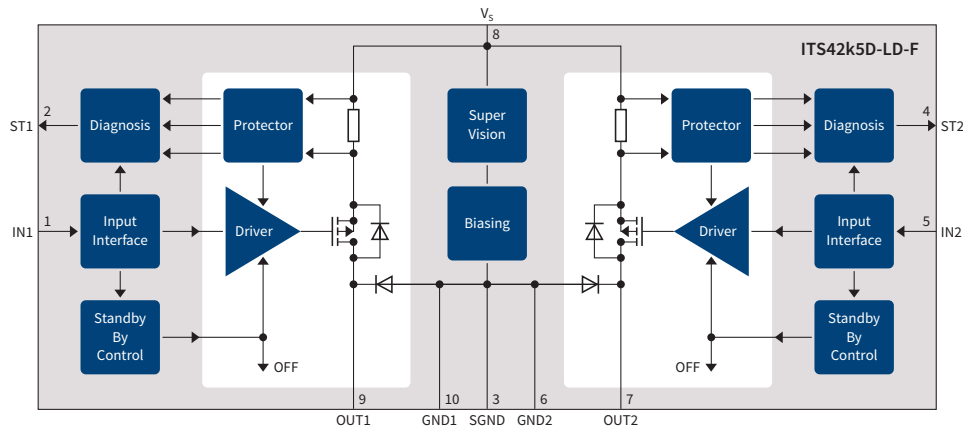
Key Features

- › Two channel power PMOS high-side switch for small loads
- › Output current capability: up to 250 mA per channel
- › Integrated freewheeling diode
- › Wide operating voltage range: 4.5 V to 42 V
- › 3.3 V and 5 V compatible logic inputs
- › Very low quiescent current in OFF state
- › High current limit accuracy
- › Optimized EMC behavior
- › Overload, short circuit, open load and overtemperature diagnosis
- › ESD, short circuit, safe operation area and overtemperature protection
- › Undervoltage lockout (UVLO)
- › Green and robust product (RoHS compliant)

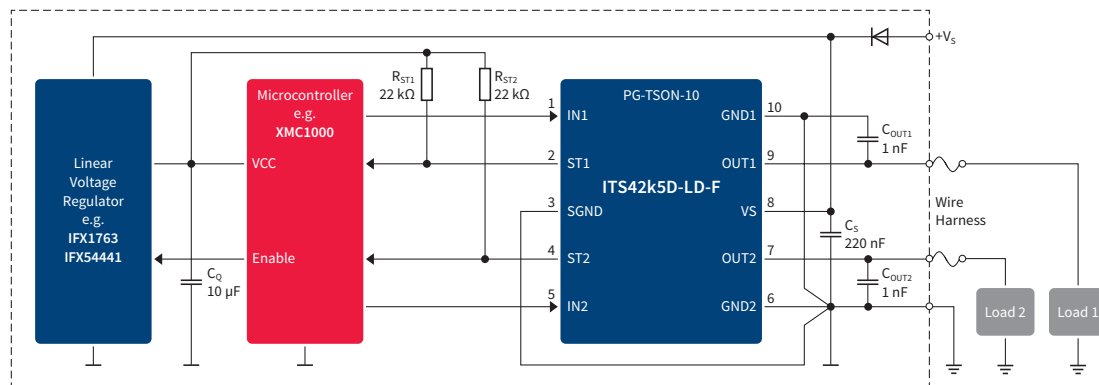
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Block diagram



Application diagram



Product summary

Product name	Channels	Load current	$R_{ON} @ T_j = 25\text{ °C}$	Operating voltage range	Diagnostics	Package
ITS42k5D-LD-F	2	0.25 A per channel	2.5 Ω	4.5 V ... 42.0 V	Digital	PG-TSON-10

Ordering details

Product name	Product family	Ordering code	OPN code
ITS42k5D-LD-F	Industrial PROFET™	SP000991730	ITS42K5DLDFXUMA1

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