

Product Overview

NCV7520: FLEXMOS™ Hex Low-side MOSFET Pre-driver

For complete documentation, see the data sheet.

The NCV7520 programmable six channel low-side MOSFET pre-driver is one of a family of FLEXMOS™ automotive grade products for driving logic-level MOSFETs. The product is controllable by a combination of serial SPI and parallel inputs. The device offers 3.3 V/5 V compatible inputs and the serial output driver can be powered from either 3.3 V or 5 V. An internal power-on reset provides controlled power up. A reset input allows external re-initialization and an enable input allows all outputs and diagnostics to be simultaneously disabled. Each channel independently monitors its external MOSFET's drain voltage for fault conditions. Shorted load fault detection thresholds are fully programmable using an externally programmed reference voltage and a combination of discrete internal ratio values. The ratio values are SPI selectable and allow different detection thresholds for each channel. Fault recovery operation for each channel is programmable and may be selected for latch-off or automatic retry. Status information for each channel is 3-bit encoded by fault type and is available through SPI communication. The FLEXMOS family of products offers application scalability through choice of external MOSFETs.

Features

- 16-bit SPI with Parity and Frame Error Detection
- 3.3 V/5 V Compatible Parallel and Serial Control Inputs
- 3.3 V/5 V Compatible Serial Output Driver
- Open-drain Fault Flag
- Priority Encoded Diagnostics with Latched Unique Fault Type Data - Shorted Load, Short to GND - Open Load with Fast Charge Option - On and Off State Pulsed Mode Diagnostics
- Ratiometric Diagnostic References and Currents
- Programmable - Shorted Load Fault Detection Thresholds - Fault Recovery Mode - Blanking Timers
- Wettable Flanks Pb-Free Packaging
- NCV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q100 Qualified and PPAP Capable
- This is a Pb-Free Device

For more features, see the data sheet

Applications

- Automotive Power Management

End Products

- Power Train
- Engine Control Unit

Part Electrical Specifications

Product	Pricing (\$/Unit)	Compliance	Status	Power Switch	Number of Outputs	Topology	Isolation Type	V _{in} Max (V)	V _{cc} Max (V)	Drive Source / Sink Typ (mA)	Rise Time (ns)	Fall Time (ns)	t _p Max (ns)	Package Type
NCV7520FPR2G	2.6666	AEC Qualified PPAP Capable Pb-free Halide free	Active	MOSFET	6		Non-Isolated	36	5.25	-	277	277	1000	TQFP-32 EP
NCV7520MWTXG	2.1333	AEC Qualified PPAP Capable Pb-free Halide free	Active	MOSFET	6		Non-Isolated	36	5.25	-	277	277	1000	QFN-32

For more information please contact your local sales support at www.onsemi.com.

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