

Product Overview

NCP51705: SiC MOSFET Driver, Low-Side, Single 6 A High-Speed

For complete documentation, see the data sheet.

The NCP51705 driver is designed to primarily drive SiC MOSFET transistors. To achieve the lowest possible conduction losses, the driver is capable of delivering the maximum allowable gate voltage to the SiC MOSFET device. By providing high peak current during turn-on and turn-off, switching losses are also minimized. For improved reliability, dV/dt immunity and even faster turn-off, the NCP51705 can utilize its on-board charge pump to generate a user-selectable negative voltage rail. For isolated applications, the NCP51705 also provides an externally accessible 5 V rail to power the secondary side of digital or high-speed opto-isolators.

Features

- High Peak Output Current with Split Output Stages
- Extended Positive Voltage Rating up to 28 V Max
- User-adjustable Built-in Negative Charge Pump (-3.3 V to -8 V)
- Accessible 5 V Reference / Bias Rail
- Adjustable Under-Voltage Lockout
- Fast Desaturation Function
- QFN24 Package 4 x 4 mm

Applications

- High Performance Inverters
- High Power Motor Drivers
- Totem Pole PFC

Benefits

- Allow independent Turn-ON/Turn-OFF Adjustment
- Efficient SiC MOSFET Operation during the Conduction Period
- Fast Turn-off and Robust dV/dt Immunity
- Minimize complexity of bias supply in isolated gate drive applications
- Sufficient VGS amplitude to match SiC best performance
- Self-protection of the design
- Small & Low Parasitic Inductance package

End Products

- Industrial & Motor Drives
- UPS & Solar Inverters
- High Power DC Chargers

Part Electrical Specifications

Product	Compliance	Status	Type	Number of Drivers	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
NCP51705MNTXG	Pb-free Halide free	Active	SiC MOSFET	1	N/A	28	6000 / 6000	8	8	50	WQFN-24

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

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