



TF0280/81

High Speed, Low-Side, Single Gate Driver with LDO

Features

- Efficient, low-cost solution for driving MOSFETs and IGBTs
- Integrated LDO (3.3V, 15mA Output)
- 3.3V LDO at 1% accuracy at 25°C
- Wide supply voltage operating range: 4.5V to 18V
- 2.5A source / 2.8A sink output current capability
- Undervoltage lockout for V_{cc} supply.
- Fast propagation delays (35ns typical)
- Fast rise and fall times (20ns typical)
- Logic input (IN) 3.3V capability
- Space saving SOT23-5L package
- Extended temperature range: -40°C to +125°C

Applications

- Switch mode power supplies
- Motor Drive
- Line Drivers
- DC-DC Converters

Description

The TF0280/81 high speed, low side MOSFET and IGBT drivers are capable of driving 1.9A of peak current. The TF0280/81 logic inputs are compatible with standard TTL and CMOS levels (down to 3.3V) to interface easily with MCUs. Internal undervoltage lockout (UVLO) will protect MOSFET with loss of supply by turning off the output when V_{cc} falls below operating range. Fast and well matched propagation delays allow high speed operation, enabling a smaller, more compact power switching design using smaller associated components.

The TF0280/81 has an integrated LDO that outputs 3.3V at +/- 1% tolerance, with the ability to supply 15mA. The TF0280 provides a non inverted output and the TF0281 provides an inverted output. The TF0280/81 comes in a space-saving SOT23-5L package and it operates over an extended -40 °C to +125 °C temperature range.



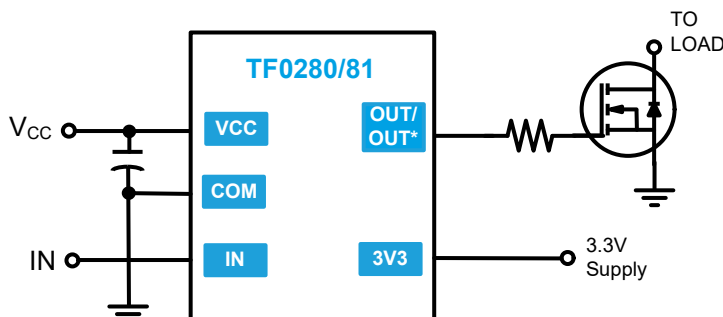
SOT-23-5L

Ordering Information

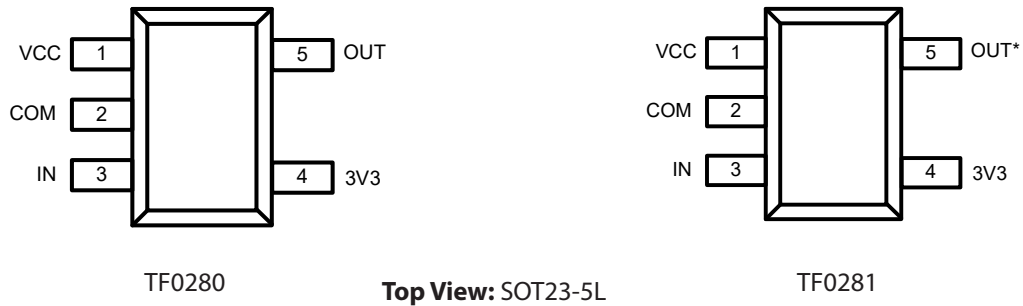
Year Year Week Week

| PART NUMBER | PACKAGE | PACK / Qty | MARK |
|-------------|-----------|-------------|----------|
| TF0280-USQ | SOT-23-5L | T&R / 3,000 | T0280/81 |
| TF0281-USQ | SOT-23-5L | T&R / 3,000 | YYWW |

Typical Application



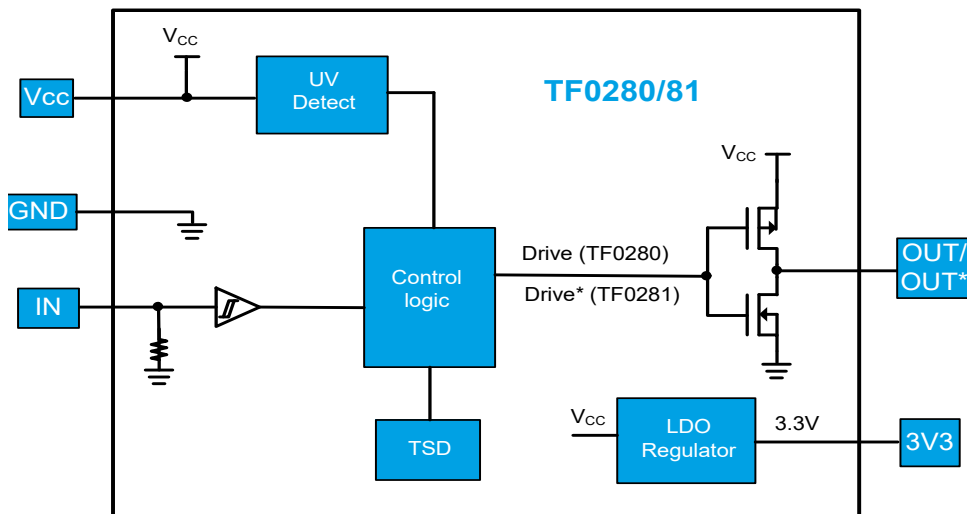
Pin Diagrams



Pin Descriptions

| PIN NAME | PIN NUMBER | PIN DESCRIPTION |
|-----------------|------------|---|
| V _{CC} | 1 | Supply input |
| COM | 2 | Supply return |
| IN | 3 | Logic input, in phase with OUT (TF0280), and out of phase with OUT* (TF0281). |
| 3V3 | 4 | LDO regulator 3.3V output |
| OUT/OUT* | 5 | Gate drive output |

Functional Block Diagram



Revision History

| Rev. | Change | Owner | Date |
|------|-------------------------|-----------|------------|
| 1.0 | First release datasheet | D. Walton | 12/17/2022 |
| 1.1 | | | |

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