



## Product Brief

# TLE8880

## Alternator Regulator with LIN Interface

The alternator control IC TLE8880 is a monolithic full featured regulator specifically designed for closed loop voltage control. It can be used in 12V automotive multi phase alternators with a rotating field winding. This regulator is able to communicate with an Engine-Management or Energy-Management ECU through a standard LIN interface. The battery voltage is regulated at a precise value between 10.6V and 16V. By using free-adjustable parameters, the regulator is able to operate even without any communication interface.

The TLE8880 is compliant to the VDA LIN Alternator Regulator specification.

The output driver stage consists of a High-Side DMOS with a typical  $R_{DS(on)}$  of 60mΩ for up to 12A excitation current to the field winding. The chip has 8kV ESD protection for alternator lines. The chip contains an EEPROM with adjustable parameters that can be programmed in order to customize the alternator for the specific OEM or application needs.

### Applications

- 12V automotive alternators with LIN interface
- 12V truck alternators with LIN interface
- Aftermarket alternators
- Industrial generators with 12V voltage



### Key Features

- EEPROM for customer specific adjustments
- Full digital and fast PI regulation
- High-Side DMOS with  $R_{DS(on)}$  of 60mΩ @ 25°C
- LIN 1.3 (Datalink layer)
- LIN 2.1 (Physical layer)
- Stand-by current 60μA typical
- Reverse battery protected up to -2.5V
- 8kV ESD protection for alternator lines
- Duty cycle driven excitation current to the field winding in range from 0 to 100%
- Temperature range -40°C to 175°C
- Digital temperature compensation

### Key Benefits

- Available in PG-TO-220-5-12 with straight leads, in 2 versions:
  - with nickel plating on the leads (soldering)
  - without nickel on the leads ends (welding)
- Qualified and Released by the VDA and further leading OEMs

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