Infineon Constant Current Control ICs and new TLE92464EDHP

Q1 FY2021/22

Infineon Constant Current Control ICs

NEW

TLE92464EDHP

- 4 Low side Channels
- Temperature Tj up to 175 °C
- ICC-Control
- <1%, initial ±3mA
- R_{shunt} = 140mΩ / R_{DSon} = 150mΩ

ISO26262 compliant

TLE92464ED

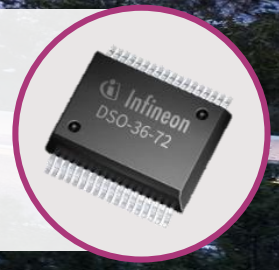
- 4 Low side Channels
- Temperature Tj up to 175 °C
- ICC-Control
- <1% Accuracy
- R_{shunt} = 140mΩ / R_{DSon} = 150mΩ

ISO26262 compliant

TLE92466ED

- 6 Low side Channels
- Temperature Tj up to 175 °C
- ICC-Control
- <1% Accuracy
- R_{shunt} = 140mΩ / R_{DSon} = 150mΩ

ISO26262 compliant



Infineon Constant Control IC family is growing with new solutions for all transmission types

	TLE92464ED	TLE92466ED	TLE92464EDHP
Number of Channels	4	6	4
Accuracy	±1%		**<1%, initial ±3mA**
Drive Type	Low Side		
Switching FET	integrated		
Shunt	integrated		
Functional Safety	ISO26262 ASIL-C		
AEC Q100	Grade 0		
$T_{J(max)}$	175°C		
Current Measurement Range	2A		
Parallel Mode	3.2A		
Diagnostic	Over current		
	Open Load		
	Short to BAT		
	Short to GND		
	Supplies Out of Range		
Protection	Over current Shutdown		
	Over Temperature Shutdown		
	Overvoltage Shutdown: VIO, VDD		

Package	
PG-DSO-36-72	
Body Size	
10mm x 10mm	

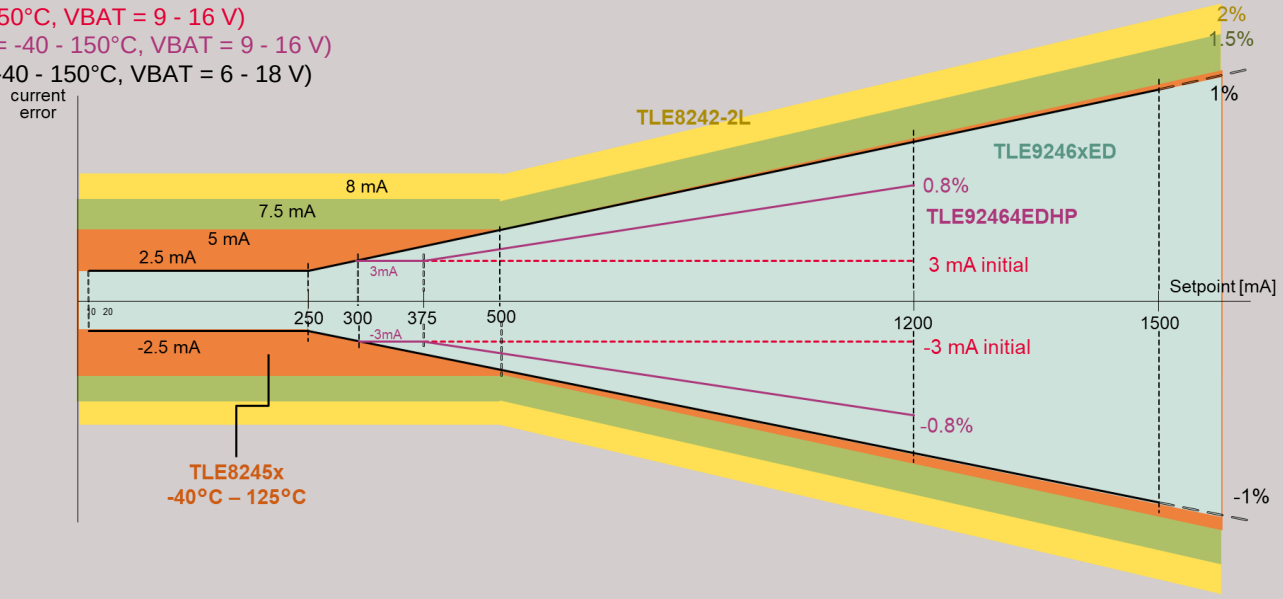
RoHS

AEC Qualified Grade 0

ISO 26262 compliant

TLE92464EDHP offers higher current measurement accuracy to reduce TCU calibration efforts and to enable new requirements

TLE92464EDHP
<±3 mA up to 1200 mA initially (T_J = -40 - 150°C, VBAT = 9 - 16 V)
<±0.8% up to 1200 mA including aging (T_J = -40 - 150°C, VBAT = 9 - 16 V)
<±1% up to 1500 mA including aging (T_J = -40 - 150°C, VBAT = 6 - 18 V)



Higher accuracy compared to previous generation solenoid drivers, that enables:

- Reduction of TCU calibration efforts saving cost and time
  - → Savings due to elimination of end of line temperature calibration equipment
- Fulfilling OEM´s requirements
- New TCU applications that require higher accuracy

Benefits of Infineon TLE9246xED and TLE92464EDHP

High level of integration and System cost reduction
- MOSFET and Shunt integrated into single package
- Reduces external components and PCB space → Lower System Cost

High performances
- High current measurement accuracy reduces transmission control unit calibration efforts
- Supporting extreme harsh environments thanks to AEC-Q100 Grade 0 qualified (T_J = -40°C to 175°C)

Ease of design & scalability
- 4-channel and 6-channel devices available in same package
- Same PCB footprint can be shared between the 4-channel and 6-channel devices by using zero-ohm jumpers

Long term availability
- Long term production plans to support automotive production cycles

Developed according to ISO 26262
- Enables development of ASIL D systems
- Integrated redundant current feedback path
- Significantly reduces external components → Lower System Cost

ISO 26262 compliant

Four Channel Constant Current Solenoid Driver TLE92464EDHP

Features

- Four low side channels with integrated FETs
- Integrated sense resistors 140 mΩ
- Avg. load current per channel up to 1.5A, in parallel channel configuration 2.7A
- Dither generator allows up to 1.8A peak average current
- Current measurement range 0 mA to 2000 mA
- Temperature range Tj = -40°C to 175 °C
- **<1%, initial ±3mA**
- 15bit set-point resolution
- Integrated dither generator
- Direct Drive

ISO 26262 compliant

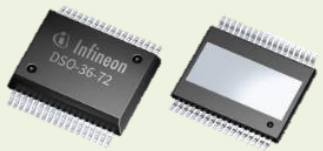
AEC Qualified Grade 0

RoHS

Safety Features:

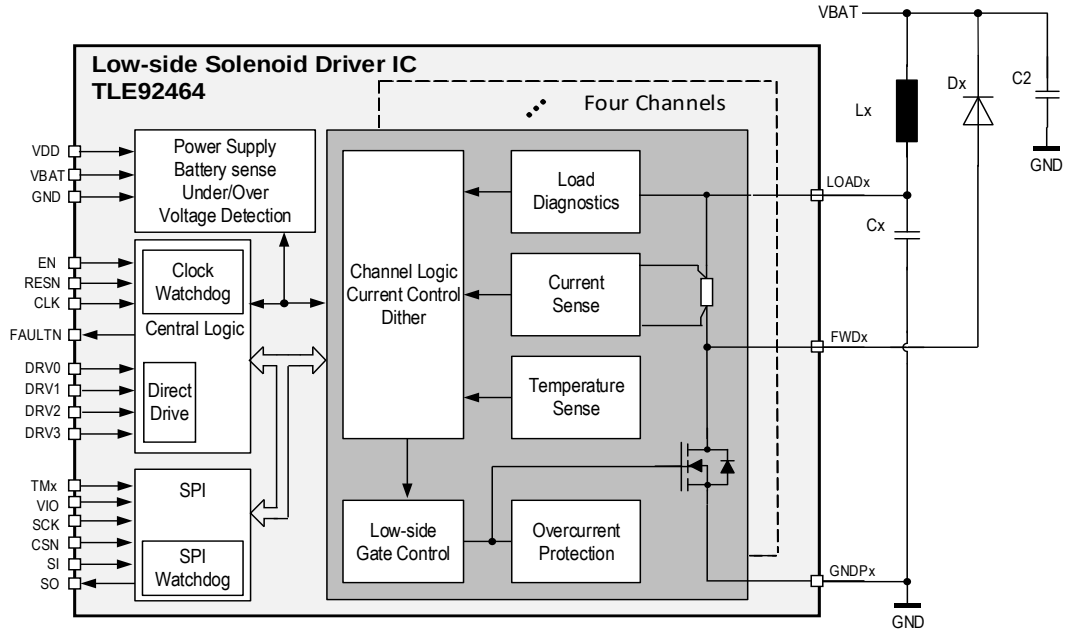
- ISO26262 compliant, ASIL C (D)
- AEC-Q100 Grade 0 qualified
- Integrated 2nd current feedback path
- 32 bit SPI with 8 bit CRC and SPI watchdog
- Diagnostic functions in ON and OFF state
- Battery voltage measurement and overvoltage shutdown
- PLL for external clock input and CLK watchdog

Package
PG-DSO-36-72
Body Size
10mm x 10mm



In development

Block Diagram



Potential applications

- Variable force solenoids (e.g. automatic transmission solenoids and e-Axle)
- Idle air control
- Exhaust gas recirculation
- Vapor management valve
- Suspension control
- Relay driver

Datasheet available and productive material available

TLE92464ED and TLE92466ED are online and evaluation boards are available for ordering

On infineon.com you will find: product datasheet, evaluation board, user manual and software

Part of your life. Part of tomorrow.