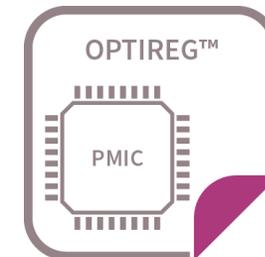
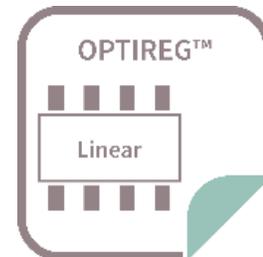


TLF11251LD/EP

Integrated Half-Bridge for AURIX™- μ C's Embedded Core Controller (EVRC)

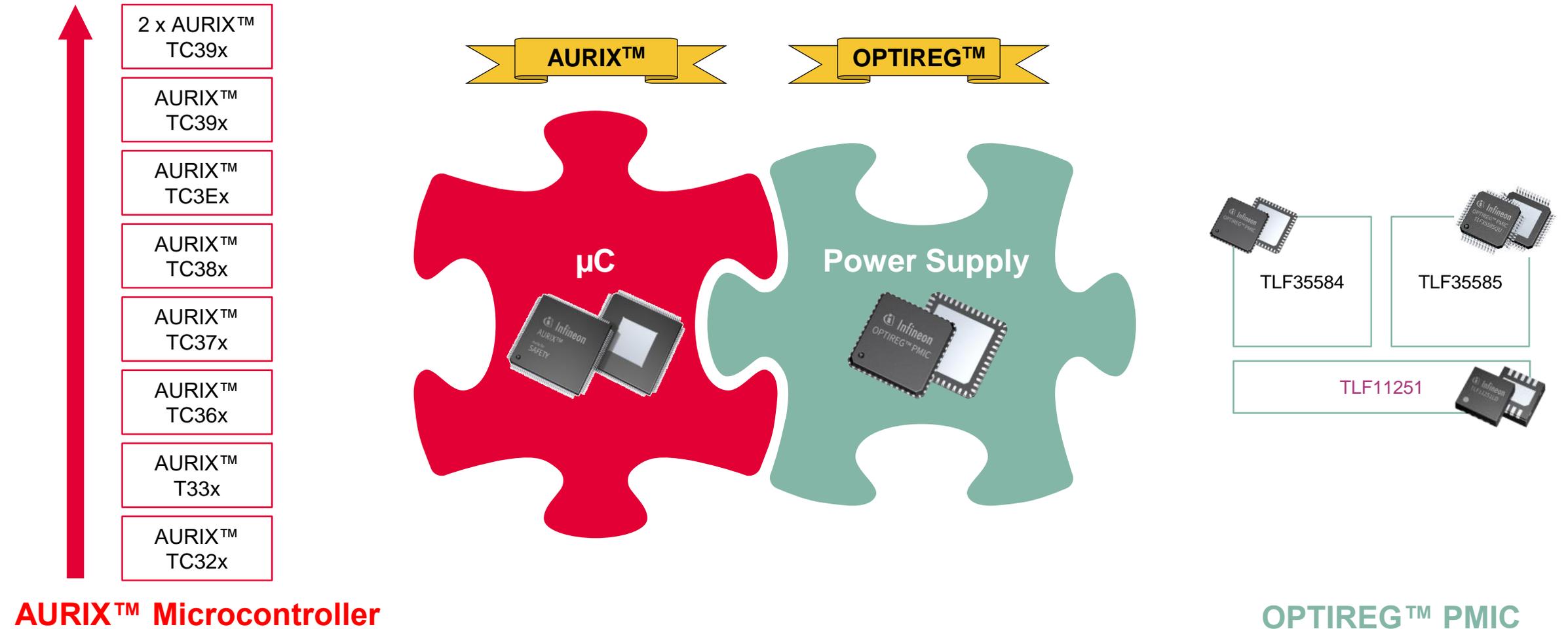
IFAG ATV PS APS PMG
October 2022



OPTIREG™ PMIC together with OPTIREG™ TLF11251 for a safe and optimized multi-channel power supply of Infineon μC families



IFX offers a scalable PMIC portfolio which can cover the complete AURIX™ TC2x/TC3x portfolio



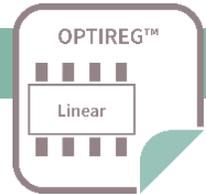
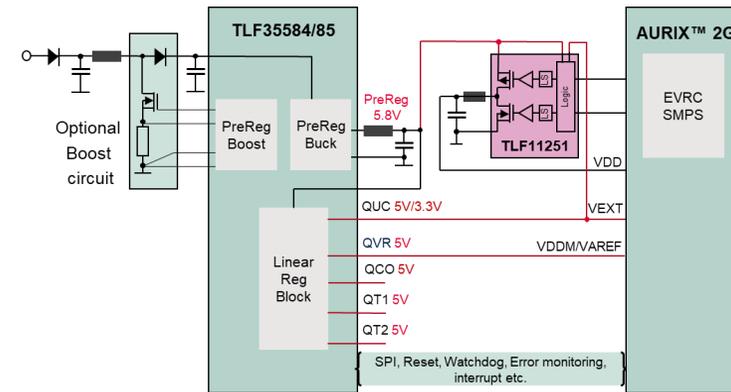
TLF11251LD/EP - Integrated Half-Bridge for Embedded Voltage Regulator Core Controller (EVRC)



Key Features

- › Integrated PMOS and NMOS complementary output bridge with 2.5 A current capability
- › Integrated gate drivers
- › Integrated level shifter
- › Single control input with an integrated dead-time logic allows for optimized control and high efficiency
- › Output current sensing and limitation
- › Over-temperature protection
- › Low quiescent current
- › No external dead-time adjustment required

Application Diagram



- ◆ Overall system efficiency increase
- ◆ Power losses reduction

Package



Grade 1



PG-TSON-10

Grade 0

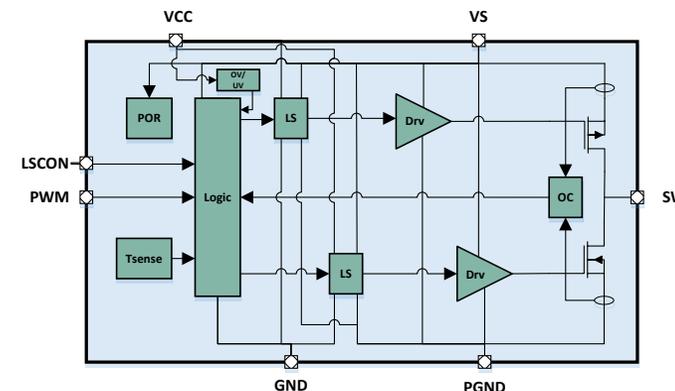


PG-TSDSO-14

Applications

- › Core-Supply Switch for Embedded Core Controller

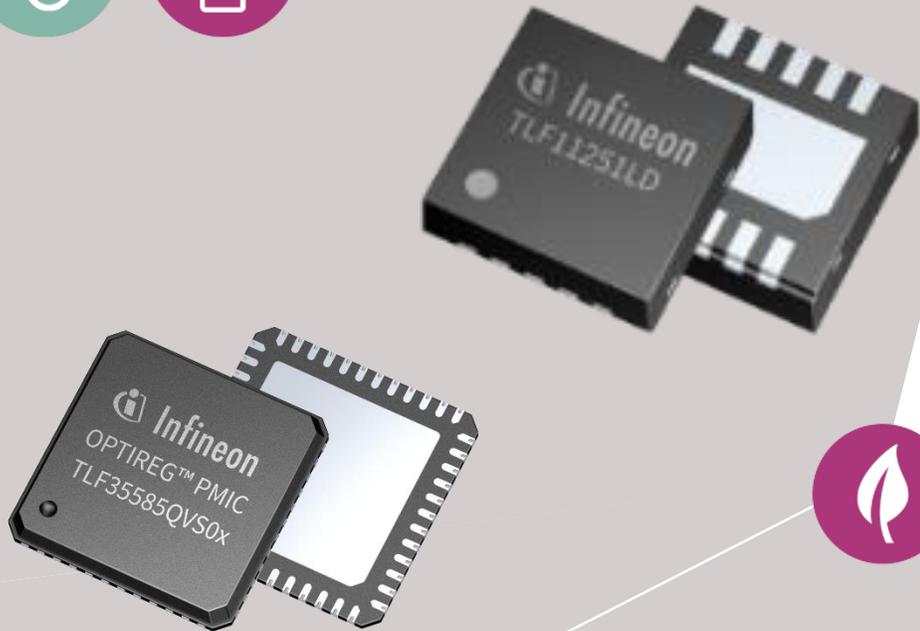
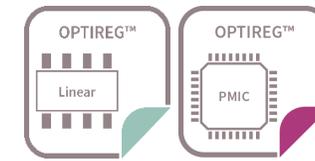
Block Diagram



Visit the website



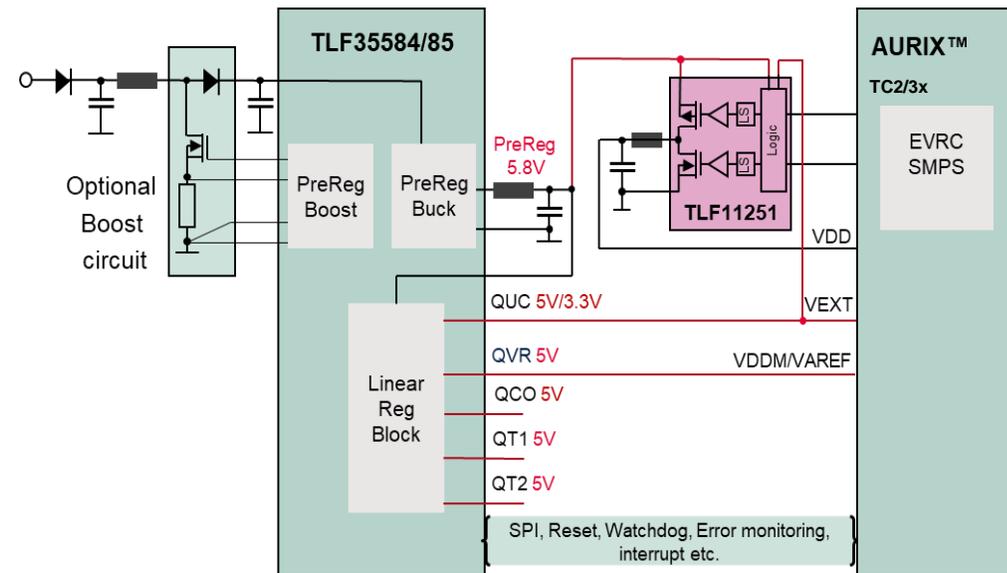
OPTIREG™ PMIC TLF35x Family and OPTIREG™ PMIC TLF11251LD to gain efficiency and reduce losses



Using TLF11251 along with TLF35584/5:

› Up to 30% power loss savings on the μ C core supply

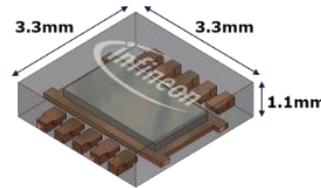
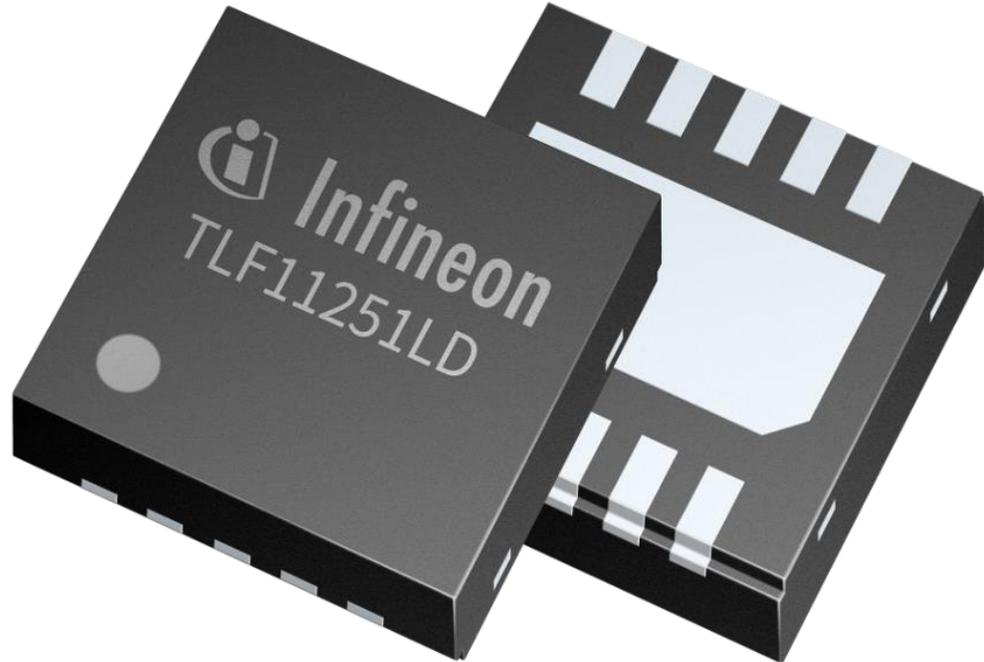
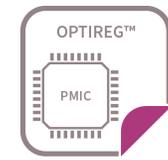
Additional info on test conditions : 384mW less power dissipation and 13K lower junction temperature T_j^*



* $T_a = 125^\circ\text{C}$, JEDEC 2s2p $R_{th}(jA) = 37\text{K/W}$, System input voltage = 12.5V, TLF3558Q_VVS2/KVS2 - 3.3V and Boost enabled

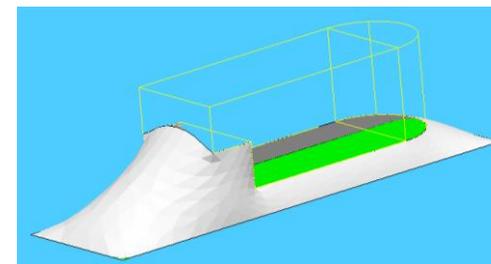
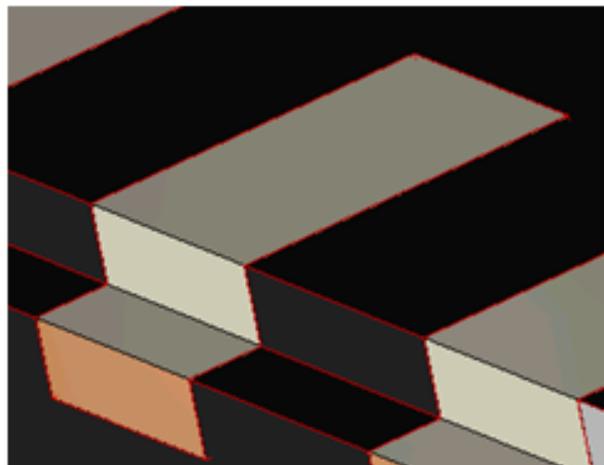
TLF11251LD

Package PG-TSON-10



- > Pitch: 0.5mm
- > Grade 1

Pin	Symbol	Function
1, 2	SW	Switch node
3, 8	PGND	Power ground
4	GND	Ground
5	LSCON	Bridge control scheme
6	PWM	Control input
7	VCC	Supply voltage input
9, 10	VS	HS source input
EP	Heat Sink	

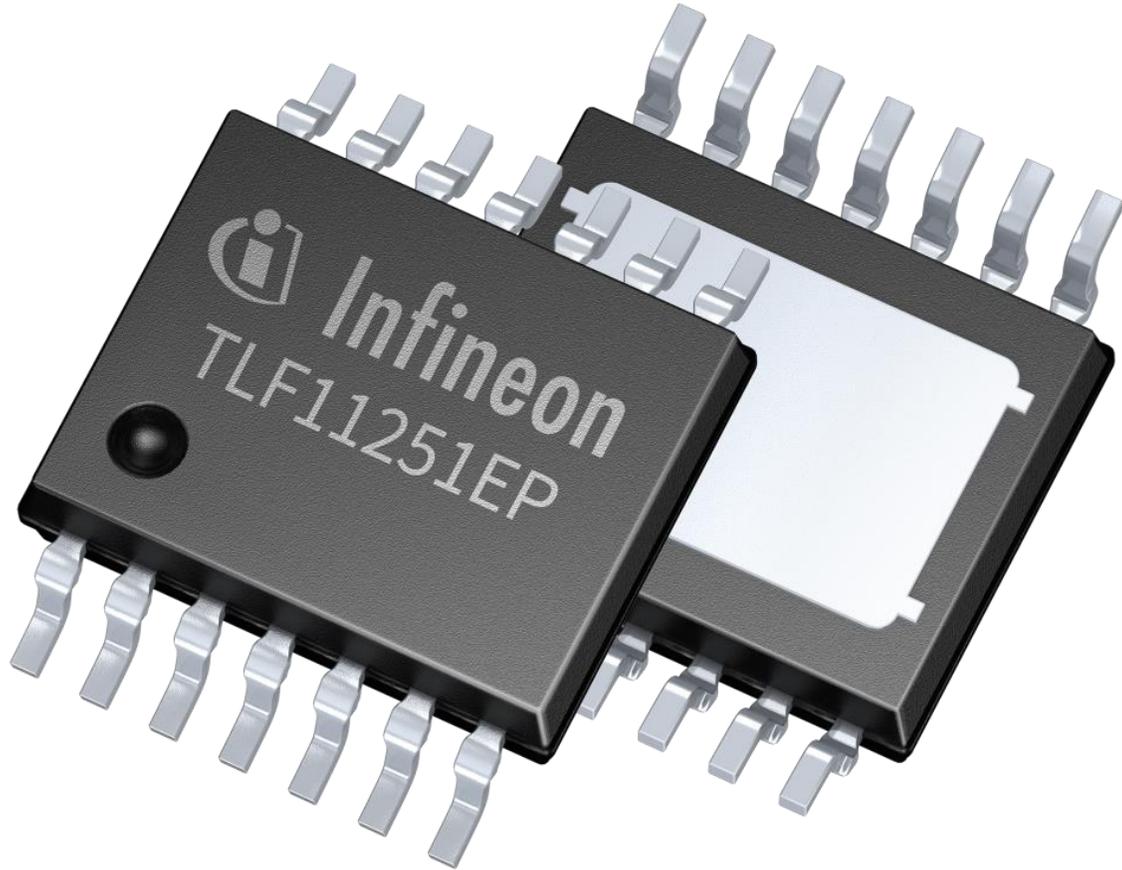
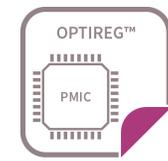


- Clear meniscus
- AOI capable
- No X-RAY

- Solder Quality
- Easy Monitoring
- Cost saving in production

TLF11251EP

Package PG-TSDSO-14

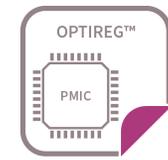


Pin	Symbol	Function
2, 3	SW	Switch node
4, 10	PGND	Power ground
5	GND	Ground
6	LSCON	Bridge control scheme
8	PWM	Control input
9	VCC	Supply voltage input
12, 13	VS	HS source input
1, 7, 11, 14	NC	Not Connected
EP	Heat Sink	

- > Grade 0
- > Benefits
 - Usage for extended mission profiles
 - Improved TCoB

TLF35584* / TLF35585*

Supply for AURIX™ Microcontroller 1G/2G



- 1) no Synchronization
- 2) depending on AURIX™ load profile

	AURIX 1G TC22x-TC29x	AURIX 2G (Low-/Mid-range) TC32x-TC37x	AURIX 2G (High-end) TC38x/TC39x
TLF35584* / TLF35585*	✓	✓	na ²⁾
TLF35584* / TLF35585* with TLF11251	✓ ¹⁾	✓	✓

TLF35584* and TLF35585*
can be used for both AURIX™ 1G and 2G



Part of your life. Part of tomorrow.