



OPTIREG™ General Purpose PMIC

Product presentation

Infineon Automotive Division
Q2 2026



OPTIREG™



Find it online !

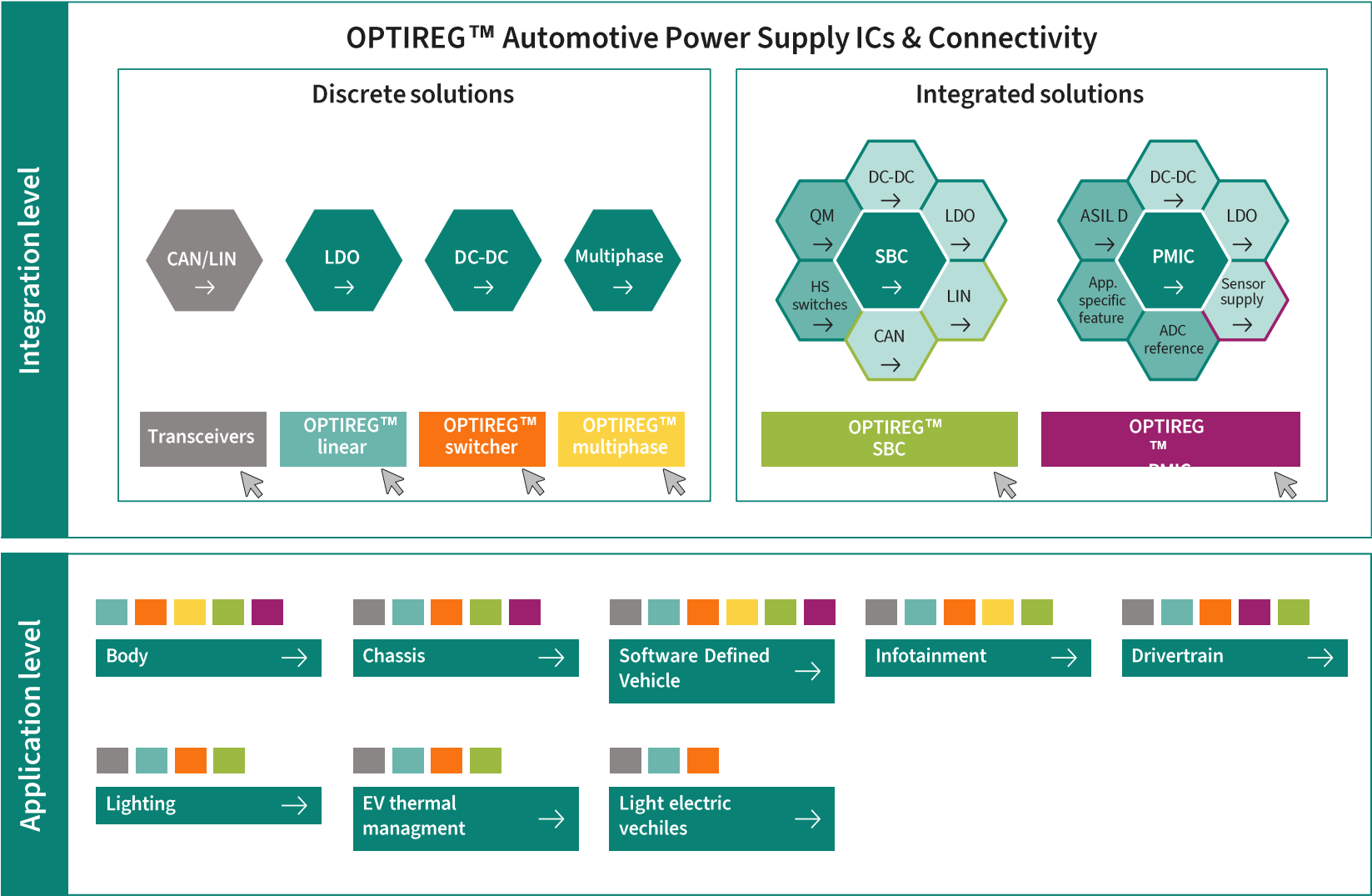


Table of contents

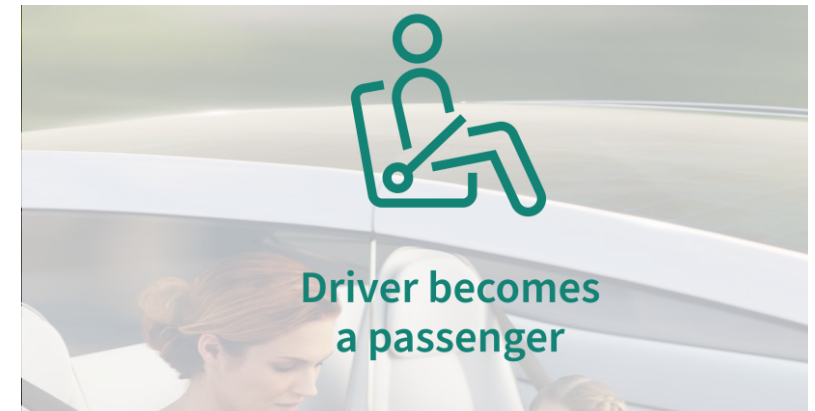
1	OPTIREG™	3
2	OPTIREG™ General Purpose PMIC	6
	Legacy Products Overview	15
	TLF35584 PMIC for Safety-relevant applications	18
	TLF35585 PMIC for Safety-relevant applications	24
	TLF4D985 PMIC for Safety-relevant applications	28
3	Cross-selling	31
	TLF11251LD/EP Integrated Half-Bridge for AURIX™-μC's Embedded Core Controller (EVRC)	34
4	Supporting Tools & Documents	36
5	Device Naming Nomenclature	50

OPTIREG™

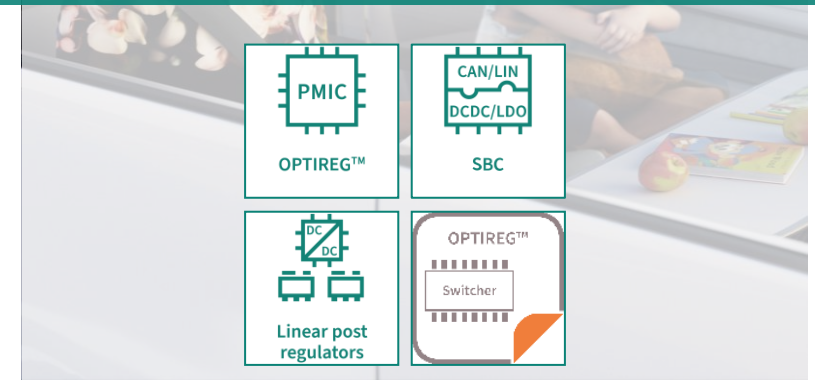
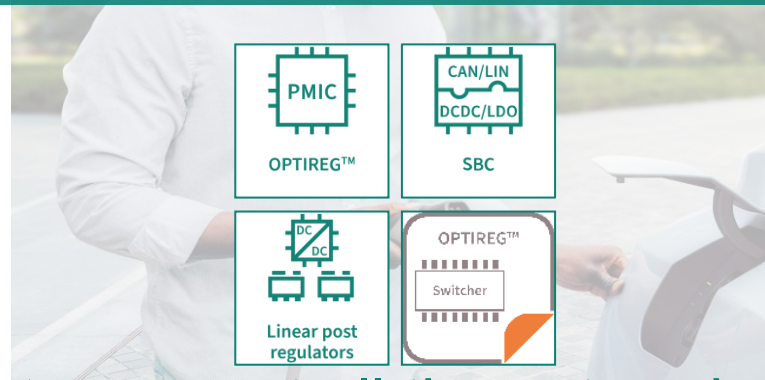
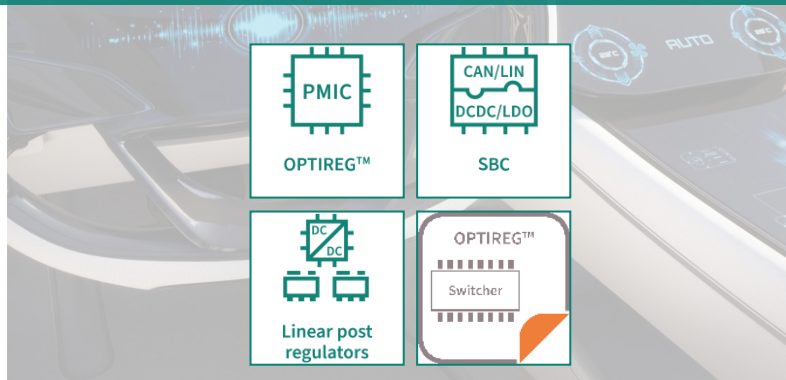
OPTIREG™ Portfolio



OPTIREG™ Power Supply fits in all automotive relevant trends



OPTIREG™ provides the right products



to support all these trends

Traditional applications

Efficient supply concepts

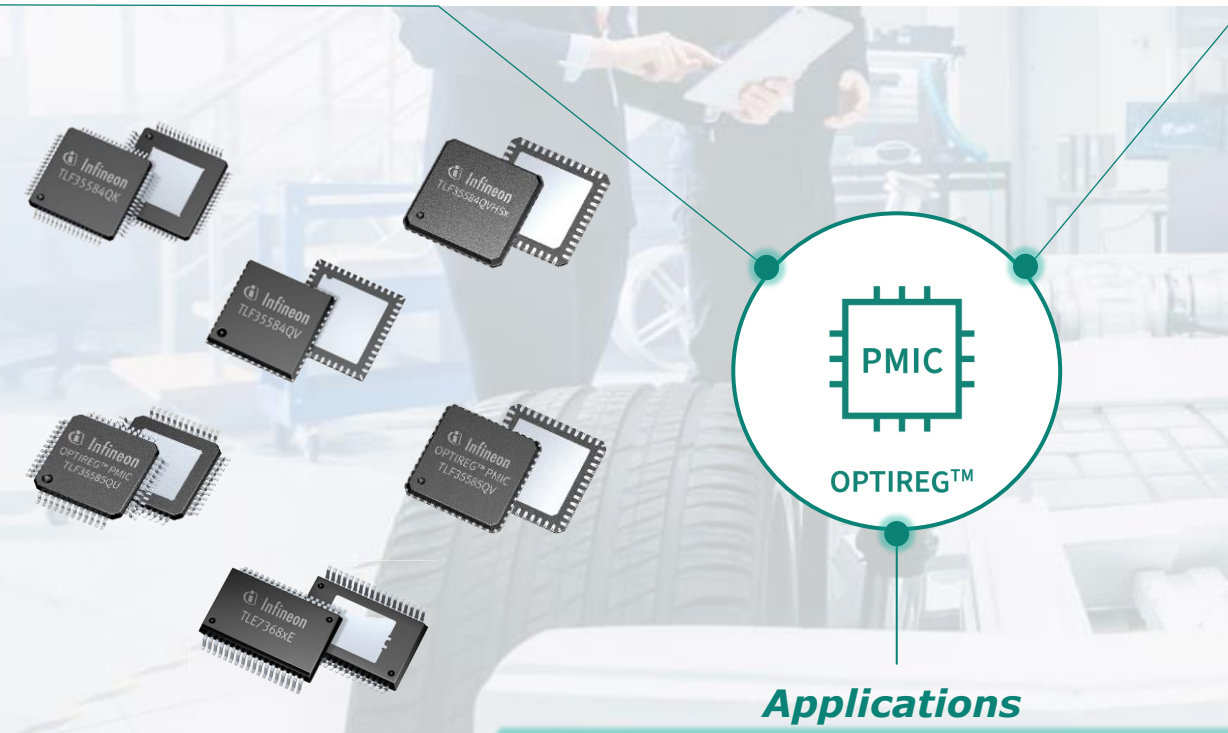
Emerging business models

OPTIREG™ General Purpose PMIC

OPTIREG™ General Purpose PMIC



Product families



Small, Efficient and Reliable

Key Feature	Customer Benefit
ISO 26262-compliant	Usage in applications with ASIL-requirement
Multiple voltage supplies	System supply: μ C, communication, sensors
Very low quiescent current	Longer battery life in low-power modes
Boost capability	Ensure operation in cold cranking condition
Dedicated reference voltage supply	ADC-supply independent of μ C-load
Pre-/Post-Regulator architecture	High Efficiency

Applications



BMS



Body control module



On-board charger



xEV



Electric power steering



Zonal architecture



Braking



Autonomous driving



Power distribution

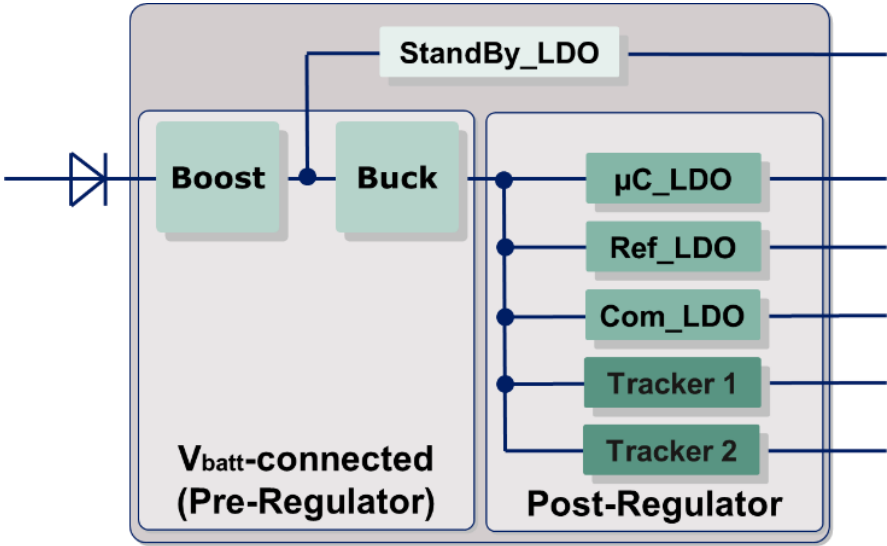
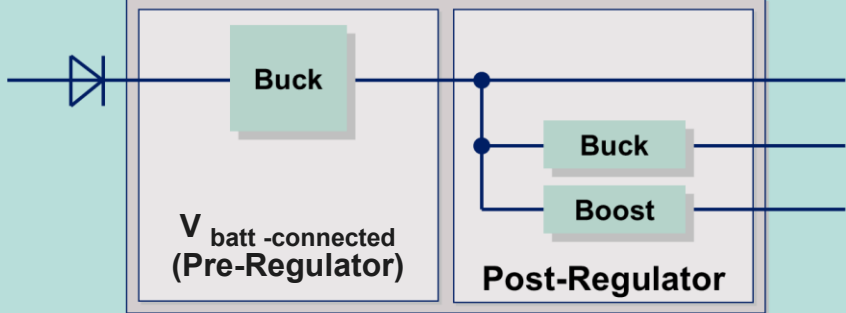


CAV

OPTIREG™ PMIC Overview

Supply Topology



Product	Applications	Integrated Supplies	Block Diagram
TLF35584 TLF35585 PRO SIL  ISO 26262 compliant	• Engine Management • Transmission • Transfer Case • Clutch Actuator • Starter Generator (e.g. ISG) • Battery Management • Inverter • Onboard Charger • Electr. Power Steering • Electr. Steering Column Lock • Braking (e.g. Brake Booster) • Electr. Parking Brake • Active Suspension • Chassis Domain Control • PT Domain Control • ADAS Domain Control	Pre-Regulator: Boost/Buck StandBy-LDO Post-Regulators: Linear & Tracker	
TLF30682	TLF30682: • 76-81GHz-Radar • 24GHz-Radar • 60GHz-Radar • Camera • Cluster / Center Stack • Display	Pre-Regulator & PoL: Buck Post-Regulators: Buck & Boost	

OPTIREG™ PMIC Overview

Supply	TLF35584 	TLF35585 	TLF30682	TLE9243 
Supply Topology	Boost/Buck-PreReg Linear PostRegs & Tracker	Boost/Buck-PreReg Linear PostRegs & Tracker	1x Vbatt-Buck 1x SMPR-Buck 1x SMPR-Boost	Boost/Buck-PreReg Linear PostRegs & Tracker
Vbatt-connected Boost (Pre-Regulator)	Y	Y	-	Y
Vbatt-connected Buck(s) (Pre-Regulator and/or PoL)	5V8 @ 1.3A	5V8 @ 1.5A	3V3 or 3V9* @ 3.5A	5V8 @ 1.5A
SMPR Buck	-	-	Core @ 2A	-
SMPR Boost	-	-	5V @ 250mA	-
μC_LDO (PostReg)	3V3 or 5V @ 600mA	3V3 or 5V @ 600mA	-	5V @ 800mA
Ref_LDO (PostReg)	5V @ 150mA	5V @ 150mA	-	5V @ 150mA
Com_LDO (PostReg)	5V @ 200mA	5V @ 200mA	-	5V @ 240mA
Voltage-rating PostRegs	7V w/o RCP	7V w/o RCP	7V	40V
Tracker 1 (PostReg)	5V @ 150mA	5V @ 150mA	-	5V @ 150mA
Tracker 2 (PostReg)	5V @ 150mA	5V @ 150mA	-	5V @ 150mA
StandBy_LDO	3V3 or 5V @10mA	3V3 or 5V @10mA	-	-
Wheel Speed Sensor Supply	-	-	-	3x 9V @ 50mA

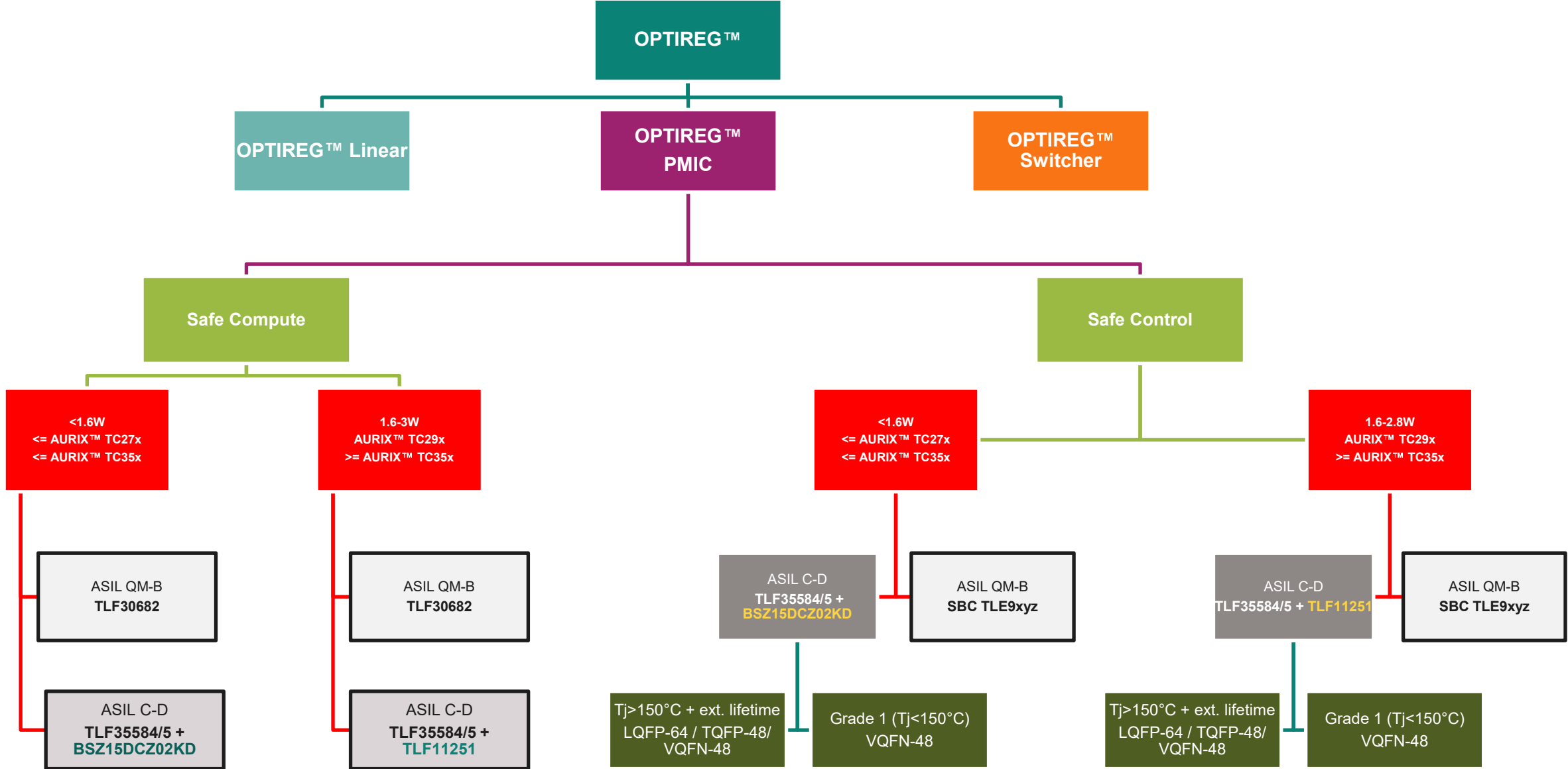
OPTIREG™ PMIC Overview

Functional Safety	TLF35584 	TLF35585 	TLF30682	TLE9243 
SEooC for systems up to	ASIL-D	ASIL-D	QM/ASIL-B	ASIL-D
Window-WD	Y	Y	Y	Y
Functional-WD	Y	Y	-	Y
ERR-Monitoring	Y	Y	-	Y
UV/OV-Monitoring	Y	Y	Y	Y
Safe State Controller	Y	Y	-	Y
Safe State Outputs / Safety Switch Control ch.	2 / -	2 / -	- / -	- / 3
Add. information	TLF35584	TLF35585	TLF30682	TLE9243
Status	Released	In Released	Released	Released
Packages	“QV”: VQFN-48 “QK”: LQFP-64	“QV”: VQFN-48 “QU”: TQFP-48	“QV”: VQFN-48	“QK”: LQFP-64
Variants	“VS1”: 5V0 μ C “VS2”: 3V3 μ C	“S01”: 5V0 μ C “S02”: 3V3 μ C	“S01”: 3V3 Buck1 “S02”: 3V9 Buck1*	-

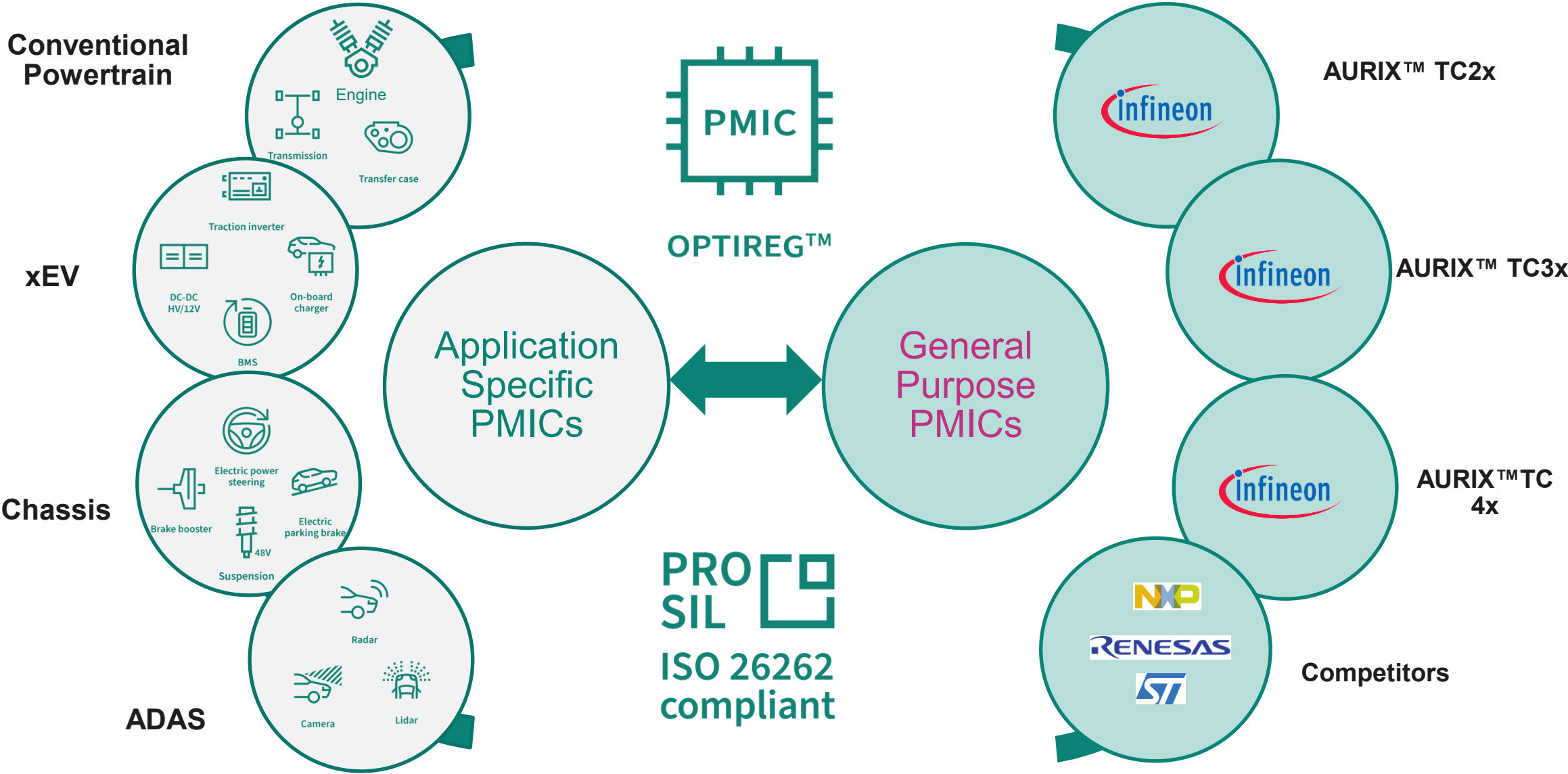
	TLF35584	TLF35585	TLF4A	TLF4D
System Power:	6.96W	8.7W	11.6W	55W
Operating range:	3V – 40V	3V – 40V	3.2V – 40V	3.3V – 60V
Pre-regulator	1.2A @ 5.8V	1.5A @ 5.8V	2A @ 5.8V	5A / 10A @ 4V or 5.5V
LDO μC-IO	600 mA @ 3.3V or 5V	600 mA @ 3.3V or 5V	200 mA @ 3.3V or 5V	600 mA @ 3.3V or 5V
Reference-LDO	150 mA @ [5V $\pm$ 1%]	150 mA @ [5V $\pm$ 1%]	110 mA @ [3.3V $\pm$ 1%] or [5V $\pm$ 1%]	150 mA @ range [5V $\pm$ 1%]
Communication LDO	200 mA @ 5V	200 mA @ 5V	200 mA @ 5V	600 mA @ 5V
2 X Tracker	150 mA @ 5V	150 mA @ 5V	150 mA @ 5V	
Buck core supply	-	-	3.5A peak @ 0.75V..1V25' or 1V8@1.2A or 3V3@0.75A	7A @ range [0.7 - 1.1V]
Buck interface regulator	-	-	-	1.2A @ 1.8V / 3V
Post Boost	-	-	-	1A @ 5.8V
Quiescent current, Standby on	120 μ A max (28V, 85°C)	70 μ A max (28V, 85°C)	35 μ A max (28V, 85°C)	70 μ A max (28V, 85°C)
Safety features	 Pre-defined safety reactions	 Pre-defined safety reactions	  Safety switch Configurable safety reactions	   Safety switch Pre-defined safety reactions Reverse polarity protection
Application examples	     	    	     	     
Packaging options	  LQFP-64 VQFN-48	  TQFP-48 VQFN-48	  TQFP-48 VQFN-48	  LQFP-64 VQFN-56

OPTIREG™ PMIC

Decision Tree

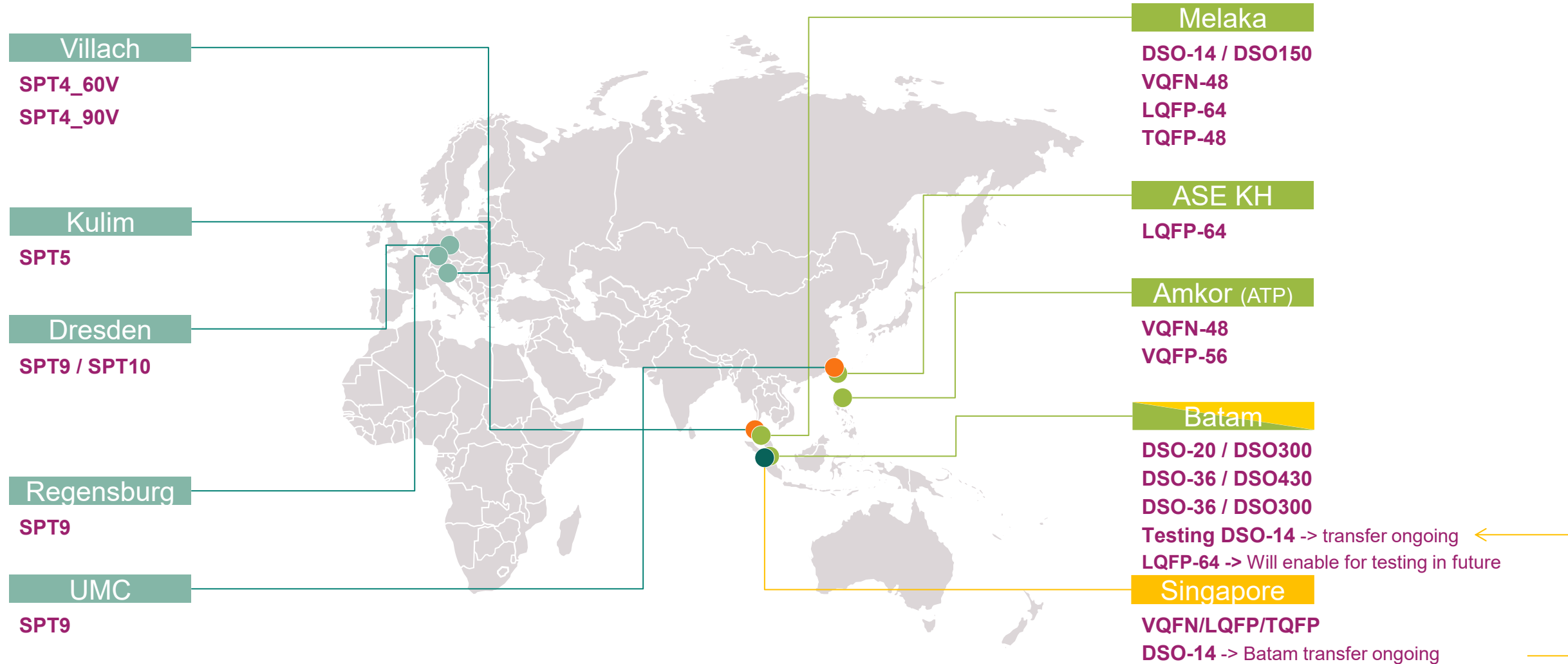


OPTIREG™ PMIC: Strong commitment to General Purpose and Application Specific PMIC solutions





Production Sites



Legacy Products Overview

TLE7368/-2/-3

Optimized Supply of 32-bit μ C

Key Features

- Input voltage range from 4.5V to 45V
- Wide ambient operation range: -40°C to 150°C
- DC/DC buck pre-regulator to 5.5V/2.5A
- Post-regulators for μ C & on Board:
 - LDO1: 5V ($\pm 2\%$), 700mA
 - LDO2: 3.3V or 2.6V ($\pm 2\%$), 500mA
 - LDO3: control for ext. NPN
 - LDO3 1.5V, 1.2V, and 1.3V ($\pm 2\%$)
 - 2 trackers for off board supply: 5V, 105mA/50mA
- Stand-by regulator for lowest current consumption

- 2 enable inputs
- Reset for all LDOs with adj. reset delay time
- Window Watchdog with adj. timing
- Monitoring circuit for stand-by supply
- Power sequencing on contr. Supplies
- Over-current protection for all regulators
- Over-temperature shutdown

Package



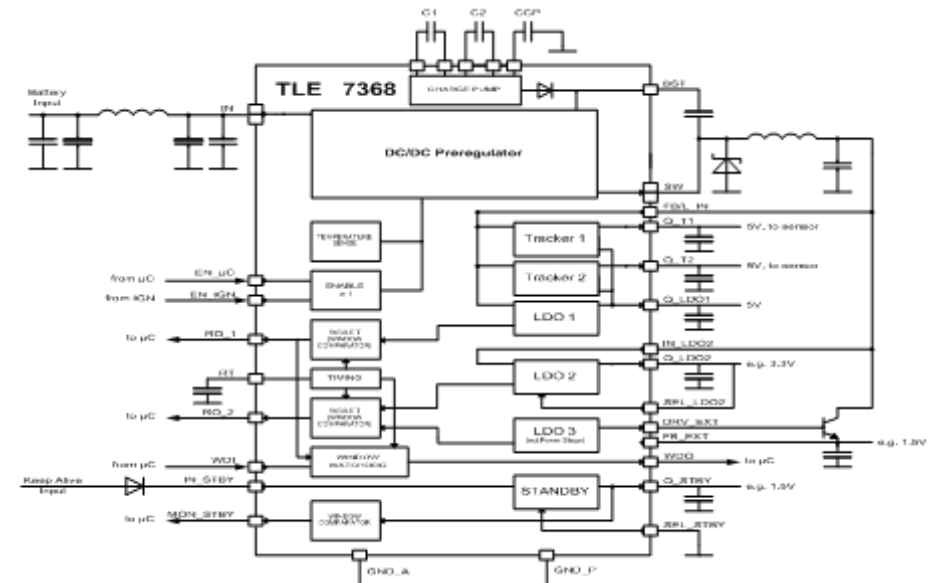
PG-DSO-36 (300mil)



Applications

- Powertrain: Transmission
- EPS

Application/Block Diagram



TLE7368/-2/-3

Features - Benefits

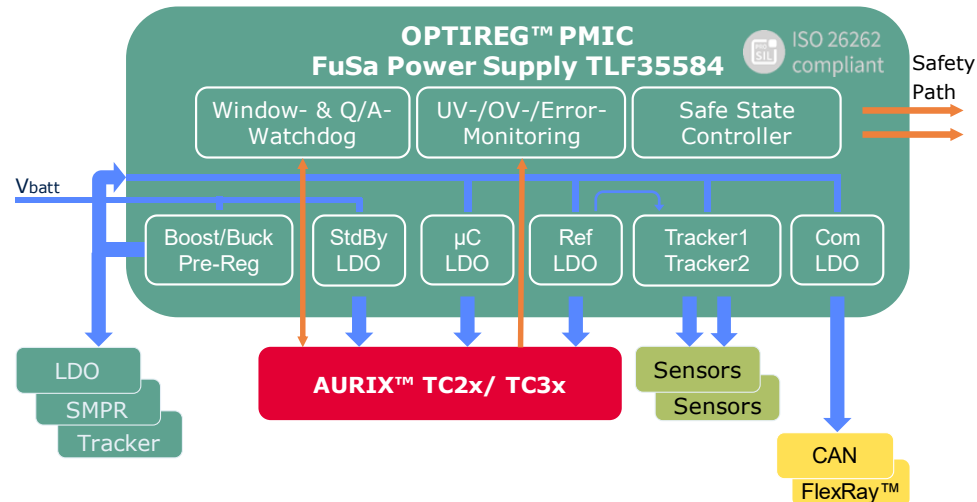
Features		Benefits
High Buck output power	➤	Maintains operation under sensor short circuit condition
5V plus 3.3V/2.6V plus core-supply (1.2V or 1.3V or 1.5V)	➤	One supply for AUDO plus OAK plus AUDO NG plus “Snakes”
Operating range 4.5V to 45V	➤	Suitable for 12V/24V applications (clamped load dump)
Integrated slew rate control	➤	EME reduction (high frequency content)
Two separated enable inputs	➤	μC-hold function possible
Two integrated sensor supplies	➤	Off board supply incl. GND shifts

TLF35584 PMIC for Safety-relevant applications

Key Features

- Buck/Boost-Pre-Regulator
 - $I_{load} = 1.3A$; $f: 300kHz-2.5MHz$
- μC -Supply: 3.3V/5V @ 600mA
- Reference-LDO: 5V @ 150mA ($\pm 1\%$)
- 2x Tracker: 5V @ 150mA
- Communication-Supply: 5V @ 200mA
- StandBy-LDO: 3.3V/5V @ 10mA

Block Diagram



- EN/Wake (T15 and CAN/FlexRay™)
- SPI
- Safety Features
 - Multiple bandgap (supply vs V-monitoring)
 - UV/OV-Monitoring, ERR-Monitoring
 - Functional-WD & Window-WD
 - Safe State Control Secondary Safety Path
 - Protected safety area
 - Built In Self Test
 - Development acc. ISO26262
- $V_{in}: 3V .. 40V$

**PRO
SIL** 
**ISO 26262
compliant**

Package



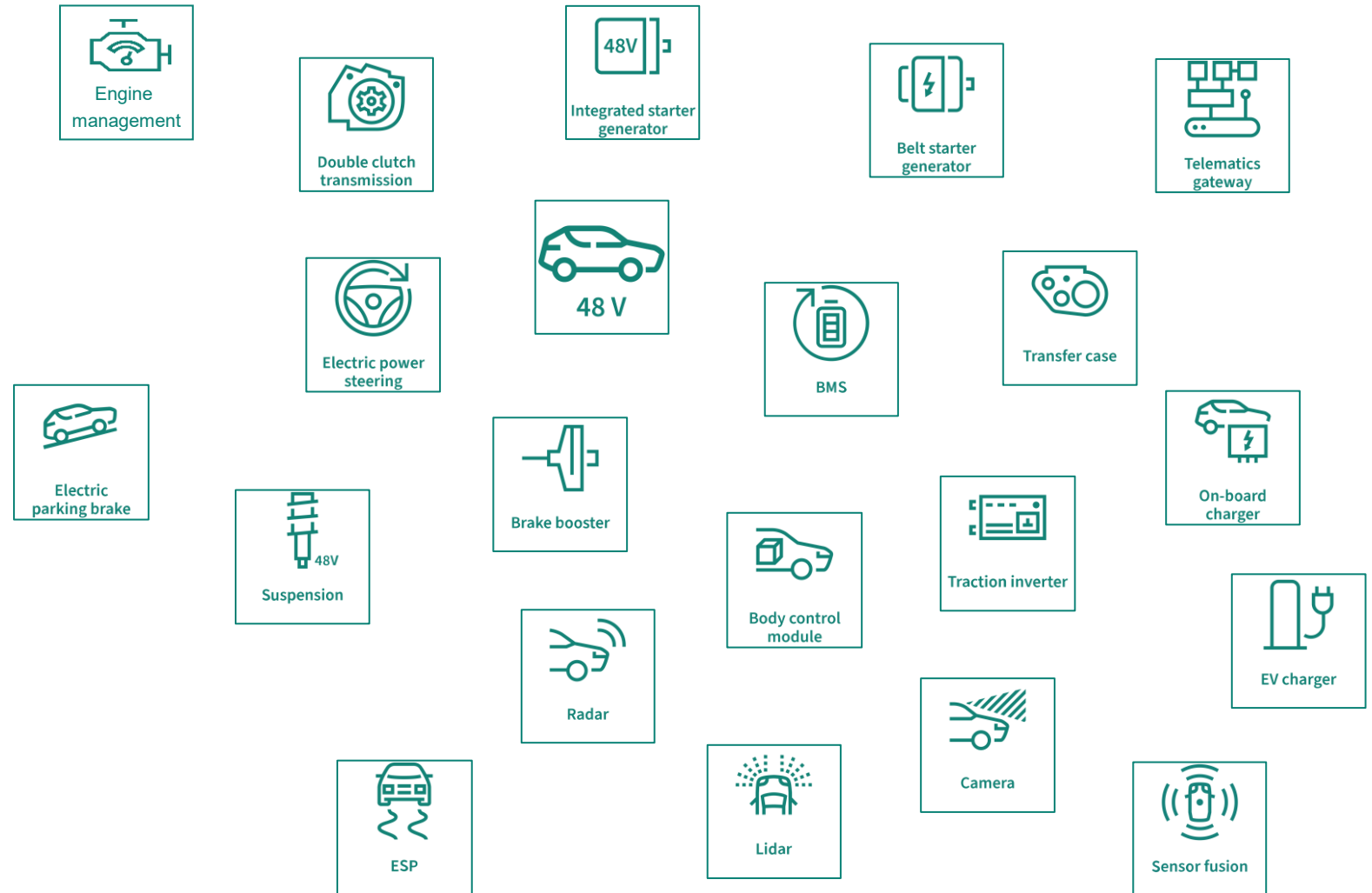
PG-VQFN-48
Available in Grade 0 and 1



PG-LQFP-64
Grade 1



- Powertrain
 - Engine Management
 - Transmission
 - Transfer Case
 - Clutch Actuator
 - Starter Generator (e.g. ISG)
- xEV
 - Battery Management
 - Inverter
 - ...
- Chassis/Safety
 - Electrical Power Steering
 - Electr. Steering Column Lock
 - Braking (e.g. Brake Booster)
 - Electr. Parking Brake
 - Active Suspension
 - Chassis Control
 - ADAS Domain Control



TLF35584 – OPTIREG™ PMIC for Functional Safety Applications

Features - Benefits



Features		Benefits
ISO 26262-compliant	▶	Usage in applications with ASIL-requirement
Boost capability	▶	Ensure operation in cold cranking condition
Pre-/Post-Regulator architecture	▶	High Efficiency
Multiple voltage supplies	▶	System supply: μ C, communication, sensors
Dedicated reference voltage supply	▶	ADC-supply independent of μ C-load
Bandgap for both safety and supply plus electrical isolation	▶	Avoid common cause failures
WWD & Q/A-WD	▶	Flexible WD to achieve proper ASIL-level
BIST (analog & logic)	▶	Ensuring “safe” operation
UV/OV-monitoring	▶	Flexible RESET/interrupt management
Flexible safe state control	▶	Ensuring “safe” operation
Enable/Wake	▶	Flexible wake-up management

TLF35584QVVSx/QKVSx OPTIREG™ PMIC for Functional Safety Applications



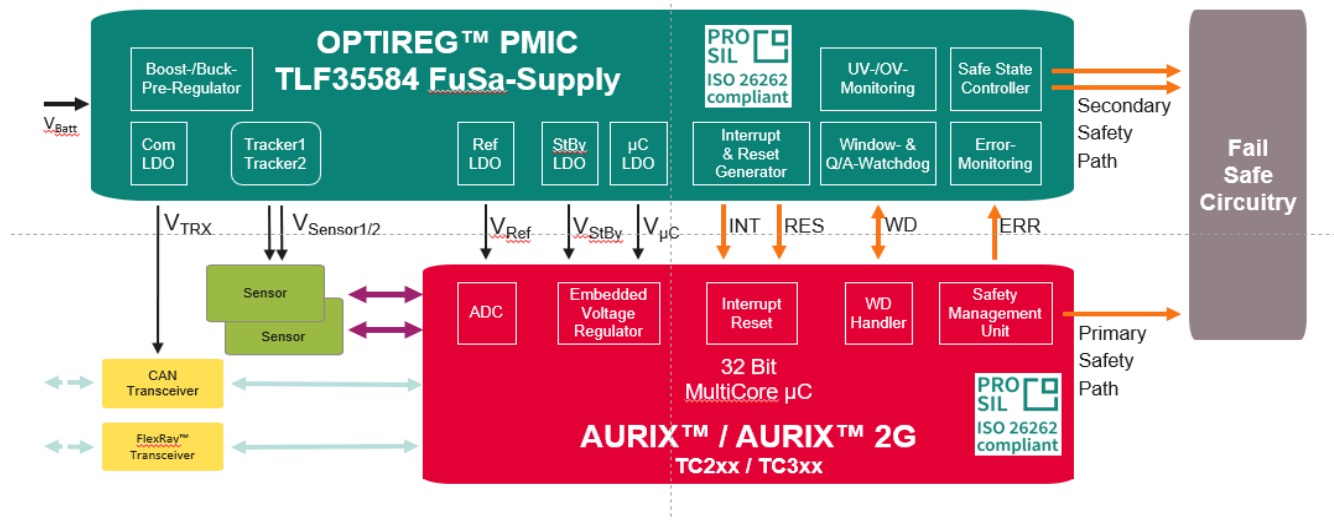
Key Features

- Buck/Boost-Pre-Regulator
 - $I_{load} = 1.25A$; $f: 300kHz-2.5MHz$
- μC -Supply: 3.3V/5V @ 600mA
- Reference-LDO: 5V @ 150mA ($\pm 1\%$)
- 2x Tracker: 5V @ 150mA
- Communication-Supply: 5V @ 200mA
- StandBy-LDO: 3.3V/5V @ 10mA
- V_{in} : 3V .. 40V



- EN/Wake (T15 and CAN/FlexRay)
- SPI
- Safety Features
 - Multiple bandgap (supply vs V-monitoring)
 - UV/OV-Monitoring, ERR-Monitoring
 - Functional-WD & Window-WD
 - Safe State Control, Secondary Safety Path
 - Protected safety area
 - Built In Self Test

Application Diagram

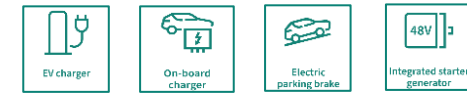


Applications

Powertrain



EDT



Chassis



Safety



TLF35584QVHSx

OPTIREG™ PMIC for Functional Safety Applications



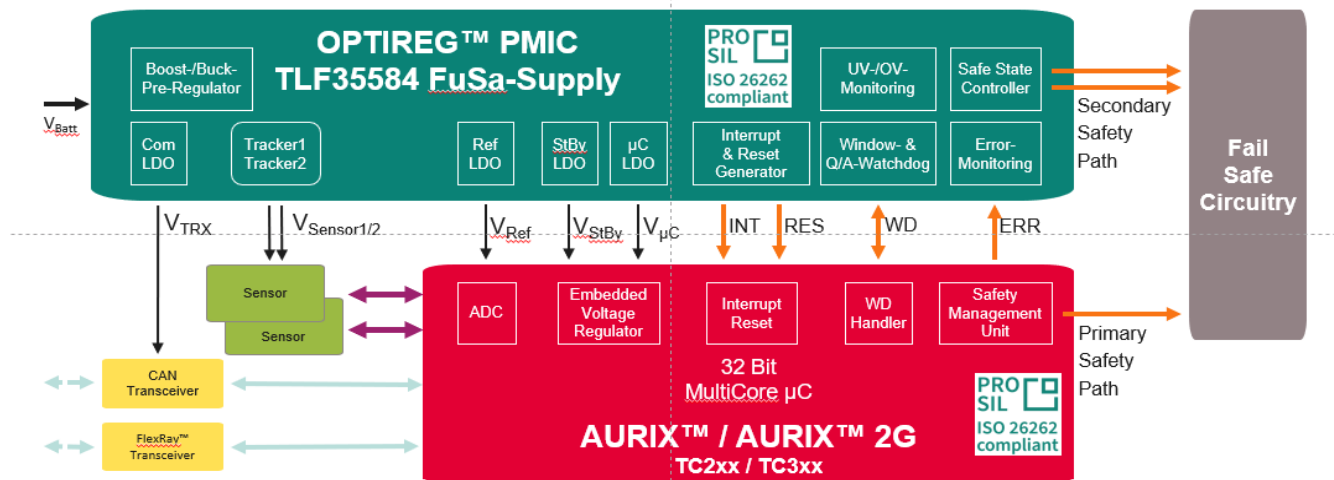
Key Features

- Buck/Boost-Pre-Regulator
 - $I_{load} = 1.25A$; $f: 300kHz-2.5MHz$
- μC -Supply: 3.3V/5V @ 600mA
- Reference-LDO: 5V @ 150mA ($\pm 1\%$)
- 2x Tracker: 5V @ 150mA
- Communication-Supply: 5V @ 200mA
- StandBy-LDO: 3.3V/5V @ 10mA
- V_{in} : 3V .. 40V



- EN/Wake (T15 and CAN/FlexRay)
- SPI
- Safety Features
 - Multiple bandgap (supply vs V-monitoring)
 - UV/OV-Monitoring, ERR-Monitoring
 - Functional-WD & Window-WD
 - Safe State Control, Secondary Safety Path
 - Protected safety area
 - Built In Self Test

Application Diagram



Applications

Powertrain



EDT



Chassis



Safety

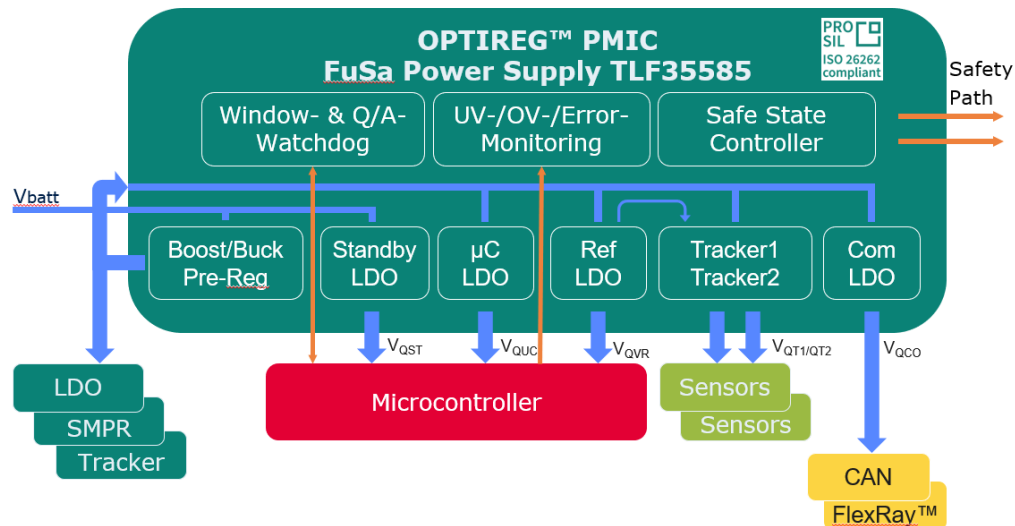


TLF35585 PMIC for Safety-relevant applications

Key Features

- Buck/Boost-Pre-Regulator
- NEW** – $I_{load} = 1.5A$; $f: 300kHz-2.5MHz$
- μC -Supply: 3.3V/5V @ 600mA
- Reference-LDO: 5V @ 150mA ($\pm 1\%$)
- Communication-Supply: 5V @ 200mA
- 2x Tracker: 5V @ 150mA
- StandBy-LDO: 3.3V/5V @ 10mA

Block Diagram



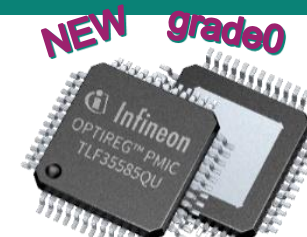
- EN/Wake (T15 and CAN/FlexRay)
- SPI **Added Registers**
- NEW** – Low current consumption ($<10-15\mu A$)
- Feature Enhancement vs. TLF35584
 - E.g. additional diagnostics information, extended timer functionality
- Safety Features
 - Multiple bandgap (supply vs V-monitoring)
 - UV/OV-Monitoring, ERR-Monitoring
 - Functional-WD & Window-WD
 - Safe State Control / Secondary Safety Path
 - Protected safety area
 - Built In Self Test
 - Development acc. ISO26262
- $V_{in}: 3V .. 40V$

**PRO
SIL**
**ISO 26262
compliant**

Package



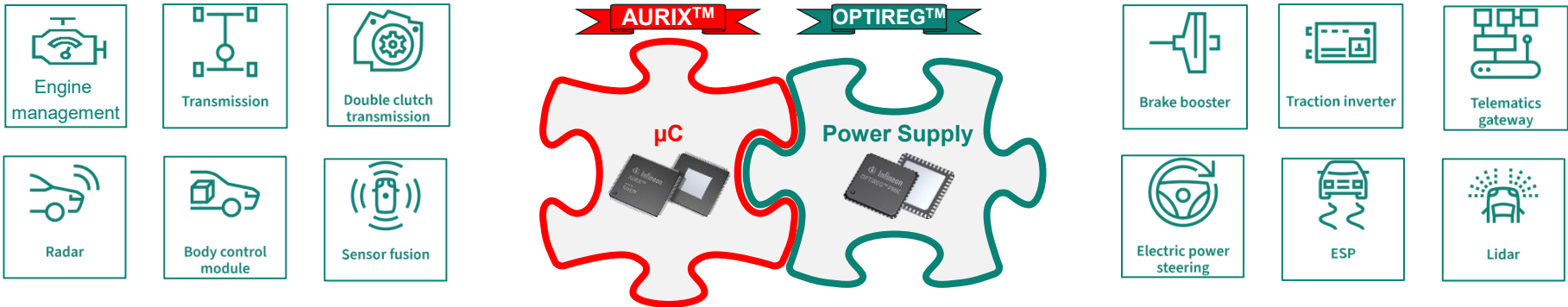
PG-VQFN-48



PG-TQFP-48



OPTIREG™ PMIC TLF35585: The robust, safe and reliable supply companion for AURIX™ TC3x microcontrollers in FuSa applications



Key Features

- Adjustable switching speed of the step-down regulator
- Grade 0 and ASIL-D enabled by default
- Increased buck converter current capability
- Lower Quiescent current in STANDBY with Standby-LDO active
- Microcontroller Programming Support (MPS) control via SPI

Key Benefits

- Flexibility in the optimization of efficiency and EMC performance
- Address applications requiring $t_j > 150^{\circ}\text{C}$, extended lifetime and highest degree of FuSa
- Support high end AURIX™ 2G (TC38/39) covering more applications
- Support tighter stand-by currents
- Easier debugging

Value

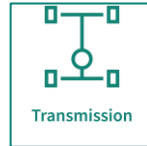
- Increased system efficiency
- Easy to design products
- Extended lifetime & temperature
- Reduced system costs
- Smaller system size

Functional Safety

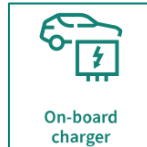
Relevant applications

Safe Control

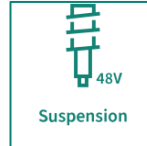
Conventional Powertrain



Electrical Drive Train



Chassis

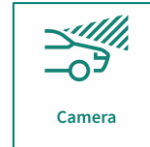


Body



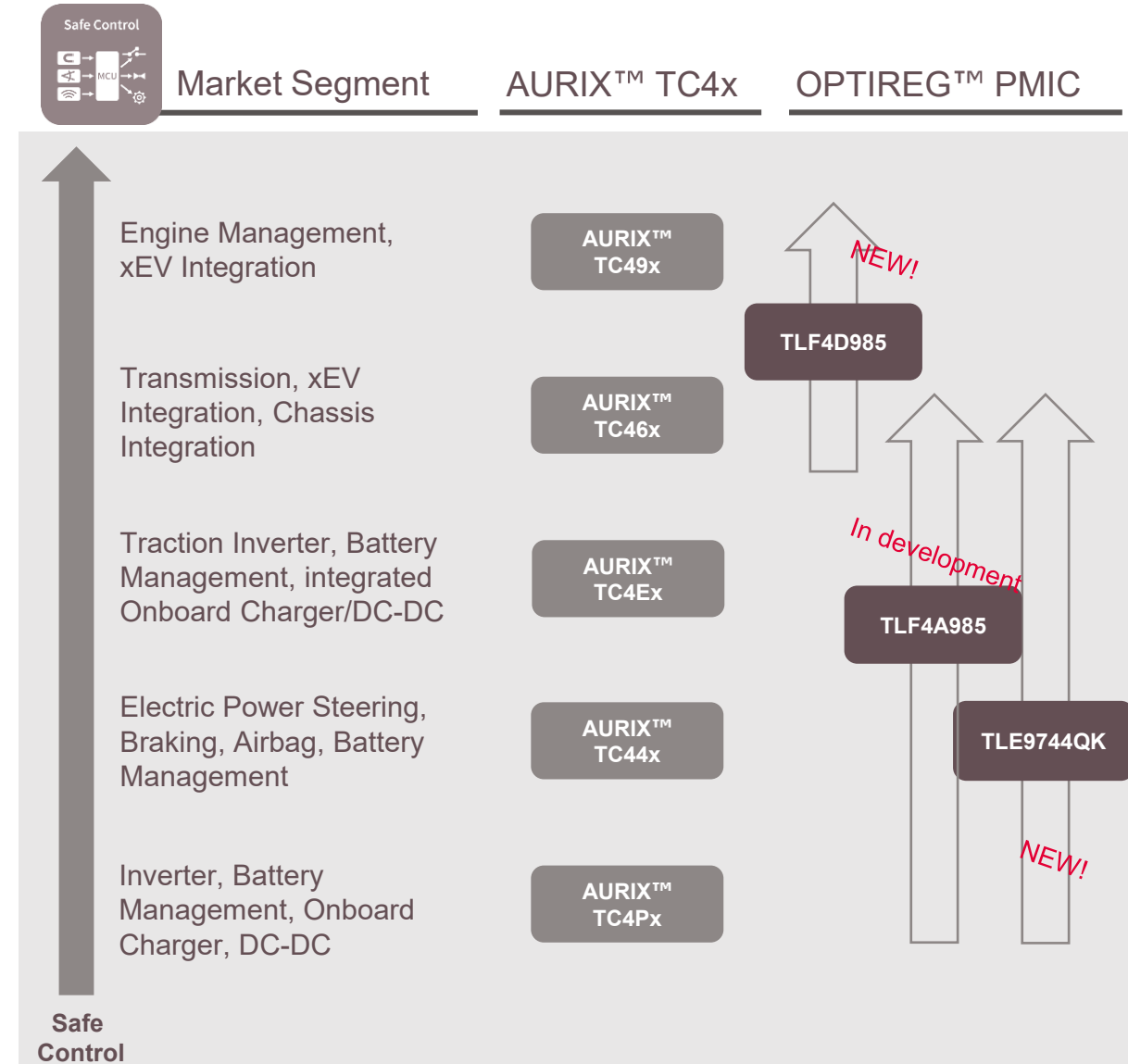
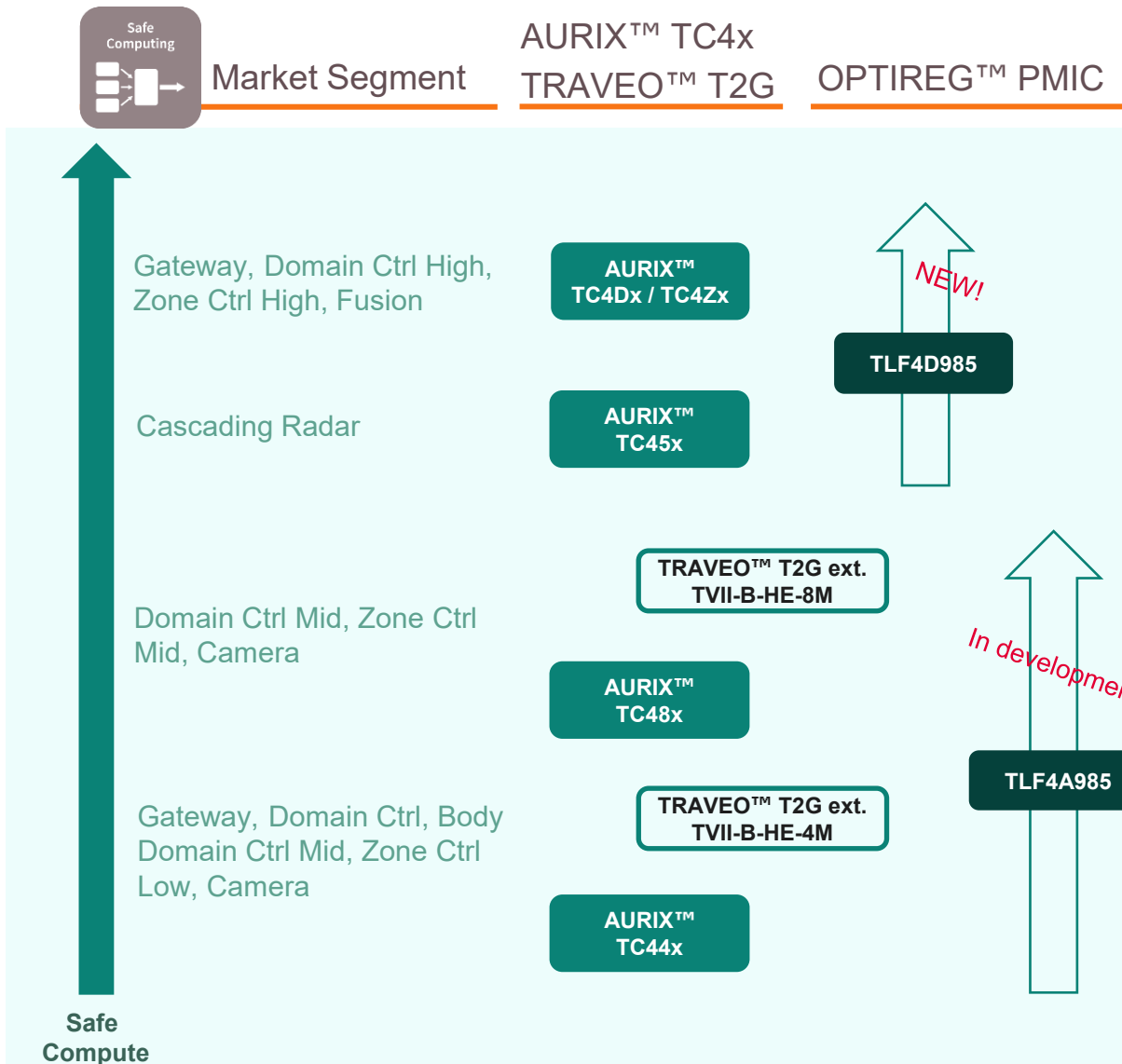
Safe Compute

Safety / ADAS



TLF4D985 PMIC for Safety-relevant applications

Fully scalable & flexible PMIC power supply solution for AURIX™ TC4x & TRAVEO™ T2G ext. family



OPTIREG™ PMIC TLF4D985 AURIX™ TC4Dx/49x/4Zx Companion System Supply IC



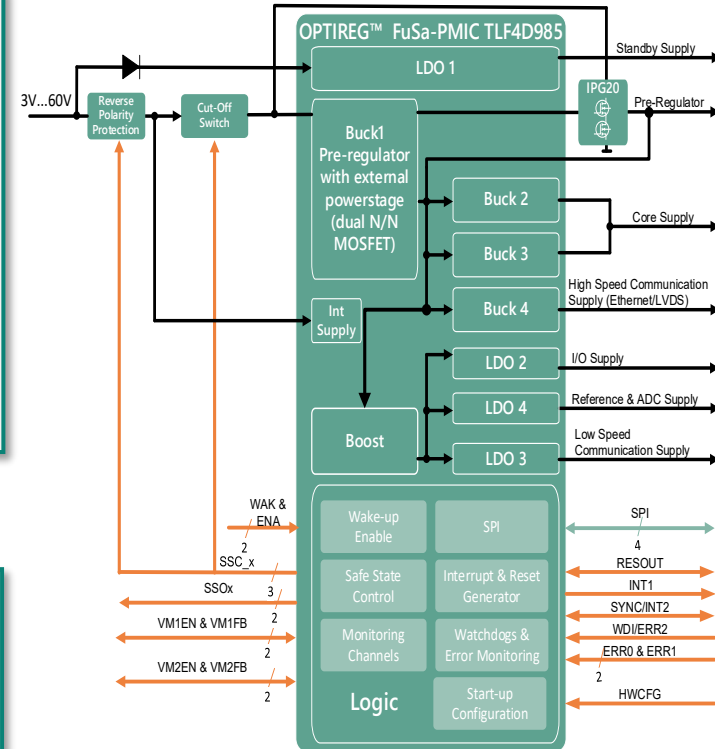
Main Features

- Optimized supply solution for AURIX™ TC4Dx/49x/4Zx.
- Grade 0 and ASIL-D** enabled by default, **Functional Safety**: ISO 26262 compliance (safety goal target ASIL-D).
- Cutoff switch** for redundant supply domain isolation for critical faults with external components
- Pre-Regulator Buck-Controller with N/N MOSFET driver providing **up to 50W**
- Microcontroller I/O supply of **3.3V/5V @ 600mA**
- Microcontroller Programming Support (MPS) control via **SPI**.

Key Benefits

- Support **high-end AURIX™ TC4Dx/49x/4Zx** covering more applications
- Address applications requiring **Tj >150°C**, extended lifetime and highest degree of **FuSa**.
- Flexibility in the **optimization of efficiency and EMC** performance.
- Support tighter stand-by currents.
- Easier debugging.

Block Diagram



LQFP-64



VQFN-56

Applications



Sensor fusion



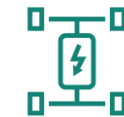
Transmission



Engine Management



Telematics gateway

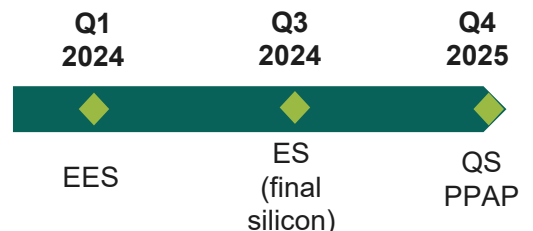


xEV



Radar

Timeline



Cross-selling

Mapping of OPTIREG™ with various microcontrollers

Find the right OPTIREG™ for your microcontroller in just a few clicks!



Scan



Click

Navigation Table

	Infineon Aurix™	Infineon Traveo™	Infineon	Texas Instruments	NXP	Renesas	ST Micro		
OPTIREG™	TC2x	TC3x	I	II	PSoC®	Piccolo™/Delfino™	S32K	RM850	SPC5x
					N/A				
							N/A	N/A	N/A
					N/A		N/A	N/A	N/A

Mapping OPTIREG™ linear with Aurix™ TC2x Microcontroller

Mapping OPTIREG™ SBC with Aurix™ TC2x Microcontroller

Mapping OPTIREG™ PMIC with ST SPC5x Microcontroller

Mapping OPTIREG™ linear with NXP S32K Microcontroller

Mapping OPTIREG™ SBC with Renesas RM850 Microcontroller

①: Supply concept example with internal core supply

②: Supply concept example with external core supply

PMIC

DC-DC

CAN/LIN DCDC/LDO

SBC

Linear

OPTIREG™

Mapping of OPTIREG™ with various microcontrollers

Find the right OPTIREG™ for your microcontroller in just a few clicks!



Scan



Click

	Infineon AURIX™		Infineon Traveo™		Infineon	Texas Instruments	NXP	Renesas	ST Micro
OPTIREG™	TC2x	TC3x	I	II	PSoC®	Piccolo™/ Delfino™	S32K	RH850	SPC5x
					N/A				
								N/A	N/A
					N/A			N/A	N/A
									

TLF11251LD/EP Integrated Half-Bridge for AURIX™-μC's Embedded Core Controller (EVRC)

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

Key Features

- Integrated PMOS and NMOS complementary output bridge
- Current capability 2.5 A
- 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
- Packages:
 - PG-TSON-10 (Grade 1)
 - PG-TSDSO-14 (Grade 0)

Package



PG-TSON-10



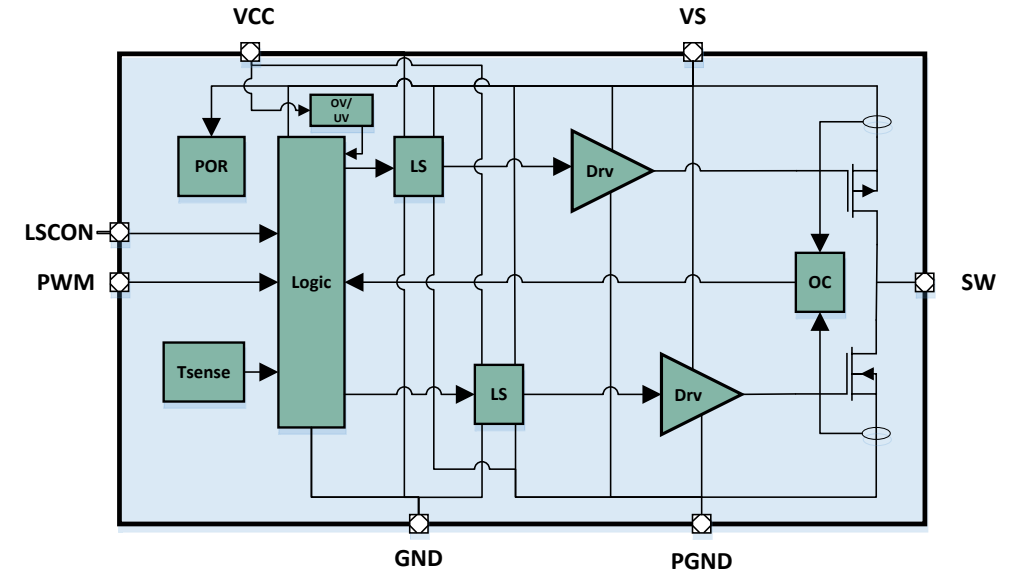
PG-TSDSO-14



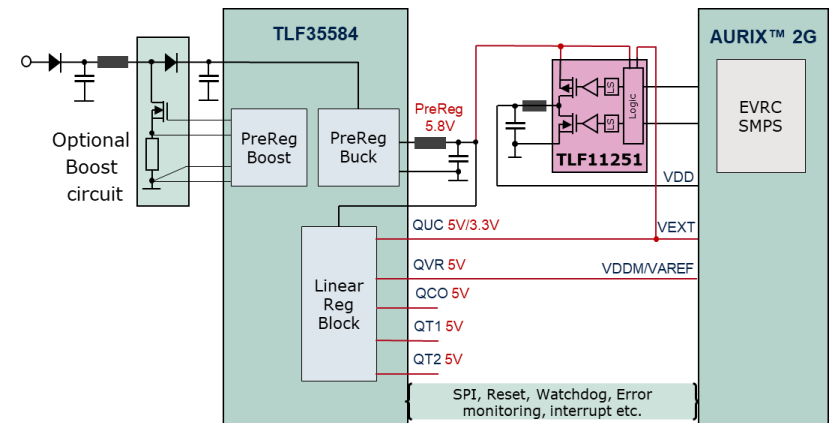
Applications

- Core-Supply Switch for Embedded Core Controller

Block Diagram



Application Diagram



Supporting Tools & Documents

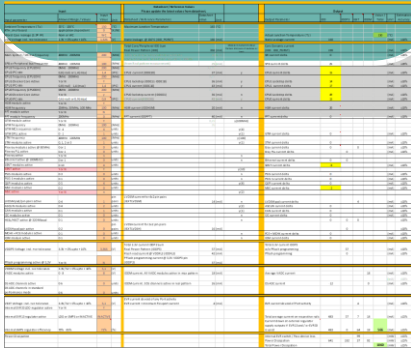
Solution Finder

Choose
AURIX™ μC

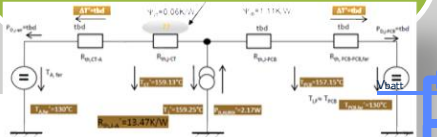


6x 300MHz 16 MB	9xA Series	TC3970A 300MHz	TC3970A 300MHz
6x 300MHz 16 MB	9x Series	TC3970A 300MHz	TC3970A 300MHz
4x 300MHz 12 MB	8x EVO	TC3870A 300MHz	TC3870A 300MHz
4x 300MHz 10 MB	8x Series	TC3870A 300MHz	TC3870A 300MHz
3x 300MHz 6 MB	7xA Series	TC3770A 300MHz	TC3770A 300MHz
2x 300MHz 4 MB	6x Series	TC3670A 300MHz	TC3670A 300MHz
2x 300MHz 4 MB	5xA Series	TC3570A 300MHz	TC3570A 300MHz
2x 300MHz 2 MB	3xA Series	TC3470A 300MHz	TC3470A 300MHz
1x 200MHz 1 MB	2x Series	TC3370A 300MHz	TC3370A 300MHz
Flash Package	TQFP 80	TQFP 130	TQFP 144
	TQFP 180	TQFP 176	LFBGA 292
			LFBGA 516

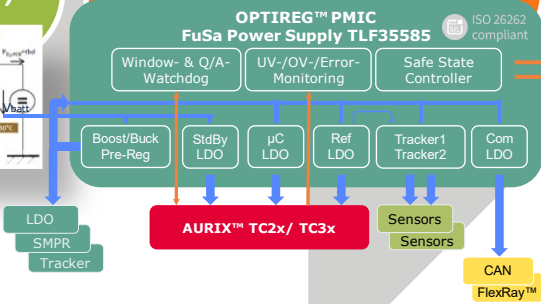
Perform
AURIX™
Loading
Calculation



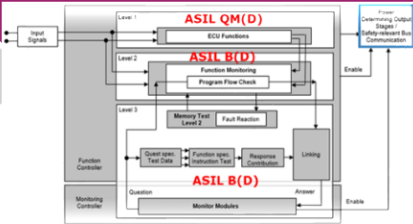
Identify
Environmental
Conditions
(temperature,
PCB data,
cooling concept)



Determine
Additional Loads
in Application
(IVN, Sensors,
etc.)

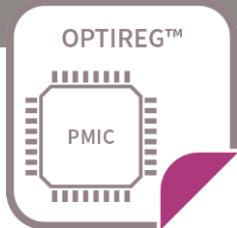


Identify ASIL
Decomposition
of Functional
Safety
Requirements

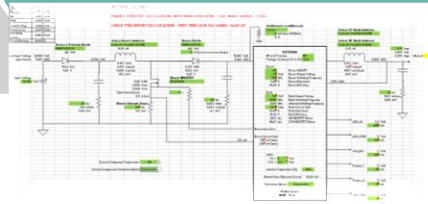


Design-In

Choose the
right
OPTIREG™
PMIC



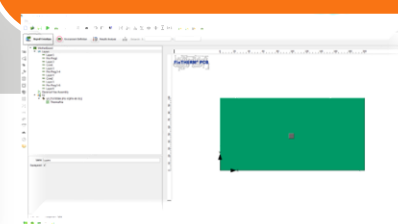
Power Loss
Calculation



Lifetime
Requirements /
Mission profile
Check



Thermal
Simulation
(TTM, Ansys®
Icepak™,
Mentor®
FloTHERM™)



Choose the
right Package

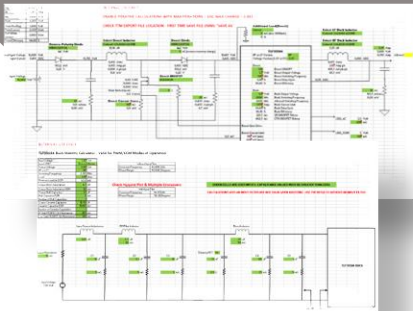


OPTIREG™ PMIC

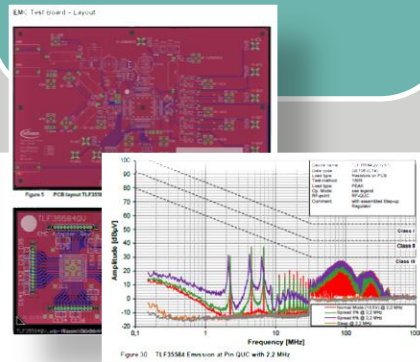
Schematic and Layout: Design & Review

Design-In

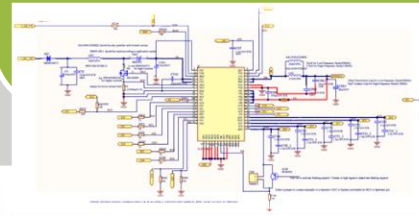
Stability
Analysis and
Choice of
External
Components



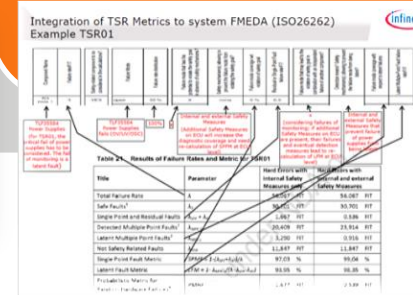
EMC Analysis
and
Improvement



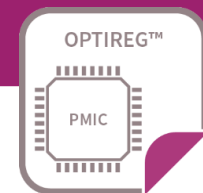
Layout &
Schematic
Review



FMEDA
Adjustment
and
Implementation



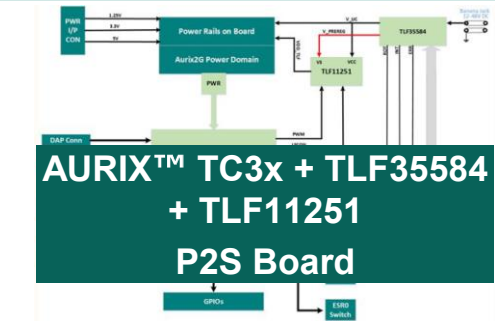
Completed
OPTIREG™
PMIC Design



OPTIREG™ PMIC Evaluation Boards

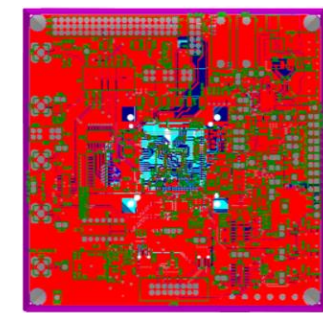
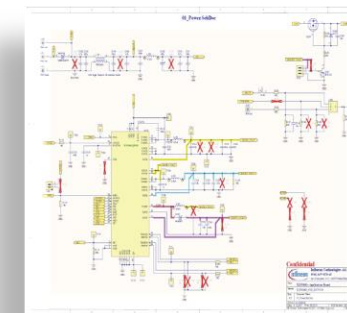
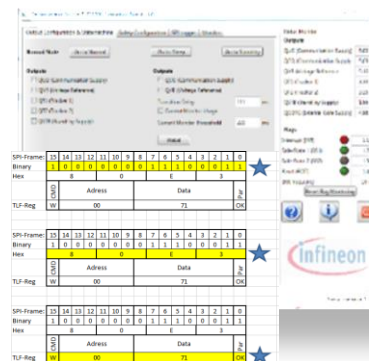
PMIC Evaluation Boards

Sales Name of Board	Description
TLF35584QxVSx Board	PMIC Evaluation Board
TLF35584MC BOARD	Microcontroller Companion Board
TLF30682 Board	PMIC Evaluation Board
A2G P2S TC3x9	Application Board



Additional Evaluation Board Tools

- › Graphical User Interface (GUI)
- › SPI Configurator
- › User Manual
- › Schematics and Layout



OPTIREG™ PMIC TLF35x Family

Evaluation Boards and their functionality

Evaluation Board

Analog Performance

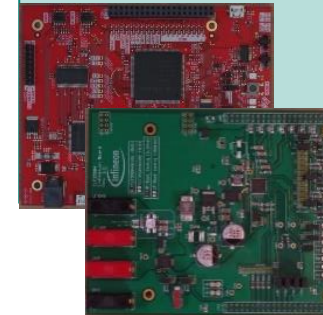
- Analog testing of TLF35x power supply performance w/o the need of a MCU



Evaluation Board + MC Board

Analog & Digital Performance

- Analog testing of TLF35x power supply performance
- Digital testing of TLF35x functionalities (e.g. WWD, FWD, SPI, ...) through the GUI



Triboard Manual TC3X9

SW Development

- Eval. Board for SW development and pre-test, e.g. to develop SW drivers for the TLF35x
- TLF11251 is used to power TC38x/9x: see the reference schematics
- [Triboard Manuals myICP folder](#)

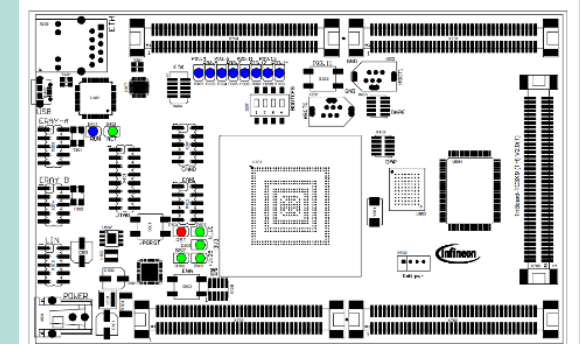
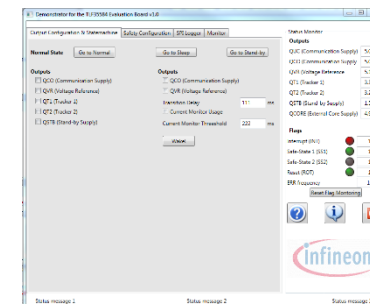
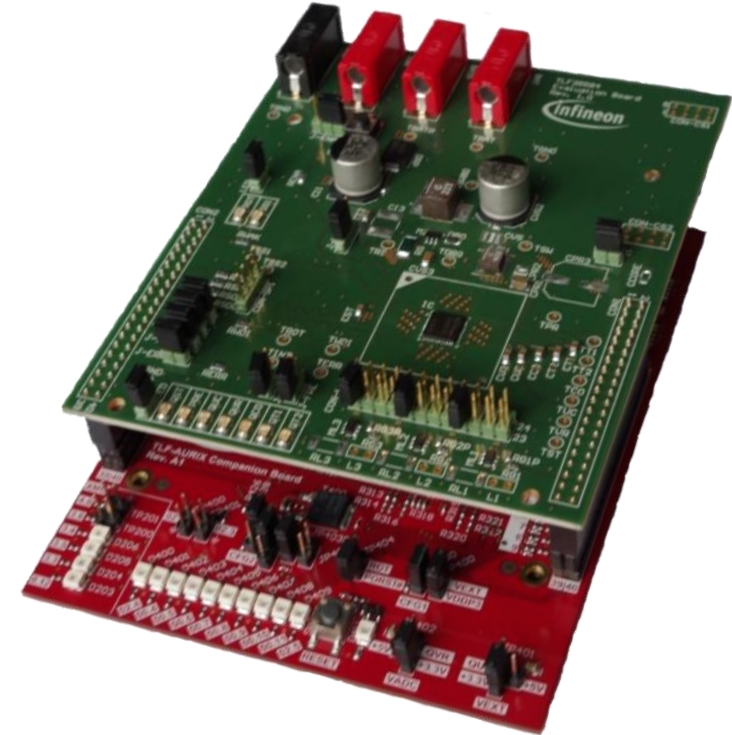


Figure 2-2 TriBoard TC3X9 (TH) V2.0(1) Placement

OPTIREG™ TLF35584 PMIC Evaluation Environment



- TLF35584-Evaluation-Boards (Green)
 - Equipped either with 3V3- or 5V-variant
 - Can be adapted to high- and low-switching frequency
- µC-Companion-Board (Red)
 - For TLF35584-configuration
 - Stack-concept
 - GUI
 - Setting parameter
 - Monitoring functions
 - Logging SPI-communication
 - Writing registers
 - Reading flags



OPTIREG™ Mid-Range+ SBC family product CO₂ footprint vs. discrete solution



System supply



Automotive DC-DC

3x



Voltage regulators

Communication interface



CAN 5Mbits
FD



lin

up to 2x

Sytem Basis Chip



Sales Name	g CO ₂ e
TLE9261-3BQX	23.67
TLE9261BQX	23.67
TLE9262-3BQX	23.67
TLE9262BQX	23.67
TLE9263-3BQX	23.67
TLE9263BQX	23.67

g CO₂e



Voltage regulators

➔ 3x 9.34



CAN 5Mbits
FD

➔ 18.56

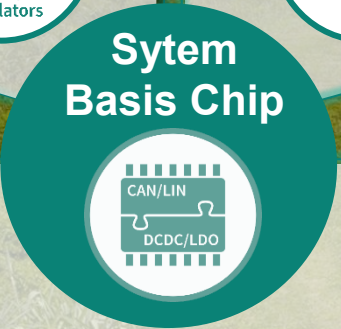


lin

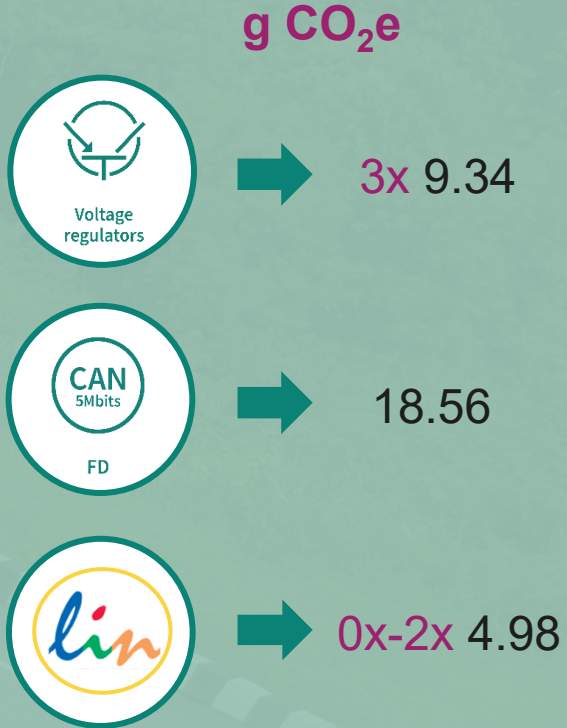
➔ 0x-2x 4.98

46.58 – 56.54

OPTIREG™ Mid-Range+ SBC family product CO₂ footprint vs. discrete solution

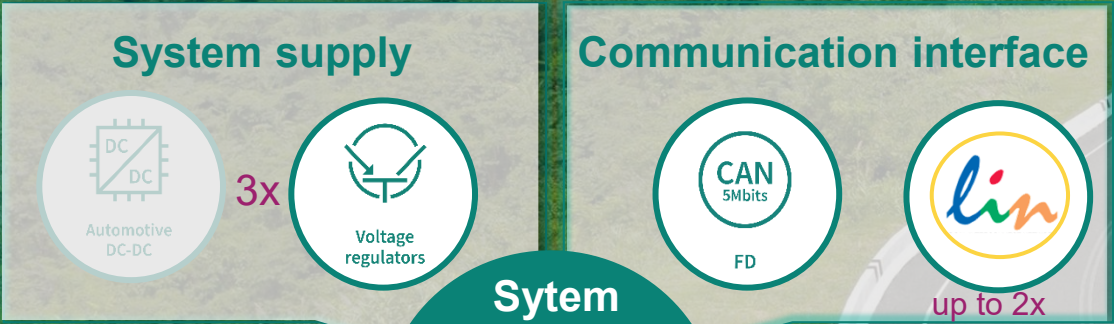


Sales Name	g CO ₂ e
TLE9261-3BQX	23.67
TLE9261BQX	23.67
TLE9262-3BQX	23.67
TLE9262BQX	23.67
TLE9263-3BQX	23.67
TLE9263BQX	23.67

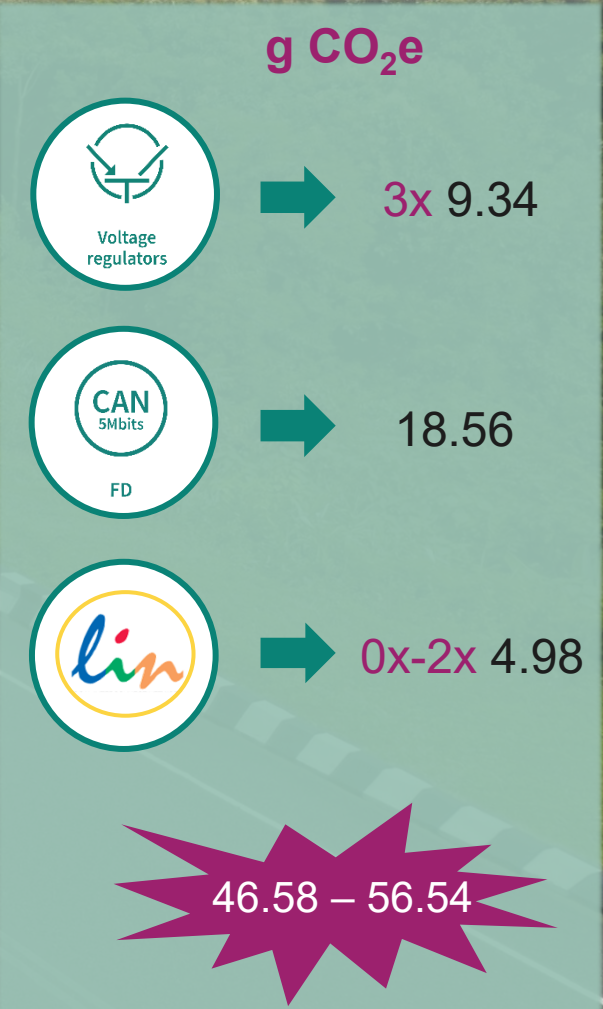


46.58 – 56.54

OPTIREG™ Mid-Range+ SBC family product CO₂ footprint vs. discrete solution



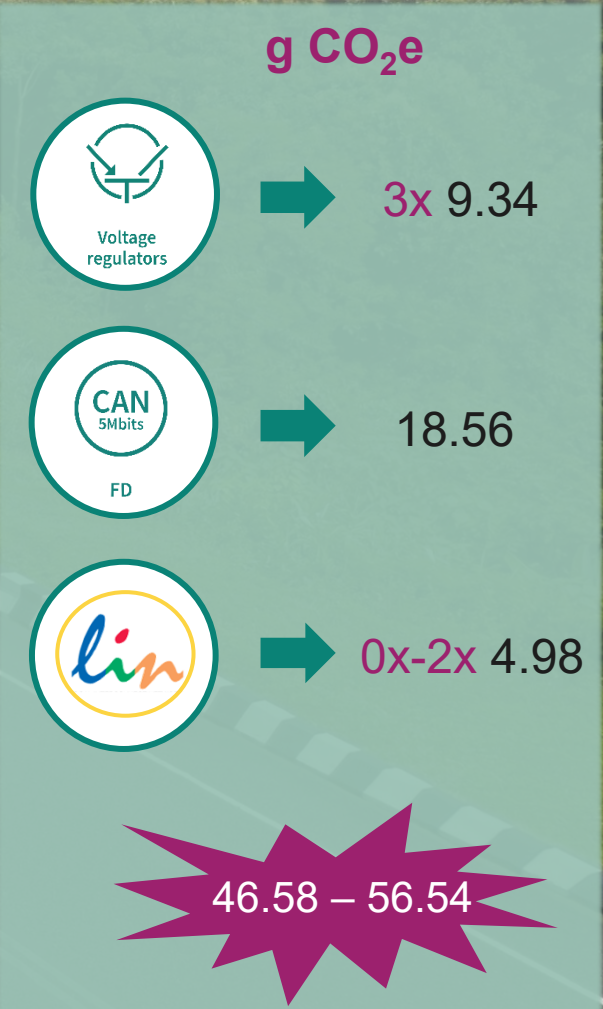
Sales Name	g CO ₂ e
TLE9261-3BQX	23.67
TLE9261BQX	23.67
TLE9262-3BQX	23.67
TLE9262BQX	23.67
TLE9263-3BQX	23.67
TLE9263BQX	23.67



OPTIREG™ Mid-Range+ SBC family product CO₂ footprint vs. discrete solution



Sales Name	g CO ₂ e
TLE9261-3BQX	23.67
TLE9261BQX	23.67
TLE9262-3BQX	23.67
TLE9262BQX	23.67
TLE9263-3BQX	23.67
TLE9263BQX	23.67



OPTIREG™ PMIC TLF35x Family

Tools & Software



Learn how to integrate AURIX™ TC3xx microcontrollers with Infineon system power supplies of the TLF family and check out existing HW

 [TLF35584 Application Note*](#)

 [TLF35585 Application Note*](#)

 [Triboard Manuals *](#)



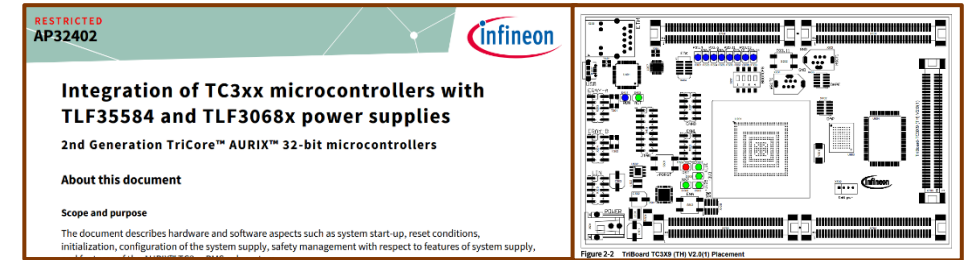
Get software support from the wide partners ecosystem of Infineon

 [Hitex SafeTpack TC3x](#)

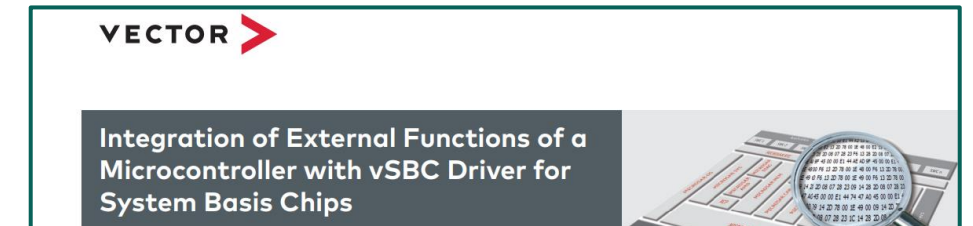
 [Vector vSBC](#)

 [AURIX™ SafeTlibTC2x*](#)

* myICP Access required



 [Find out more on AURIX™ support](#)



 [More info on the power supply partners](#)

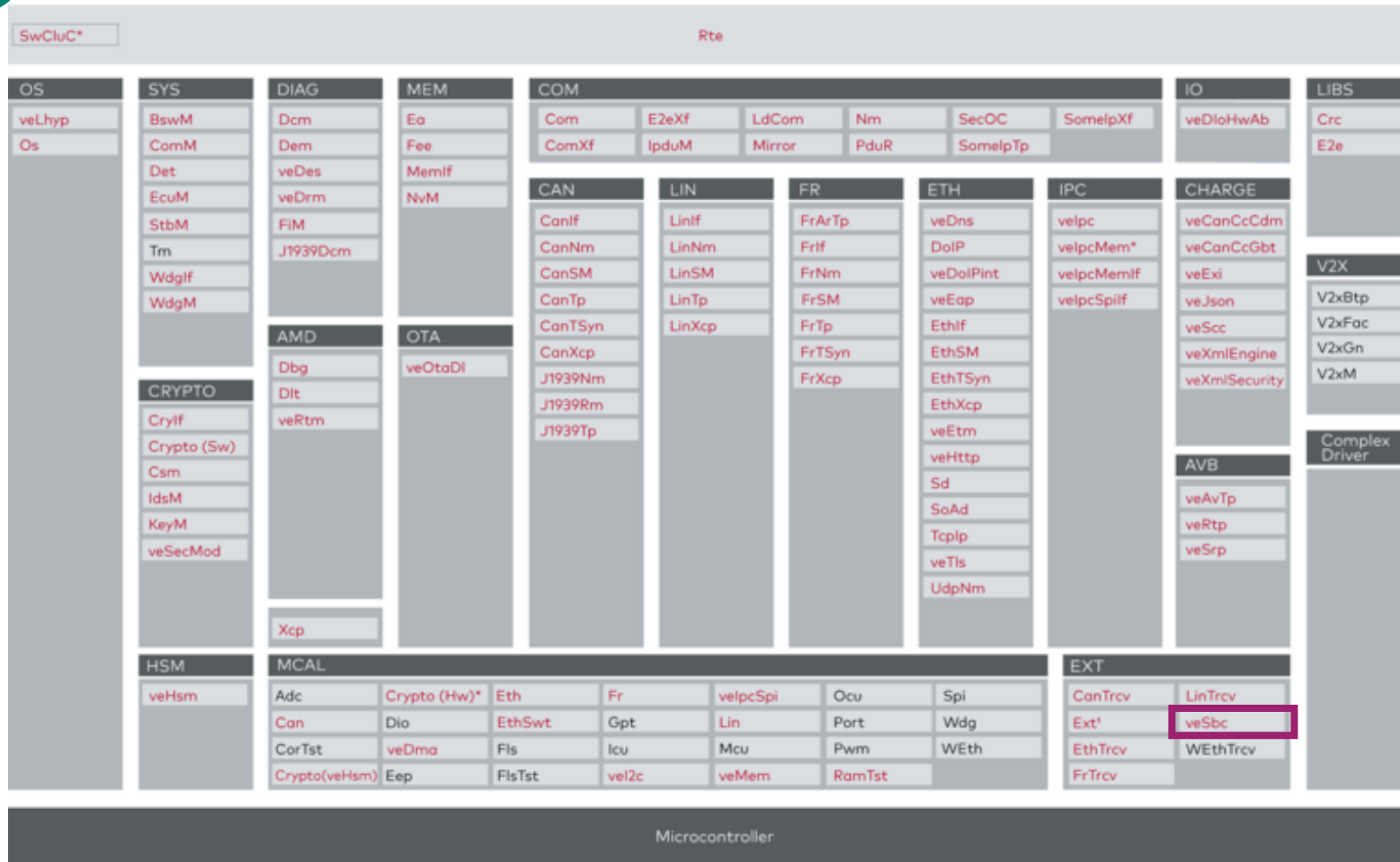
OPTIREG™ PMIC TLF35x Family

Software from the partner Vector

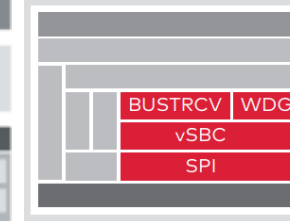


Find out more on

offering

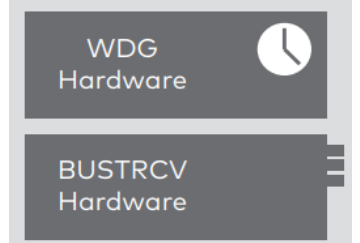


Microcontroller



Serial Bus Interface

SBC



- AUTOSAR 4 basic software fulfills the requirements of ISO 26262 up to the ASIL D level
- Registers can be handled through the RAW-API
- Virtual developing and testing AUTOSAR software though DaVinci Configurator Pro
- Independent of MCUs and compilers

* Includes Adc, Eep, Eth, EthSwt, Fls, Lin, veMem and Wdg
* Different variants available

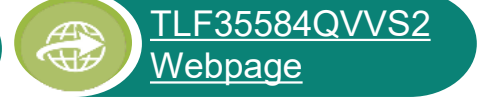
OPTIREG™ TLF35584 PMIC



Learn more about OPTIREG™ PMICs support material

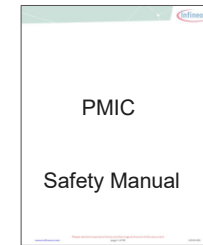
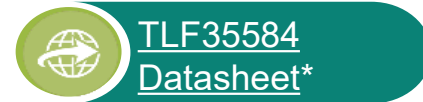
Collaterals and Brochures

- Product briefs
- Selection guides
- Application brochures
- Presentations
- Press releases



Technical Material

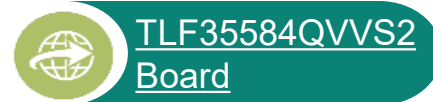
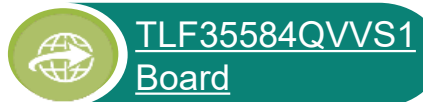
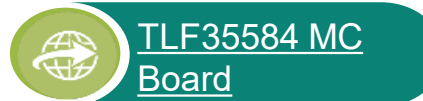
- Application notes
- Technical articles
- Simulation models
- Datasheets, MCDS Files
- PCB Design Data



Evaluation Board Companion Board

Evaluation Boards

- Evaluation boards
- Demoboards
- Reference designs



AURIX™

Further Info

- Technical videos
- Product videos

- › [Why Infineon's OPTIREG™ PMIC family is relevant for safety-related automotive applications \(E1\)](#)
- › [ATV: OPTIREG™ PMIC - Technical safety requirements and goals \(E2\)](#)

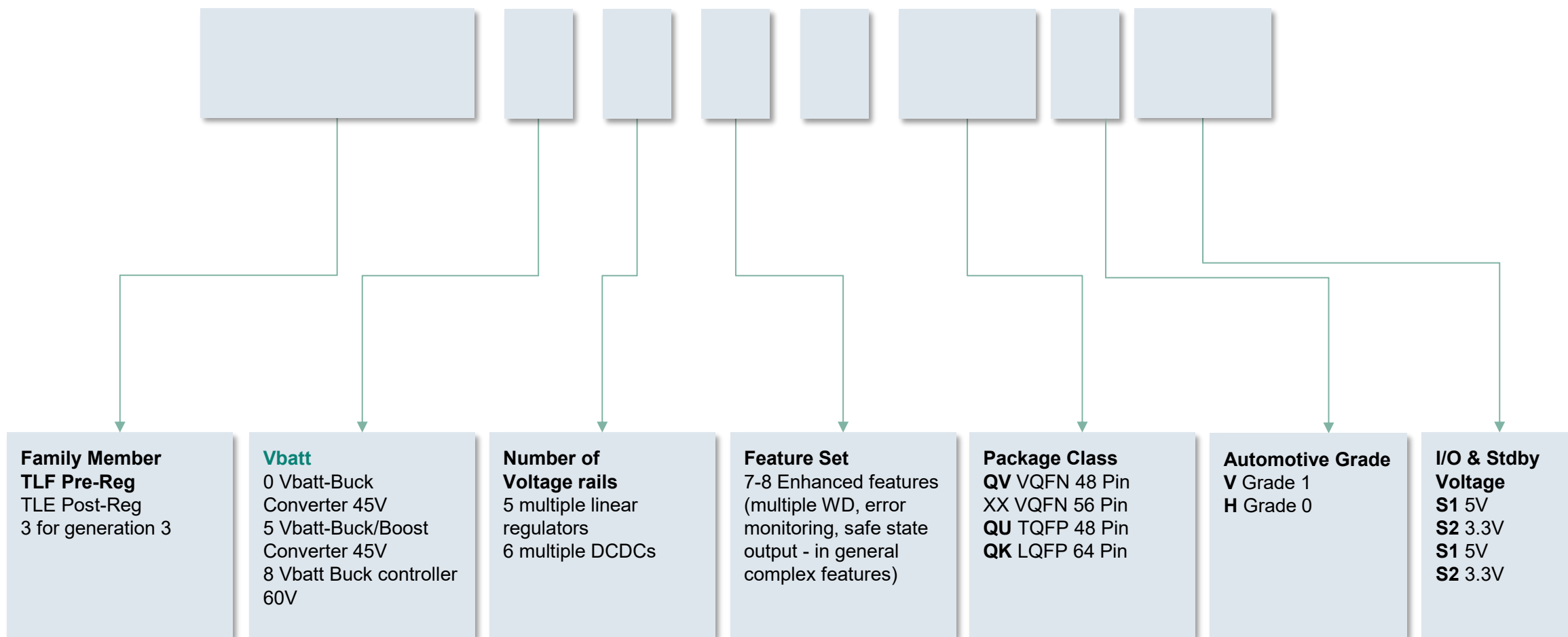


* Accessible only via myICP

Device Naming Nomenclature

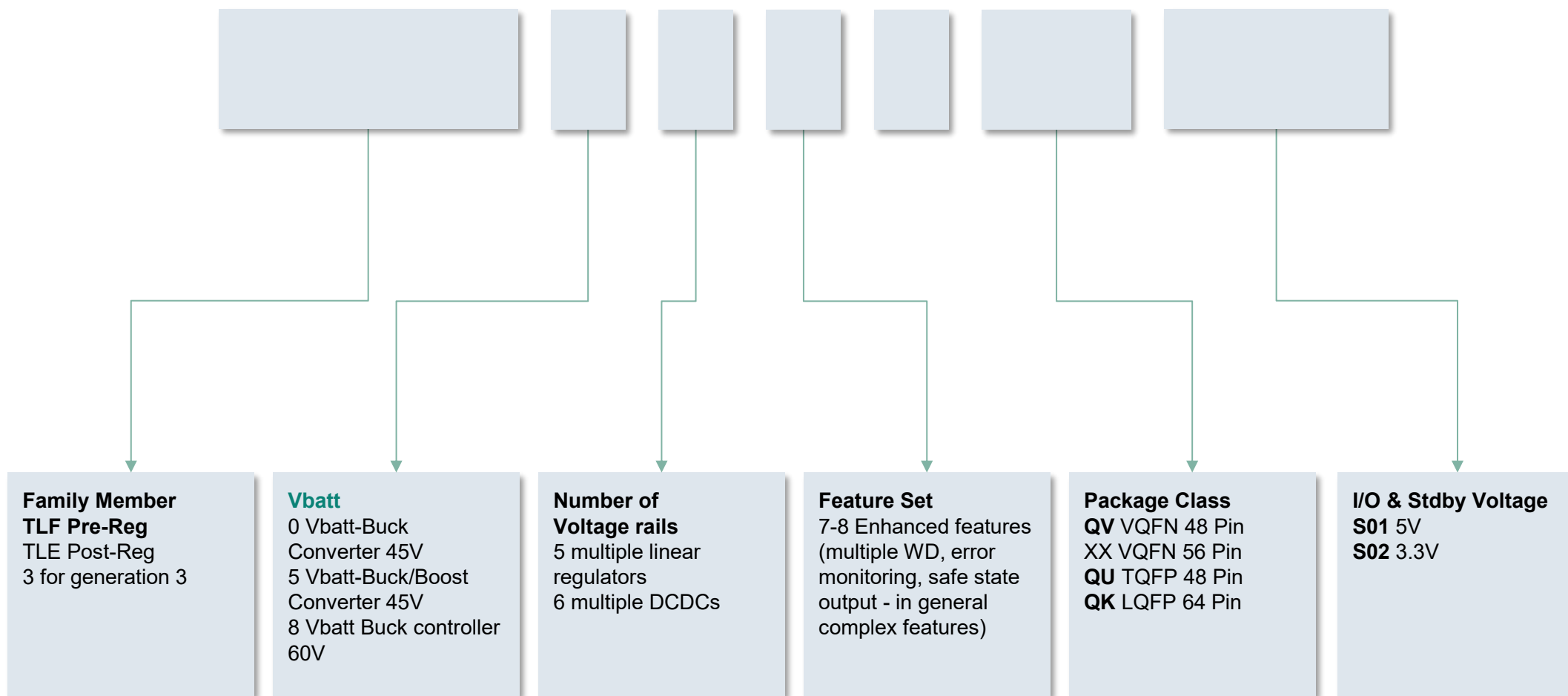
OPTIREG™ – PMICs

TLF 3 5 5 8 4 QV VS1



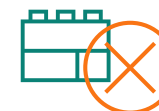
OPTIREG™ – PMICs

T L F 3 5 5 8 5 Q V S 0 1

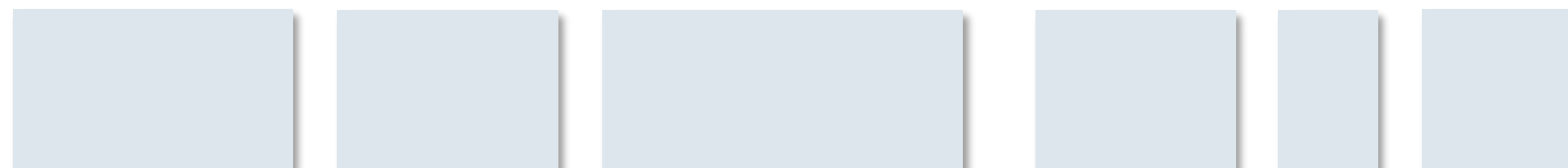


OPTIREG™ – PMICs for AURIX™ 3rd Gen. Microcontrollers and more

This is a product nomenclature guide not Legos = read not write



TLF 4 D 9 8 5 QV A 01



Family Member
TLF PMIC

Microcontroller
PMIC gen for AURIX™ up to TC4x
4D Upto TC4Dx
4A Upto TC48x
40 Upto TC42x
...

Digit #1 Feature set identifier
1..9 1..9
Digit #2 Number of differentiating Features
1..9 1..9
e.g. CHP, RSTP, hvsense, # wake sources, ext. rail supervision, low power mode
Digit #3 FuSa Feature Set
2 : Tailored FuSa (VMON, FSP, WWD)
4 : 48V power net capable
5 : Standard ASIL D (VMON, FSP, WWD, FWD, SMC)
6 : Enhanced ASIL D
/7 (VMON, FSP, WWD, FWD SMC, safety/phase disconnect/s)
9 : Active Safety (Safety Engine)

Package Class
QV VQFN 48 /56 Pin
QU TQFP 48 Pin
QK LQFP 64 Pin

Target MCU core Voltage
A(V) 1.0V (AURx)
R 1.1V (R)
T 1.15V (TVII)

Differentiating voltage or config variants (MCU I/O, Peripheral, etc.) :
50 – 5V I/O
33 – 3V3 I/O
01 – 5V0 I/O & 3V3 Peri
02 – 3V3 I/O & 3V3 Peri
03 – 3V3 I/O & 1V8 Peri
..

