

## PSE & PD

### PSE – Power Sourcing Equipment

- › Any equipment that is able to provide and source power on twisted pair Ethernet cabling

### PD – Powered Device

- › Devices that are powered by twisted pair Ethernet cabling

## Applications for IEEE 802.3bt

- › High power PoE switches
- › 5G small cells
- › Wi-Fi access points
- › IP cameras with advanced features
- › PoE lighting

**Infineon Technologies AG** is a world leader in semiconductor solutions that make life easier, safer and greener. Microelectronics from Infineon is the key to a better future.

In the 2019 fiscal year (ending 30 September), the company reported sales of €8.0 billion with around 41.400 employees worldwide.

Infineon is listed on the Frankfurt Stock Exchange (ticker symbol: IFX) and in the USA on the over-the-counter market OTCQX International Premier (ticker symbol: IFNNY).



Learn more about  
PoE solutions

Published by  
Infineon Technologies AG  
81726 Munich, Germany

© 2020 Infineon Technologies AG.  
All Rights Reserved.

Document number: B000-H0000-X-X-7600  
Date: 02/2020

[www.infineon.com](http://www.infineon.com)



## Power over Ethernet Solutions

Bring your Power over Ethernet (PoE)  
power supply designs to the next level for  
the new IEEE 802.3bt standard



[www.infineon.com/smartbuilding](http://www.infineon.com/smartbuilding)

# Power over Ethernet Solutions

Power over Ethernet (PoE) has been around for years but the latest standard IEEE 802.3bt increases the maximum power that can be delivered via a twisted pair Ethernet cabling.

- › Available power at Power Sourcing Equipment (PSE): up to 100W
- › Available power at Powered Device (PD): up to 71W

This does not only open the door for new PoE powered devices such as 5G small cells but also changes the requirements for PoE power supplies.

Infineon has long-standing expertise in power supplies and offers a highly reliable and efficient MOSFET and control IC portfolio for the power supply in your PoE designs.



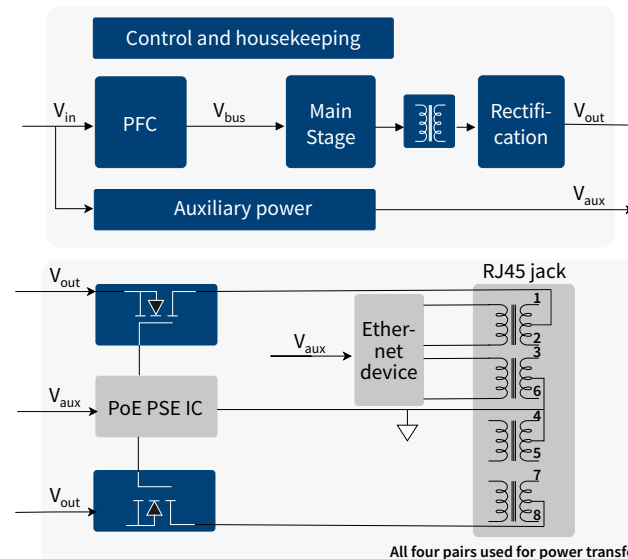
## New design challenges for PoE power supplies thanks to IEEE 802.3bt

### Power Sourcing Equipment (PSE)

- › Higher power supply output power as with every additional port up to 100W of needed power is added to the PoE power budget
- › Increased power density of the power supply to keep the existing form-factor despite an increasing output power
- › High efficiency for broad load conditions of the main power supply
- › High reliability to avoid failure and break-down

Infineon offers a wide portfolio for cutting-edge **PSE power designs** that covers the **entire range** of low, mid and high voltage semiconductors.

- › **Highly efficient and robust** high voltage **CoolMOS™** MOSFETs and low voltage **OptiMOS™** MOSFETs portfolio for cost-saving designs
- › Innovative **CoolGAN™** technology with **increased power density** for miniaturized form factors
- › **CoolSET™** AC-DC integrated power stage for auxiliary converter systems with high-efficiency and lower conduction losses



### Powered Device (PD)

- › Higher power classes, requiring also point of load (POL) designs depending on the type of powered device
- › Easy to integrate auxiliary power supply to increase flexibility if power is not available or not desired via the Ethernet cable
- › High efficiency to maximize the available power for the powered device
- › High reliability to avoid failure, even in rough environmental conditions

To support the design of **reliable and energy-efficient powered devices** Infineon's portfolio encompasses a broad range of power efficient and robust DC-DC converter solutions.

- › Power management ICs (**PMICs**)
- › **OptiMOS™** low and medium voltage MOSFETs
- › **CoolSET™** for auxiliary power supply

