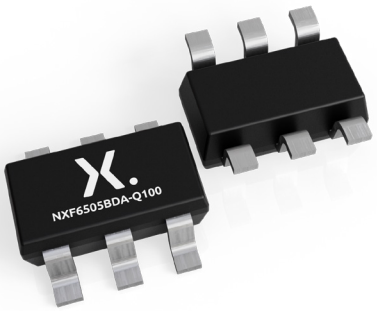
Leaflet

NXF650x(A/B)-Q100
1.2 A low noise transformer driver for isolated power supplies

Nexperia's galvanic isolation solutions ensure safety, efficiency, and reliability in modern electronic systems. The NXF650x(A/B) transformer driver portfolio delivers low noise and low EMI for isolated power supplies in small form factors. These specialized push-pull transformer drivers are AEC-Q100 qualified and suitable for both automotive and industrial applications. They're highlighted by their high output drive, fail-safe inputs, and device level protection features that ensure robust power system delivery.



Key technical features

- Push-pull driver for transformers
- Wide input voltage range: 2.25 to 5.5V
- High output drive: 1.2 A at 5 V supply
- Low R_{ON} 0.2 Ω max at 5 V supply
- Robust break-before-make (BBM)
- Fail-safe inputs prevent back-powering of local supply
- Spread-spectrum clocking for ultra-low radiated emissions
- Soft-start: 5 ms
- Over current protection with hiccup mode
- Support thermal shutdown
- Wide temperature range: –55°C to 125°C
- AEC-Q100 qualified

Key applications

- Isolated interface power supply
- Industrial automation
- Medical equipment
- Solar systems
- Charging station
- Traction inverter
- BMS
- OBC
- Body electronic

Key benefits

- Pin-to-pin drop-in upgrade. No redesign is required for systems and transformers
- Low R_{ON} and high output drive results in high efficiency
- Ultra-low radiated emissions. Meets CISPR25 class-5 and CISPR32 class-B
- Fail-safe inputs allow any order power-up and simplify system design
- Ability to use external clock to synchronize multiple transformer drivers for high current applications

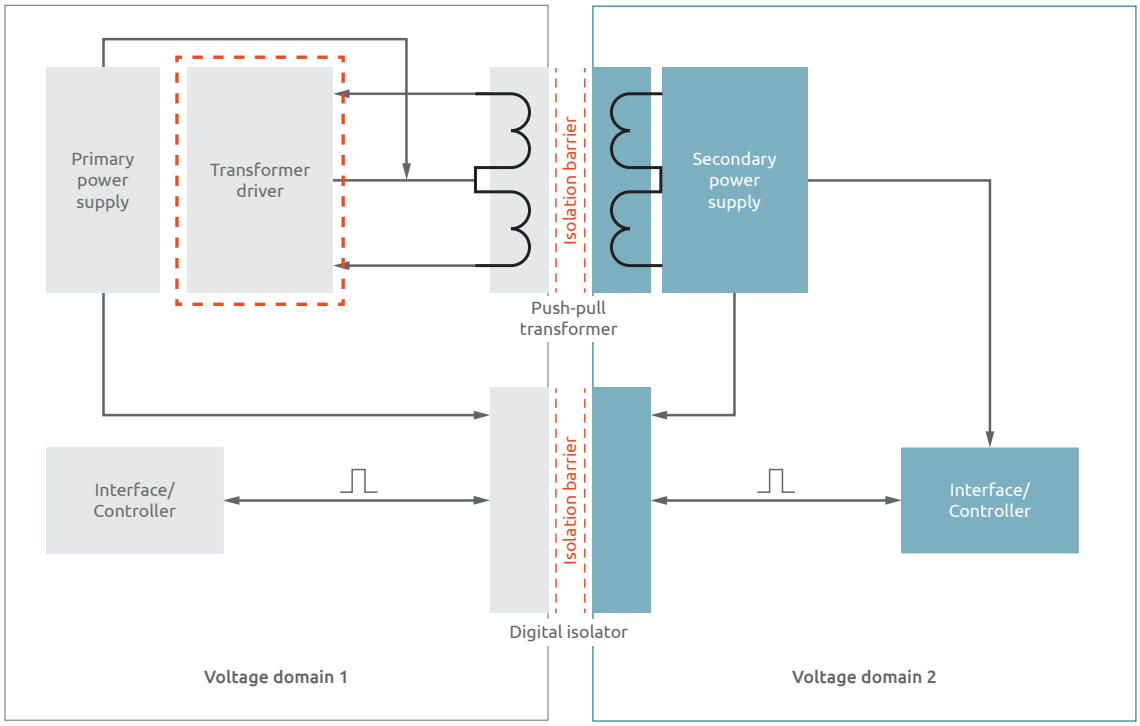
nexperia

EFFICIENCY WINS.

Typical Application

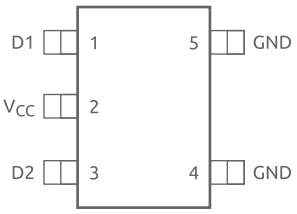
The NXF650x(A/B) is designed to provide isolated power from a single power source. They can drive low-profile, center-tapped transformers from a 2.25 V to 5 V DC power supply.

They can deliver up to 6 W of power at up to 90% efficiency in a small, SOT-23 package, and are used to provide isolated power to digital isolators and isolated interfaces, gate drivers, and sensing systems.



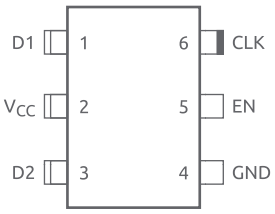
Device	Internal Clock Freq	External Clock & Disable Mode Support	Package	EMI	Solution Size	Feature
NXF6505ADA-Q100	160 kHz	Yes	SOT23-6	Lowest	Small (requires a bigger transformer than NXF6505B)	1. En - reduce standby current 2. Clk - Sync multiple XT drivers
NXF6505BDA-Q100	440 kHz	Yes	SOT23-6	Low	Smallest	1. En - reduce standby current 2. Clk - Sync multiple XT drivers
NXF6501DC-Q100	410 kHz	No	SOT23-5	Low	Smallest	No En or Sync

NXF6501 (NXF6501-Q100)



2.9 mm x 1.6 mm

NXF6505 (NXF6505A/B-Q100)



2.9 mm x 1.6 mm

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