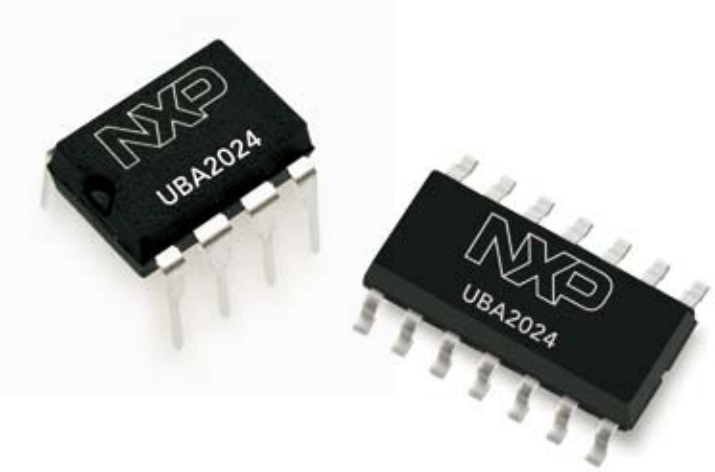


NXP half-bridge power IC UBA2024/A for CFL lamps

Fully integrated CFL solution for lamps up to 25 W

Designed for standard Compact Fluorescent Lamp (CFL) applications, the UBA2024 and the pin-for-pin compatible UBA2024 save space, increase efficiency and extend burner lifetime. Supported by a variety of design tools, they're especially easy to design in.

Key features

- Complete CFL solution for 15 W (UBA2024) and 25 W (UBA2024A)
- Maximum voltage: 550 V
- Integrated 9 Ω (UBA2024) or 6/6.4 Ω (UBA2024A) switches
- Integrated bootstrap diode and self-supplying circuitry
- Only 17 external components required including EMI filter and fusistor
- Glow phase (NXP patent)
- Adjustable operating frequency
- Compact DIP8 and SO14 packages

Key benefits

- Small form factor and increased reliability
- Maximum light output in shortest time
- Easy to match with each burner (up to 25 W)

Applications

- Indoor CFL applications

UBA2024

The NXP UBA2024 is a 550 V lamp controller and half-bridge IC equipped with 9 Ω switches. It supports standard CFL applications up to 15 W and is available in a small DIP8 or SO14 package.

The high level of integration reduces the number of external components to only 17 (compared to the 27 typically required by a discrete driver solution). The IC supports NXP's patented glow phase, and as a result delivers maximum light in the least amount of time.

The IC includes a soft-start function, an adjustable internal oscillator, and an internal drive function that has a high-voltage level shifter for driving the half bridge. To guarantee an accurate 50% duty cycle, the oscillator signal is passed through a divider before being fed to the output drivers.

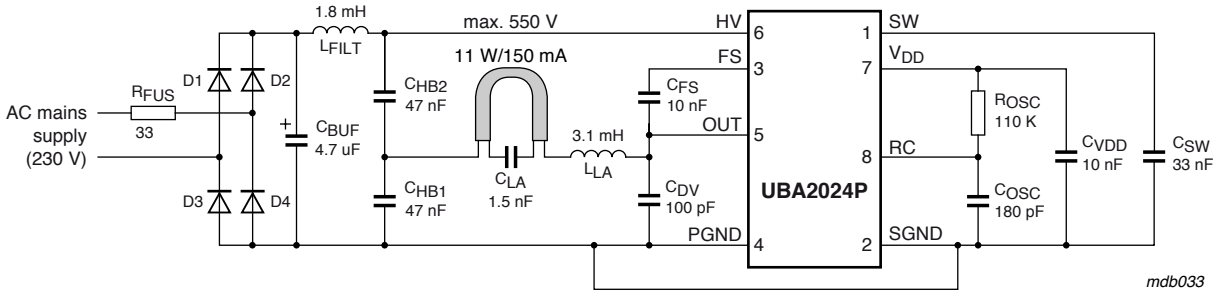
The UBA2024 is available in a demo board for 120 and 230 VAC and is supplied with a calculation tool that lets the engineer fine-tune the board to a given burner specification.

NXP founded by Philips

UBA2024A

The UBA2024A is a pin-compatible variant of the UBA2024. It extends the application range to include systems up to 25 W. In the DIP8 package, it integrates 6 Ω switches, and in the SO14 package, it has 6.4 Ω switches. It enables a single PCB layout with multiple power levels, and reduces switching losses with up to a 5-6% improvement in efficiency. When compared to a discrete driver, the UBA2024A delivers a lower P_{tot} with the same Plamp, higher efficiency, and lower loss.

UBA2024 block diagram



UBA2024/A selection guide

Type	Package	R_{DSON} (Ω)	Isat (mA)
UBA2024P	DIP8	9.0	900
UBA2024T	SO14	9.0	900
UBA2024AP	DIP8	6.0	1350
UBA2024AT	SO14	6.4	1200

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