

Description of PN8046

PN8046 is a high-performance non-isolated AC-DC conversion chip that integrates a PFM controller and a 650V high avalanche-capable intelligent power MOSFET. It is designed for small-power non-isolated switch-mode power supplies with minimal peripheral components, making it ideal for smart home appliances. The chip features an internal 650V high-voltage startup module, enabling fast startup and ultra-low standby functionality. Additionally, it provides comprehensive intelligent protection mechanisms, including over-load protection (OLP), under-voltage lockout (UVLO), and over-temperature protection (OTP).

Parameters of PN8046

Parameter	Value
Integrated MOSFET Voltage	650V
Output Voltage	18V
Output Current	0.45A - 0.5A
Steady-State Output Power	9W @ 230VAC
Package Type	DIP-8
Protection Features	Overload Protection (OLP), Over-Temperature Protection (OTP)

Replacement Models for PN8046

For applications requiring a replacement for PN8046, the following models are recommended:

- [BP85978P](#): A pin-to-pin compatible alternative from Bright Power Semiconductor, offering enhanced efficiency and thermal performance.

Key Features of Replacement Model

The [BP85978P](#) model offers several advantages over PN8046, including:

- Improved efficiency by up to 2% when using optimized inductors.
- Reduced temperature rise by 5°C compared to PN8046.
- Faster startup time (120ms vs. 150ms).
- Direct compatibility with existing PCB designs, requiring no modifications or additional wiring.

-

Conclusion

PN8046 is a reliable and efficient solution for low-power non-isolated power supply applications. Its robust design and integrated protection features make it suitable for smart appliances. For users seeking alternatives, the [BP85978P](#) model provides a seamless upgrade path with improved performance metrics while maintaining compatibility with existing designs.