Bidirectional High-Side Power Switch for Charger and USB#OTG Combined Applications

NX5P3001UK

Last Updated: Dec 23, 2025

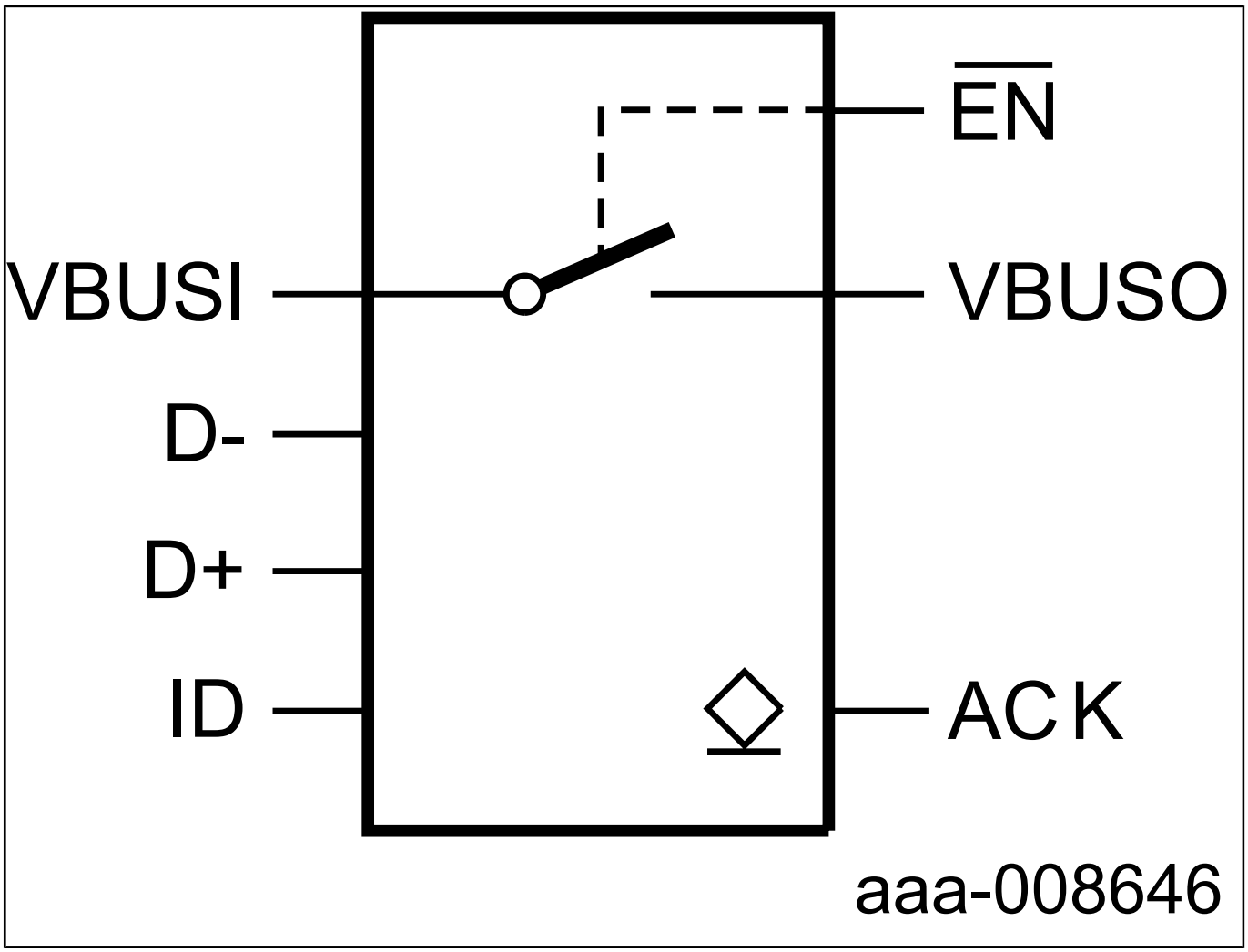
The NX5P3001 is an advanced bidirectional power switch and ESD-protection device for combined USB#OTG and charger port applications. It includes undervoltage lockout, overvoltage lockout and overtemperature protection circuits designed to automatically isolate the power switch terminals when a fault condition occurs.

The device features two power switch input/output terminals (VBUSI and VBUSO), an open-drain acknowledge output (ACK), an enable input which includes logic level translation (EN) and low capacitance Transient Voltage Suppression (TVS) type ESD#clamps for USB data and ID pins.

When EN is set HIGH the device enters a low-power mode, disabling all protection circuits. When used in combined charger and USB#OTG applications the 30 V tolerant VBUSI switch terminal is used as the supply and switch input when charging, for USB#OTG the VBUSO switch terminal is used as the supply and switch input.

Designed for operation from 3.2 V to 6.35 V, it is used in battery charging and power domain isolation applications to reduce power dissipation and extend battery life.

NX5P3001UK Block Diagram Block Diagram



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