

Power Management

Semiconductor solutions for desktops, servers, and workstations

Philips' robust portfolio of semiconductor products for power management and power supply gives designers of desktop PCs, workstations, and servers innovative solutions for increasing power efficiency, lowering chip count, and saving board space.



Philips products for power management and supply (followed by part number)

Desktops and workstations (motherboard)

- > DDR termination regulator: NE57810
- > 20-50 V N-channel MOSFETs: PH3230, PH5330
- > Temperature sensors: LM75A, NE1617, NE1618, NE1619
- > Reset switches: MAX708, MAX709, MAX810

Servers (VRM, main board, and power supply)

- > Integrated buck converters: PIP201-12M, PIP202-12M
- > Intelligent power supply switch: PIP401 ORIS
- > 20-50 V N-channel MOSFETs: PH3230, PH5330

Backed by industry-leading research and world-class manufacturing, Philips power ICs deliver high performance in a wide range of functions. From the world's most efficient DC/DC converter to highly integrated, fully programmable power management units, Philips power products consistently provide higher efficiency, a smaller footprint, optimal use of board space, and lower cost. For desktop PCs, workstations, and servers, Philips innovative power solutions include integrated buck converters, an intelligent OR-ing switch, DDR termination, 20-50 V N-channel MOSFETs, reset switches, temperature sensors, and more.

Integrated buck converters

An integrated powertrain solution, the Philips PIP20x-12M is a complete, single-phase synchronous buck converter in a compact 10x10x0.9 mm format. It delivers switching frequencies up to one MHz and drives up to 23 A of continuous output current. Compatible with industry-standard single- and multi-phase PWM controllers, the PIP20x-12M eliminates many design issues associated with synchronous buck converters, such as FET selection, driver integration, power handling capability, and PCB layout.

Intelligent power supply switching

The Philips PIP401 ORIS intelligent OR-ing switch ensures fast, error-free transitions between redundant power supplies. It has an early warning flag and responds to failures in under 400 ns. With a Pf of only four W, the PIP401 ORIS delivers performance 68 percent better than a Schottky device and 38 percent better than a MOSFET.

DDR termination

The Philips NE57810 single-chip DDR termination regulator improves signal integrity and I/O bandwidth in as little as 30 percent

PHILIPS

Power Management

Semiconductor solutions for desktops, servers, and workstations



Philips offers a complete line of semiconductor products for handling power functions in desktop PCs, workstations, and servers.



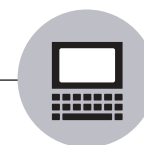
DESKTOP & WORKSTATION MOTHERBOARDS

- > DDR terminators
- > MOSFETs in LFPAK
- > temperature sensors
- > reset switches



SERVERS

- > integrated buck converters
- > intelligent OR-ing switch
- > MOSFETs in LFPAK



LAPTOPS & NOTEBOOKS

- > DDR terminators
- > MOSFETs in LFPAK
- > GreenChip II flyback controllers
- > temperature sensors
- > reset switches

of the space required by discrete solutions. Its linear design eliminates the need for external inductors or switching FETs. It maintains termination voltage at one-half the memory supply voltage. Providing sustained current up to +/- 3.5 A, the NE57810 is compatible with today's 2.5 V memories and supports next-generation 1.8 V systems.

20-50 V N-channel MOSFETs in LFPAK packaging

For DC/DC converters used in high-frequency power switching applications, 20-50 V N-channel MOSFETs deliver cooler, more efficient performance through LFPAK, Philips' new 'loss-free' packaging technology. LFPAK improves on the thermal characteristics of the SO8 package, enabling the Philips PH3230 and PH5330 MOSFETs to minimize power dissipation by lowering the device operating temperature and transferring heat more efficiently. In addition, they lower resistance by about 50 percent and reduce package height by 40 percent.

Temperature sensors

For monitoring temperature changes, the highly accurate Philips LM75A sensor supports a temperature resolution of 0.125 °C and includes a thermal Watchdog™. Programmable NE161x sensors monitor internal and remote temperatures.

Reset switches

Philips reset switches monitor power-supply and battery functions over a range of voltages, improving system reliability and accuracy. Philips MAX70x and MAX810 active-high and active-low reset output switches are direct pin-for-pin replacements for industry-standard products.

Philips Semiconductors

Philips Semiconductors is a worldwide company with over 100 sales offices in more than 50 countries. For a complete up-to-date list of our sales offices please e-mail sales.addresses@www.semiconductors.philips.com. A complete list will be sent to you automatically. You can also visit our website <http://www.semiconductors.philips.com/sales>.

© Koninklijke Philips Electronics N.V. 2002

SCL 76

All rights reserved. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice. No liability will be accepted by the publisher for any consequence of its use. Publication thereof does not convey nor imply any license under patent- or other industrial or intellectual property rights.



Date of release: September 2002
document order number: 9397-750-10347

Published in USA