

ADVANCE INFORMATION

All information in this data sheet is preliminary and subject to change.

8/97



Serial-to-Parallel/Parallel-to-Serial Converters and Load-Switch Controllers with SMBus Interface

General Description

The MAX1661/MAX1662/MAX1663 are serial-to-parallel/parallel-to-serial converters intended to control external power MOSFETs in power-plane switching applications. These small, low-cost devices can be used on a system motherboard to manage point-of-load switching from a 2-wire SMBus™ serial interface. Each device has three high-voltage, open-drain outputs that double as TTL-level logic inputs, giving them bidirectional capabilities. The I/O pins can withstand 28V and are therefore capable of controlling battery-voltage distribution switches in notebook computers.

There are two basic device types: the MAX1661 is intended for N-channel MOSFETs, while the MAX1662/MAX1663 are intended for P-channel MOSFETs. The MAX1661's outputs are low, whereas the MAX1662/MAX1663's outputs become high upon power-up. This ensures that the MOSFETs are off at power up so that the system can enforce power-plane sequencing.

The SMBUS control input selects between control data previously written to two separate data registers. This feature allows the system to select asynchronously between two different power-plane configurations, eliminating latencies introduced by the serial bus. Other features include thermal-overload and overcurrent protection, ultra-low supply current, and hardware/software-interrupt capability.

Applications

Point-of-Load	Power-Plane Switching
Power-Bus Switching	Smart Batteries
Notebook and Subnotebook Computers	Desktop Computers

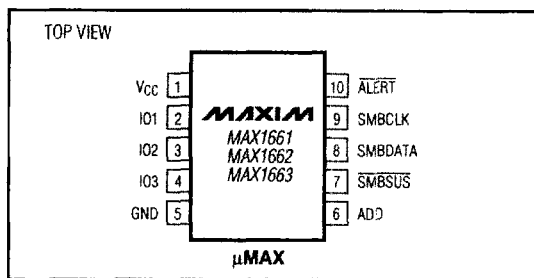
Features

- ◆ Performs Serial-to-Parallel or Parallel-to-Serial Conversions
- ◆ Three General-Purpose Digital Input/Output Pins
- ◆ SMBus 2-Wire Serial Interface
- ◆ Supports SMBUS Asynchronous Suspend
- ◆ 3µA Typical Supply Current
- ◆ +2.7V to +5.5V Supply Range
- ◆ I/Os Can Withstand +28V
- ◆ Available in a Space-Saving, Low-Cost, 10-Pin µMAX Package

Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX1661EUB	-40°C to +85°C	10 µMAX
MAX1662EUB	-40°C to +85°C	10 µMAX
MAX1663EUB	-40°C to +85°C	10 µMAX

Pin Configuration



Selector Guide

PART	POWER-ON RESET STATE	APPLICATION	SMBus ADDRESS	
			ADDRESS PIN	ADDRESS
MAX1661	Outputs low	N-channel MOSFETs	GND	0100000
			High-Z	0111100
			Vcc	1001000
MAX1662	Outputs high	P-channel MOSFETs	GND	0100001
			High-Z	0111101
			Vcc	1001001
MAX1663	Outputs high	P-channel MOSFETs	GND	0100010
			High-Z	0111110
			Vcc	1001010

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MAX1661/MAX1662/MAX1663

Serial-to-Parallel/Parallel-to-Serial Converters and Load-Switch Controllers with SMBus Interface

Typical Operating Circuits

MAX1661/MAX1662/MAX1663

