LPC47M997

LPC Super I/O with Hardware Monitoring Block

Data Brief

Product Features

- 3.3 Volt Operation (SIO Block is 5 Volt Tolerant)
- LPC Interface
- ACPI 1.0/2.0 Compliant
- Fan Control
  - Fan Speed Control Outputs (2)
  - Fan Tachometer Inputs (2)
- Programmable Wake-up Event Interface
- PC98, PC99, PC01 Compliant
- Dual Game Port Interface
- MPU-401 MIDI Support
- General Purpose Input/Output Pins (37)
- ISA Plug-and-Play Compatible Register Set
- Intelligent Auto Power Management
- System Management Interrupt
- 2.88MB Super I/O Floppy Disk Controller
  - Licensed CMOS 765B Floppy Disk Controller
  - Software and Register Compatible with SMSC's Proprietary 82077AA Compatible Core
  - Supports Two Floppy Drives
  - Configurable Open Drain/Push-Pull Output Drivers
  - Supports Vertical Recording Format
  - 16-Byte Data FIFO
  - 100% IBM Compatibility
  - Detects All Overrun and Underrun Conditions
- Sophisticated Power Control Circuitry (PCC) Including Multiple Powerdown Modes for Reduced Power Consumption
  - DMA Enable Logic
  - Data Rate and Drive Control Registers
  - 480 Address, Up to 15 IRQ and Three DMA Options
- Enhanced Digital Data Separator
  - 2 Mbps, 1 Mbps, 500 Kbps, 300 Kbps, 250 Kbps Data Rates
  - Programmable Precompensation Modes

- Keyboard Controller
  - 8042 Software Compatible
  - 8 Bit Microcomputer
  - 2k Bytes of Program ROM
  - 256 Bytes of Data RAM
  - Four Open Drain Outputs Dedicated for Keyboard/Mouse Interface
  - Asynchronous Access to Two Data Registers and One Status Register
  - Supports Interrupt and Polling Access
  - 8 Bit Counter Timer
  - Port 92 Support
  - Fast Gate A20 and KRESET Outputs
- Serial Ports
  - Two Full Function Serial Ports
  - High Speed 16C550A Compatible UARTs with Send/Receive 16-Byte FIFOs
  - Supports 230k and 460k Baud
  - Programmable Baud Rate Generator
  - Modem Control Circuitry
  - 480 Address and 15 IRQ Options
- Infrared Port
  - Multiprotocol Infrared Interface
  - IrDA 1.0 Compliant
  - SHARP ASK IR
  - 480 Addresses, Up to 15 IRQ
- Multi-Mode Parallel Port with ChiProtect
- Standard Mode IBM PC/XT, PC/AT, and PS/2 Compatible Bi-directional Parallel Port
  - Enhanced Parallel Port (EPP) Compatible - EPP 1.7 and EPP 1.9 (IEEE 1284 Compliant)
  - IEEE 1284 Compliant Enhanced Capabilities Port (ECP)
  - ChiProtect Circuitry for Protection
  - 960 Address, Up to 15 IRQ and Three DMA Options

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- LPC Interface
  - Multiplexed Command, Address and Data Bus
  - Serial IRQ Interface Compatible with Serialized IRQ Support for PCI Systems
  - PME Interface
- Hardware Monitor
  - Monitor Power supplies (+2.5V, +3.3V, +5V, +12V, +1.8V, +1.5V, Vccp (processor voltage), and VCC or HVSB)
  - Remote Thermal Diode Sensing for Two External Temperature Measurements
  - Internal Ambient Temperature Measurement
  - Limit Comparison of all Monitored Values
  - System Management Bus (SMBus) Interface
  - THERM# Pin for out-of-limit Temperature or Voltage Indication
  - RESET# Pin for generating 20msec Low Reset Pulse
  - Configurable offset for internal or external temperature channels

- Phoenix Keyboard BIOS ROM
- 128 Pin QFP, lead-free RoHS compliant package, 3.2mm footprint

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ORDERING INFORMATION

Order Number:

LPC47M997-NW for 128 pin, QFP lead-free RoHS compliant package

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80 ARKAY DRIVE, HAUPPAUGE, NY 11788 (631) 435-6000, FAX (631) 273-3123

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Block Diagram

Figure 1 - LPC47M997 Block Diagram

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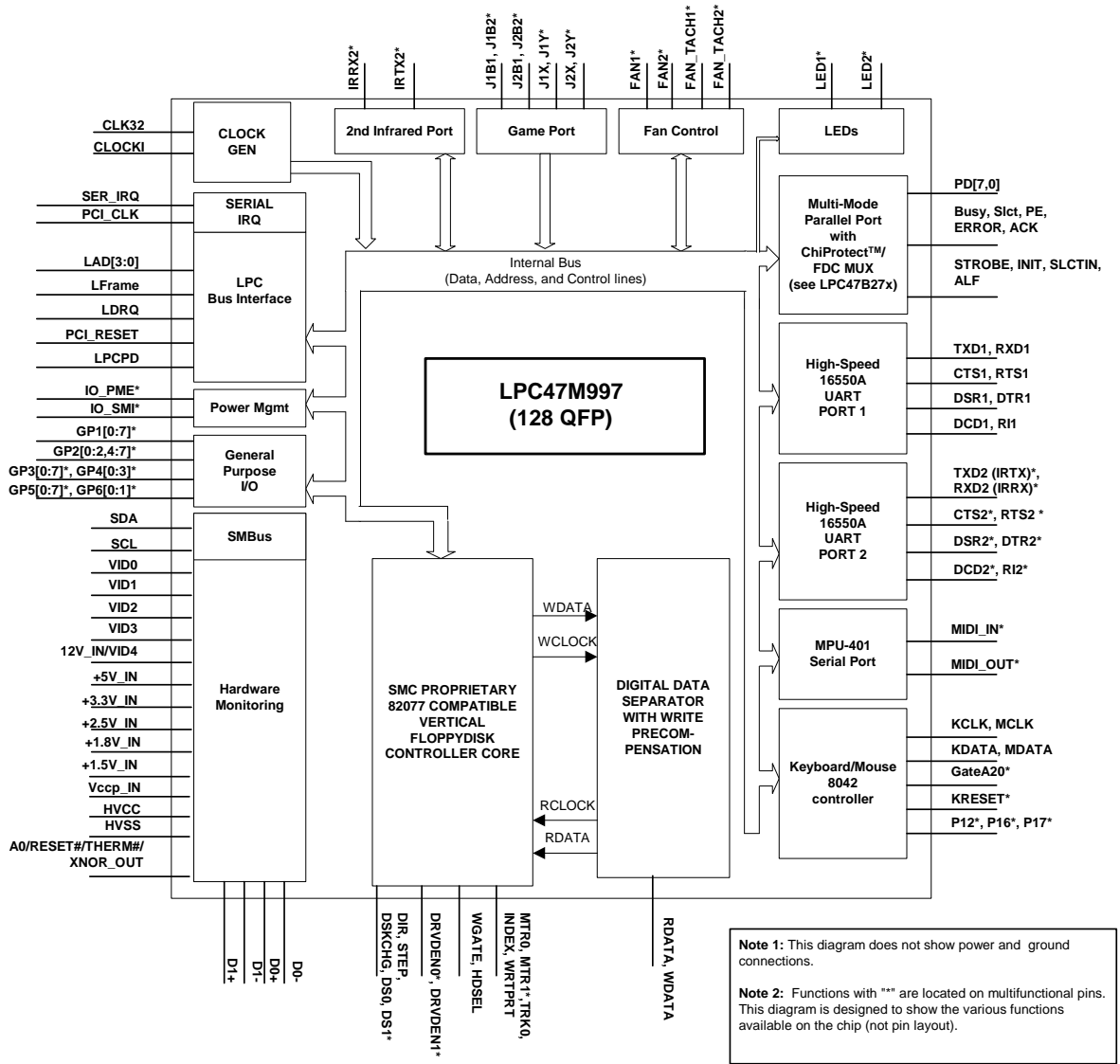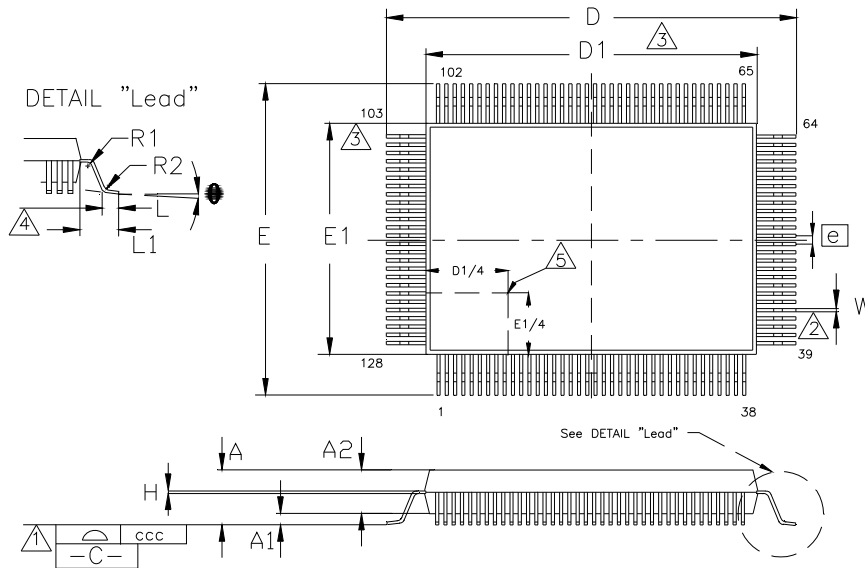
Package Outline

Figure 2 - 128 PIN QFP Package Outline, 14x20x2.7 Body, 3.2 mm Footprint

Table 1 - 128 PIN QFP Package Parameters

	MIN	NOMINAL	MAX	REMARKS
A	~	~	3.4	Overall Package Height
A1	0.05	~	0.5	Standoff
A2	2.55	~	3.05	Body Thickness
D	23.00	23.20	23.40	X Span
D1	19.90	20.00	20.10	X body Size
E	17.00	17.20	17.40	Y Span
E1	13.90	14.00	14.10	Y body Size
H	0.09	~	0.20	Lead Frame Thickness
L	0.73	0.88	1.03	Lead Foot Length
L1	~	1.60	~	Lead Length
e	0.50 Basic			Lead Pitch
θ	0°	~	7°	Lead Foot Angle
W	0.10	~	0.30	Lead Width
R1	0.08	~	~	Lead Shoulder Radius
R2	0.08	~	0.30	Lead Foot Radius
ccc	~	~	0.08	Coplanarity

Notes:
1. Controlling Unit: millimeter.
2. Tolerance on the position of the leads is ± 0.04 mm maximum.
3. Package body dimensions D1 and E1 do not include the mold protrusion.
   Maximum mold protrusion is 0.25 mm.
4. Dimension for foot length L measured at the gauge plane 0.25 mm above the seating plane.
5. Details of pin 1 identifier are optional but must be located within the zone indicated.

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