

## IT8728F: Legacy LPC Super I/O

The IT8728F is a highly integrated Super I/O using the Low Pin Count Interface. It provides the most commonly used legacy Super I/O functionality plus the latest Environment Control initiatives, including H/W Monitor and Fan Speed Controller. The device's LPC interface complies with Intel "LPC Interface Specification Rev. 1.1". The IT8728F is ACPI & LANDesk compliant.

The IT8728F features an enhanced hardware monitor providing three thermal inputs from remote thermal resistors, or thermal diode or diode-connected transistor (2N3904/2N3906). The device employs ITE's innovative intelligent automatic Fan ON/OFF & speed control functions (SmartGuardian) to protect the system while reducing the system noise and power consumption. The Fan Speed Controller can control up to five fan speeds through five separate 256 steps of Pulse Width Modulation (PWM) output pins and monitor up to five FANs' Tachometer inputs.

In addition, it features two 16C550 standard compatible enhanced UARTs performing asynchronous communication, one multi-mode high-performance parallel port supporting bi-directional Standard Parallel Port (SPP), Enhanced Parallel Port (EPP V. 1.7 and EPP V. 1.9), and IEEE 1284 compliant Extended Capabilities Port (ECP), one high-performance 2.88MB floppy disk controller with digital data separator, supporting two drives in 360K/720K/1.2M/1.44M/2.88M format, one integrated Keyboard Controller, eight GPIO ports controlling up to 57 GPIO pins, which can be individually enabled or disabled via software configuration registers, and IR interface supported.

Regarding eco-design of Energy-using Product (EuP), IT8728F provides not only a solution to reducing power consumption in S5 State but also Keyboard, Mouse, RI# and CIR wakeup events in S3/S5 State.

The IT8728F utilizes power-saving circuitry to reduce power consumption, and once a logical device is disabled, the inputs are inhibited with the clock disabled and the outputs are tri-stated. The device requires a single 24/48 MHz clock input and operates with +3.3V power supply. The IT8728F is available in 128-pin QFP (Quad Flat Package).

## • PRODUCT INFORMATION

PART NO	PACKAGE TYPE	DESCRIPTION	FLASH SUPPORT
<b>IT8728F</b>	128-pin QFP 20mm x 14 mm	Environment Control - Low Pin Count Input / Output	

## • FEATURES

Low Pin Count Interface  
ACPI & LANDesk Compliant  
Enhanced Hardware Monitor  
Fan Speed Controller  
SmartGuardian Controller  
Two 16C550 UARTs  
Consumer Remote Control (TV remote) IR with Power-up Feature  
IEEE 1284 Parallel Port  
Floppy Disk Controller  
Keyboard Controller  
57 General Purpose I/O Pins  
Watch Dog Timer  
ITE' s Innovative Automatic Power-failure Resume and Power Button De-bounce  
Eco-design of Energy-using Product (EuP), Extra Low Power S5 Control  
Intel DSW Support  
Over Voltage/Under Voltage Protection (OVP/UVP)  
5VAUX\_SW Control  
AMD CPU Power Sequence Controller  
Built-in 32.768 kHz Oscillator  
Single 24/48 MHz Clock Input  
3VSB and VBAT Supported  
+3.3V Power Supply

Two Sets of SMBus Isolation Supported

Bus Selection

Case Open Detection

ResetconIN/OUT with De-bounce