

CORPORATE PRODUCT OVERVIEW 2011-2012

Providing Mixed-Signal IC solutions that enable connectivity and networking in consumer electronics, automotive, PC, audio and industrial applications

PRODUCTS	APPLICATIONS	USB	ETHERNET	MOST®	PC SYSTEM + I/O CONTROLLERS	THERMAL MANAGEMENT	CAPACITIVE TOUCH SENSORS	CURRENT/POWER SENSORS	WIRELESS AUDIO	SECURITY
CONSUMER ELECTRONICS	Tablets, Digital Cameras, HDTVs, Set-top Boxes, Digital Media Adapters, DVD & HDD Recorders, Cellular Mobile Handsets, PMPs, Portable GPS/PNDs, Wireless Headphones/Headsets/Speakers/Home Theater/Audio/Soundbars with Subwoofers/LED TVs/iPod Docks, Wireless USB Dongles	■	■	■	■	■	■	■	■	■
AUTOMOTIVE	Infotainment and Connectivity Systems	■	■	■			■	■	■	■
GAMING EQUIPMENT	Gaming Systems, Multi-Player Arcade Games, Gaming Consoles/Major League Gaming, Slot Machines, Wireless Headphones/Headsets/Microphones/Speakers	■	■		■	■	■	■	■	■
PERSONAL COMPUTERS & PC PERIPHERALS	Desktop, Notebook & Netbook PCs, Flash Media Drives, Rotating Media, Display Monitors, PDA Docking, Printers, Port Replicators, USB Hubs, Infrared Connectivity, Wireless Headphones/Headsets/Speakers	■	■		■	■	■	■	■	■
EMBEDDED PCs & SERVERS	Embedded Web Servers, Tower, Rack & Blade Servers, Single Board Computers, Industrial PCs, PC/104 Modules	■	■		■	■	■	■		■
ENTERPRISE HARDWARE	ATMs, Printers, Copiers, Kiosks, POS Systems, Projectors, SANs, Tape Storage, Video Conferencing	■	■		■	■	■	■		■
INDUSTRIAL/BUILDING AUTOMATION	HVAC Systems, Lighting Systems, Fire/Alarm Systems, Access Control Systems, Elevator Systems, Factory Control Systems, Food Processing Equipment	■	■		■	■	■	■		■
COMMUNICATIONS EQUIPMENT	Cellular Base Stations, Wireless Routers, Residential Gateways, IP Telephony, Wireless Headsets	■	■		■	■	■	■	■	■
HOME APPLIANCES	Cooking Equipment, Refrigerators, Washing Machines, Dryers	■	■			■	■	■		■
SECURITY	Smart Card Readers, Secure USB Drives, Security & Alarm Systems, Video Surveillance, Wireless Video	■	■		■	■	■	■	■	■

KEY FEATURES AND BENEFITS

USB

- Ultra-high performance USB 3.0 SuperSpeed graphics, hubs, storage and Gigabit Ethernet bridge solutions
- Broad line of Hi-Speed USB 2.0 hub controllers for computing, consumer, automotive and industrial applications
- Complete family of standalone Hi-Speed USB 2.0 transceivers
- Performance-oriented, Hi-Speed USB 2.0 Flash media readers
- HSIC for all digital USB connectivity
- Low-power designs for battery operated applications
- Ultra-small packages to minimize PCB footprint

ETHERNET

- Diversified Ethernet solutions for a variety of consumer electronics, embedded systems, and industrial architectures with products featuring 10/100 Fast Ethernet and 10/100/1000 Gigabit Ethernet
- Comprehensive software and hardware design support
- High-performance and low CPU overhead features well-suited for embedded systems
- Small form factor package and less external components reduce BOM costs
- Local bus, USB and MII/RMII interfaces to support various embedded CPUs/SoCs

MOST

- Leader in high-bandwidth automotive infotainment systems
- Technology also designed for application in consumer infotainment markets
- Broad standardization from the physical layer to application level
- Various speed grades and physical layers
- A/V streaming, packet, isochronous and control data transport
- High flexibility and scalability
- Approved to carry DVD and Blu-ray™ content using Digital Transmission Content Protection (DTCP)

PC SYSTEM & I/O CONTROLLERS

- Full line of mobile PC solutions, including embedded controllers, keyboard controllers (KBC), mobile I/O controllers and docking products
- Low-power, small-footprint products
- Solutions for x86 and non-x86 netbook and smartbook architectures
- Provides value through integration of I/O, hardware monitoring, fan control and discrete logic
- Desktop PC, server and single board computer, industrial computer, POS, ATM, set-top box and other embedded applications

THERMAL MANAGEMENT

- State-of-the-art thermal management for PC, server and embedded systems applications
- Advanced features to speed design-in, minimizing or eliminating the need for CPU calibration or board-level measurements
- Broad portfolio of solutions including highly accurate temperature sensors, closed-loop fan controllers, fan, voltage and power management technologies
- Compatibility with all processors

RightTouch® CAPACITIVE SENSORS

- Hardware solution enabling simpler development than microcontroller solutions
- Integrated analog filtering to minimize noise from DC-DC, backlight inverters and cellular or Wi-Fi® frequencies
- Recalibration routines that protect against foreign substances (dust and natural oils) that deposit on the touch surface over time
- 8kV contact ESD rating vs. the industry average of only 2-3kV
- Facilitates proximity sensing
- Contemporary replacement for mechanical buttons and sliders

CURRENT/POWER SENSORS

- Accurate dynamic power consumption measurement due to power rails with variable loads
- Transient peak detection; unique feature measuring amplitude and duration
- Longer sampling intervals than many other suppliers
- Current, voltage and power measurement
- Alerts for out of limit events

WIRELESS AUDIO

- Complete platform solution, supporting single stereo and multi-channel (5.1/7.1) consumer wireless audio applications
- Strong Wi-Fi, microwave oven and BT coexistence
- Streaming of uncompressed CD/SD/HD/DVD-quality digital audio
- Ultra-low power consumption for battery-powered portable devices
- Multi-point to multi-point connectivity
- Supports low latency <20ms for real-time audio and lip-sync applications
- Supports 44.1, 48 and 96 kHz sampling rates and 16/24-bit audio resolutions

SECURITY

- Hi-Speed data access for on-the-fly encryption/decryption
- Full family of smart card readers with integrated oscillators, dual reader interfaces, SPI, UART, keyboard and display features
- Integrated single-chip solution for an array of applications including PC-link readers, POS solutions and secure USB keys
- Turnkey solutions including board designs and firmware for simplified design and time to market

USB

USB Graphics & Displays

ViewSpan™ and ViewSpan 5G™ USB Graphics Controllers

VIEWSPAN 5G™

PART	FEATURES	DISPLAY RESOLUTION	DISPLAY INTERFACES	AUDIO INPUT	PIN	PACKAGE
UFX6000	ViewSpan USB 2.0 Hi-Speed graphics controller with adaptive compression well-suited for image quality and bandwidth utilization	Up to 2048x1152	VGA, DVI, HDMI, digital RGB	2-channel PCM via S/PDIF or I ² S	225	LFBGA
UFX7000	ViewSpan5G USB 3.0 SuperSpeed graphics controller with adaptive compression well-suited for image quality and bandwidth utilization, optional mode to support uncompressed graphics/video over 5Gbps USB SuperSpeed link	Up to 2048x1152	VGA, DVI, HDMI, digital RGB	2-channel PCM via S/PDIF or I ² S	225	LFBGA

SuperSpeed USB 3.0 Hubs

USB 3.0 Hub Controller Family for Computing and Consumer Applications

PART	FEATURES	DOWNSTREAM USB PORTS	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
USB5534	USB 3.0 SuperSpeed hub at 5Gbps, backward compatible with USB 2.0, on-chip adaptive receiver equalizer, USB 2.0 Link Power Management (LMP) (Available spring 2011)	USB 3.0: 4	USB5534i	64	QFN
USB5537	USB 3.0 hybrid hub, backward compatible with USB 2.0, on-chip adaptive receiver equalizer, USB 2.0 Link Power Management (LMP) (Available spring 2011)	USB 3.0: 4 USB 2.0: 3	USB5537i	72	QFN

Hi-Speed USB 2.0 Hubs

Low Power, Small Footprint, Cost-effective USB 2.0 Hub Controller Family

PART	FEATURES	DOWNSTREAM USB PORTS	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
USB2412	Small-footprint, low-power, standard commercial temperature range	2	N/A	28	QFN
USB2512B	Low-power, extended commercial temp range, USB Battery Charging 1.1	2	USB2512Bi	36	QFN
USB2513B	Low-power, small-footprint, extended commercial temperature range, USB Battery Charging 1.1 (USB2513B/2514B only), SMSC's proprietary PortMap, PortSwap, TrueSpeed, PHYBoost and MultiTRAK™ technologies	3	USB2513Bi	36	QFN
USB2514B		4	USB2514Bi	36/49	QFN/VFBGA
USB2517		7	USB2517i	64	QFN
USB2524	MultiSwitch™ technology combining Hi-Speed USB hub and switching functionality in a single-chip, cost-effective solution	2 upstream/ 4 downstream	N/A	56	QFN

See page 5 for hub and Flash media controller combination devices.

Hi-Speed USB 2.0 Portable Hubs

Ultra-small Hubs for Portable Applications

PART	FEATURES	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	UPSTREAM INTERFACE	PIN/BALL	PACKAGE
USB3803	Ultra-small, extremely low standby power, high-performance, built-in ESD protection, USB Battery Charging 1.2 detection (Devices available summer 2011)	USB3803i	USB	25	WLCSP
USB3503		USB3503i	HSIC	25	WLCSP

Hi-Speed USB to Ethernet Controllers

USB 2.0 to 10/100 or 10/100/1000 Ethernet Controllers with Superior ESD Protection

PART	FEATURES	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
LAN9500A	10/100, NetDetach™ technology, EEPROM-less operation, UniClock™ technology	LAN9500Ai	56	QFN
LAN7500	10/100/1000 Gigabit controller with integrated USB and Ethernet PHYs, single-chip, high-performance, cost-effective, ±8kV HBM and ±15kV air discharge ESD protection, EEPROM-less operation, UniClock technology	LAN7500i	56	QFN

Hi-Speed USB to Ethernet Controllers

USB 2.0 Hub and 10/100 Ethernet Controllers with Superior ESD Protection

PART	FEATURES	DOWNSTREAM USB PORTS	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
LAN9512	Industry's first fully-integrated, single-chip device, UniClock technology, EEPROM-less design option using SMSC defaults	2	LAN9512i	64	QFN
LAN9513		3	LAN9513i	64	QFN
LAN9514		4	LAN9514i	64	QFN
LAN9730	HSIC Ethernet Controller (Available summer 2011)	N/A	LAN9730i	56	QFN

USB (continued)

Hi-Speed USB Flash Media Controllers

Standalone USB 2.0, Multi-Format Flash Media Controllers

PART	FEATURES	SOCKET TYPE	SUPPORTS	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
USB2240	Ultra Hi-Speed, cost-effective, external or internal ROM option, secure memory format options	Single	SD/MMC/SM/xD/MS*	USB2240i	36	QFN
USB2241		Single	SD/MMC/SM/MS*	USB2241i	36	QFN
USB2242		Single	MS*	USB2242i	36	QFN
USB2244		Single	SD/MMC*	USB2244i	36	QFN
USB2250		Multi	SD/MMC/SM/XD/MS/CF* and external memory	USB2250i	128	VTQFP
USB2251		Multi	SD/MMC/SM/MS/CF* and external memory	USB2251i	128	VTQFP

See page 5 for hub and Flash media controller combination devices.

USB Transceivers

Hi-Speed USB 2.0 Transceivers

RapidCharge
ANYWHERE™

flexPWR

PART	FEATURING	INTERFACE	REFERENCE CLOCK	PIN/BALL	PACKAGE
USB3310	Highly-integrated, small footprint, internal ESD protection circuits, integrated 3.3V LDO regulator, integrated USB switch, external passive components minimized, flexPWR® technology	1.8V ULPI	Multi-frequency	24-pin	QFN
USB3311		1.8V ULPI	26MHz	24-pin /25-ball	QFN/VFBGA
USB3313		1.8V-3.3V ULPI	26MHz	25-ball	VFBGA
USB3315		1.8V-3.3V ULPI	24MHz	24-pin	QFN
USB3316		1.8V ULPI	19.2MHz	24-pin /25-ball	QFN/VFBGA/UFBGA
USB3317		1.8V-3.3V ULPI	26MHz	24-pin /25-ball	QFN/VFBGA
USB3318		1.8V-3.3V ULPI	13MHz	24-pin	QFN
USB3319		1.8V ULPI	13MHz	24-pin /25-ball	QFN/VFBGA
USB3320	Full-featured, USB OTG transceiver, integrated Vbus over-voltage protection, USB switch, ESD protection circuits and 3.3V LDO regulator, ULPI 60MHz clock-in mode including crystal support, flexPWR technology	1.8V-3.3V ULPI	Multi-frequency	32-pin	QFN
USB3321	Small footprint, integrated Vbus over-voltage protection, USB switch, ESD protection circuits and 3.3V LDO regulator, ULPI 60MHz clock-in mode, flexPWR technology	1.8V ULPI	26MHz	25-ball	WLCSP
USB3322		1.8V ULPI	12MHz	25-ball	WLCSP
USB3326		1.8V ULPI	19.2MHz	25-ball	WLCSP
USB3327		1.8V ULPI	27MHz	25-ball	WLCSP
USB3329		1.8V ULPI	13MHz	25-ball	WLCSP
USB3330	Small footprint, integrated Vbus over-voltage protection, internal ESD protection circuits, integrated 1.8V & 3.3V LDO regulators, integrated USB switch (USB3331 & USB3336 only), ULPI 60MHz clock-in mode, flexPWR technology, battery charger detection supported through RapidCharge Anywhere™ technology	1.8V ULPI	Multi-frequency	25-ball	WLCSP
USB3331		1.8V ULPI	26MHz	25-ball	WLCSP
USB3333		1.8V-3.3V ULPI	19.2MHz/26MHz	25-ball	WLCSP
USB3336		1.8V ULPI	19.2MHz	25-ball	WLCSP
USB3338		1.8V ULPI	38.4MHz	25-ball	WLCSP
USB3340	Highly-integrated, small footprint, internal ESD protection circuits, integrated 1.8V & 3.3V LDO regulators, integrated USB switch (USB3340, USB3341 & USB3346 only), ULPI 60MHz clock-in mode, flexPWR technology, battery charger detection supported through RapidCharge Anywhere technology	1.8V-3.3V ULPI	Multi-frequency	32-pin	QFN
USB3341		1.8V ULPI	26MHz	24-pin	QFN
USB3343		1.8V-3.3V ULPI	26MHz crystal	24-pin	QFN
USB3346		1.8V ULPI	19.2MHz	24-pin	QFN
USB3347		1.8V ULPI	27MHz	24-pin	QFN

USB Switches

Hi-Speed USB 2.0 Switches

PART	FEATURES	PIN/BALL	PACKAGE
USB3740	Ultra-small package options, high-bandwidth, extremely low operating power, low on resistance	10	QFN

USB (continued)

Hi-Speed USB Hub and Flash Media Controllers

Hi-Speed USB 2.0 Hub and Multi-Format Flash Media Reader Combos

PART	FEATURES	SOCKET TYPE	SUPPORTS	DOWNSTREAM USB PORTS	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
USB2660	Ultra Hi-Speed, cost-effective, low-power, small-footprint	Dual	SD/MMC/xD/MS*	2	USB2660i	64	QFN
USB2640		Single	SD/MMC/MS*	2	USB2640i	48	QFN
USB2641		Single	SD/MMC/xD/MS*	2	USB2641i	48	QFN
USB2601/2602	Integrated card power FETs and Hi-Speed USB 2.0 hub	Multi	SD/MMC/SM/MS/CF* and external memory	3	N/A	128	VTQFP
USB4640	Ultra-fast digital, Hi-Speed Interchip Interface (HSIC)	Single	SD/MMC/xD/MS*	2	USB4640i	48	QFN

See previous pages for hub and Flash media controller standalone devices.

Hi-Speed USB 2.0 Portable Power

PART	FEATURES	PIN/BALL	PACKAGE
USB3750	Ultra-small package options, VBUS over-voltage and ESD protection, USB Battery Charging v1.2 detection	16	QFN
USB3751		16	QFN

HSIC Controllers

Hi-Speed USB Interchip Controllers For On-Board USB Connectivity

PART	FEATURES	UPSTREAM PORT	DOWNSTREAM PORT	BRIDGE FUNCTION	PIN/BALL	PACKAGE
USB4640	HSIC Flash media reader hub multi-function controller	HSIC	USB	SD/MMC/MS*	48	QFN
USB4534	4-port HSIC hub for general applications	USB/HSIC	USB/HSIC	N/A	56	QFN
USB3503	3-port HSIC hub for portable applications, ultra-small, extremely low standby power, high-performance, built-in ESD protection, USB Battery Charging 1.2 detection (Available summer 2011)	HSIC	USB	USB pass-thru	25	BGA/WLCSP
LAN9730	HSIC Ethernet controller (Available summer 2011)	HSIC	N/A	10/100 Ethernet	56	QFN

ETHERNET

Hi-Speed USB to Ethernet Controllers

USB 2.0 to 10/100 or 10/100/1000 Ethernet Controllers with Superior ESD Protection

PART	FEATURES	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
LAN9500A	10/100, NetDetach technology, EEPROM-less operation, UniClock technology	LAN9500Ai	56	QFN
LAN7500	10/100/1000 Gigabit controller integrated USB and Ethernet PHYs, single-chip, high-performance, cost-effective, ±8kV HBM and ±15kV air discharge ESD protection, EEPROM-less operation, UniClock technology	LAN7500i	56	QFN

Hi-Speed USB and Ethernet Controllers

USB 2.0 Hub and 10/100 Ethernet Controllers with Superior ESD Protection

PART	FEATURES	DOWNSTREAM USB PORTS	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
LAN9512	Industry's first fully-integrated, single-chip device; ±8kV/±15kV ESD protection, UniClock technology, EEPROM-less design option using SMSC defaults	2	LAN9512i	64	QFN
LAN9513		3	LAN9513i	64	QFN
LAN9514		4	LAN9514i	64	QFN
LAN9730	HSIC Ethernet controller (Available summer 2011)	N/A	LAN9730i	56	QFN

ETHERNET (continued)

PCI Ethernet Controllers

High-Performance 10/100 Ethernet Controllers Supporting HP Auto-MDIX**

PART	FEATURES	BUS INTERFACE (BITS)	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
LAN9420	33MHz, PCI 3.0-compliant interface	32	LAN9420i	128	VTQFP

Local Bus Ethernet Controllers

10/100 Ethernet Controllers Supporting HP Auto-MDIX**

PART	FEATURES	BUS INTERFACE (BITS)	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
LAN9221	Small-footprint, advanced performance options, supports a wide range of software drivers, supports local bus interface from 1.8V to 3.3V, integrated checksum offload engine	16	LAN9221i	56	QFN
LAN9220		16	N/A	56	QFN
LAN9218	High-throughput performance options	32	LAN9218i	100	TQFP
LAN9217	External MII, high-throughput performance options	16	N/A	100	TQFP

Ethernet Switches

10/100 Ethernet Switches

PART	FEATURES	PORTS	HOST INTERFACE	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	PIN	PACKAGE
LAN9303	High-performance, small-footprint, full-featured	3	Single MII/RMII	LAN9303i	56	QFN
LAN9303M		3	Dual MII/RMII	LAN9303Mi	72	QFN
LAN9311	Local bus, IEEE 1588 support	2	16-bit local bus	LAN9311i	128	VTQFP/XVTQFP
LAN9312		2	32-bit local bus	N/A	128	VTQFP/XVTQFP
LAN9313	MII interface, IEEE 1588 support	3 (1-port MII)	Single MII	LAN9313i	128	VTQFP/XVTQFP

Ethernet Transceivers

10/100 Transceivers with Superior Performance



PART	FEATURES	INDUSTRIAL TEMPERATURE OPTION (-40° - 85°C)	HOST INTERFACE	PIN	PACKAGE
LAN8710A	Full-featured, small-footprint, variable I/O, low-power consumption	LAN8710Ai	MII/ RMII	32	QFN
LAN8720A		LAN8720Ai	RMII	24	QFN

ARCNET Controllers

Well-suited for Industrial and Embedded Networking Environments

PART	FEATURES	SPEED	PIN	PACKAGE
COM20019i	Controller with operating temperature range of -40° to 85°C	312.5Kbps	28/48	PLCC/TQFP
COM20020i		5Mbps	28/48	PLCC/TQFP
COM20022i		10Mbps	48	TQFP
TMC2005	5-port hub	156.25K - 10Mbps	64	TQFP
HYC9088A R-LF	High-impedance transceiver	2.5Mbps	20	SIP
HYC2000		156.25 - 625Kbps	8	SIP
HYC5000		2.5M - 10Mbps	8	SIP

CircLink® Controllers

Derivative of ARCNET, Well-Suited for Industrial & Commercial Machinery

PART	FEATURES	SPEED	PIN	PACKAGE
TMC2074	Peripheral and standalone	5Mbps	128	VTQFP
TMC2072	Peripheral	5Mbps	100	TQFP
TMC2084	Standalone	5Mbps	48	TQFP

AUTOMOTIVE

MOST (Media Oriented Systems Transport) Network Interface Controllers

Intelligent Network Interface Controller (INIC) for MOST Networks



PART	FEATURES	INTERFACE	TEMPERATURE RANGE	PIN	PACKAGE
OS81110 INIC	Fully-encapsulated, single-chip, embedded network management, supports MOST embedded Ethernet channel and isochronous channels (MOST150)	MOST150 FOT, I ² C™, I ² S/SPDIF, 2x TSI, SPI, MediaLB® (SPDIF, LVDS)	-40° - 105°C	48	QFN
OS81082 INIC	Fully-encapsulated, single-chip, embedded network management (MOST50)	MOST50 electrical (UTP), I ² C, I ² S, MediaLB	-40° - 95°C	64	ETQFP
OS81092 INIC	ROM version of OS81082 INIC (MOST50)		-40° - 105°C (targeted)	48	QFN
OS81050 INIC	Fully-encapsulated, single-chip with embedded network management (MOST25)	MOST25 FOT, I ² C, I ² S, MediaLB	Standard range: -40° - 85°C Extended range: -40° - 105°C	44	QPP/ETQFP
OS81060 INIC	ROM version of OS81050 INIC (MOST25)		-40° - 105°C (targeted)	40	QFN

Power Management Companion

For Diagnostics, Status Monitoring and Power Supply



PART	FEATURES	INTERFACE	TEMPERATURE RANGE	PIN	PACKAGE
MPM85000	Power management companion for diagnostics, status monitoring and power supply	LIN 2.0, I ² C	-40° - 105°C	24	QFN

Multimedia I/O Companion

Multimedia I/O Port Expander



PART	FEATURES	INTERFACE	TEMPERATURE RANGE	PIN	PACKAGE
OS85650	Low-cost multimedia I/O port expander, DTCP co-processor	MediaLB 3-pin and 6-pin, Host Bus Interface (HBI), 2 x multi-channel streaming ports, 2 x TSI, 2 x SPI, I ² C	-40° - 105°C	128	ETQFP
OS85652	Low-cost multimedia I/O port expander		-40° - 105°C	128	ETQFP
OS85656	Low-cost multimedia I/O port expander well-suited for streaming applications	MediaLB 3 pin, streaming port I ² S (FSYN, FCLK, 4xIN, 4xOut, @ 512Fs), serial transport stream interface (TSI), I ² C	-40° - 105°C	48	QFN

Ethernet Controllers

10/100 Ethernet Controllers



PART	FEATURES	INTERFACE	TEMPERATURE RANGE	PIN	PACKAGE
LAN89218	High-performance, single-chip controller with HP Auto-MDIX support**	MAC/PHY, 10BASE-T/100BASE-TX, 32- and 16-bit Host Bus Interface (HBI)	-40° - 85°C	100	TQFP
LAN89530	Hi-Speed USB 2.0 to 10/100 Ethernet controller	USB 2.0	-40° - 85°C	56	QFN

Ethernet Switch

10/100 Managed Ethernet Switch with HP Auto-MDIX Support**



PART	FEATURES	INTERFACE	TEMPERATURE RANGE	PORTS	PIN	PACKAGE
LAN89303	High-performance, small footprint, full-featured, single MII/RMII/Turbo MII support	MI/RMII, 2x 10/100 PHYS, 3x 10/100 MACs	-40° - 85°C	4	56	QFN

Ethernet Transceiver

10/100 Ethernet Transceiver with HP Auto-MDIX Support**, Featuring flexPWR Technology



PART	FEATURES	INTERFACE	TEMPERATURE RANGE	PIN	PACKAGE
LAN88730	Small-footprint, low-power consumption, full-featured (Available winter 2012)	10BASE-T/100BASE-TX, MII/RMII	LAN88730AM: -40° - 85°C LAN88730BM: -40° - 105°C	32	QFN

Hi-Speed USB 2.0 Hub

USB 2.0 Hub Featuring MultiTRAK Technology



PART	FEATURES	INTERFACE	TEMPERATURE RANGE	PORTS	PIN	PACKAGE
USB82512	Versatile, cost-effective, energy-efficient, incorporating SMSC's MultiTRAK, PortMap, PortSwap, PHYBoost technology	SMBus/I ² C	-40° - 85°C	2	36	QFN
USB82513		SMBus/I ² C	-40° - 85°C	3	36	QFN
USB82514		SMBus/I ² C	-40° - 85°C	4	36	QFN

AUTOMOTIVE (continued)

Hi-Speed USB 2.0 Hub and Flash Media Card Controllers

USB 2.0 Hub and Card Controller Combos



PART	FEATURES	SOCKET TYPE	SUPPORTS	TEMPERATURE RANGE	USB PORTS	PIN	PACKAGE
USB82640	PortMap, PortSwap, PHYBoost technology	Single	SD/SD High Capacity/MMC/MS/MS PRO, MS PRO-HG*	-40° - 85°C	2	48	QFN
USB82642	USB bridge/card reader combo with USB to SDIO and USB to I ² C bridging functionality and PortMap, PortSwap, PHYBoost technology	Single	USB, I ² C, SDIO, card reader		2	48	QFN
USB82660	PortMap, PortSwap, PHYBoost technology	Dual	SD/SD High Capacity/MMC/MS/MS PRO, MS PRO-HG*	-40° - 105°C	2	64	QFN

Hi-Speed USB 2.0 Transceiver

USB 2.0 Transceiver with 1.8V ULPI Interface



PART	FEATURES	INTERFACE	TEMPERATURE RANGE	PORTS	PIN	PACKAGE
USB83340	Multi-frequency reference clock	1.8V ULPI	-40° - 105°C	1	32	QFN

Hi-Speed USB 2.0 Battery Charging

Standalone USB Battery Charger



PART	FEATURES	TEMPERATURE RANGE	SUPPORTS	PIN	PACKAGE
UCS81002	Standalone USB battery charger supporting BC1.1, China charging, Apple® and RIM® charging profiles as well as programmable charging profiles for unforeseen peripherals	-40° - 85°C	USB, I ² C, SMBus	20	QFN

Wireless Audio

Radio Frequency Digital Audio Transceiver



PART	FEATURES	TYPICAL SINK MODE POWER CONSUMPTION	PA OUTPUT POWER	AUDIO	QUALIFICATION
KLR83012	Wirelessly streams uncompressed lossless audio up to 25m over robust 2.4GHz radio link, multi-point to multi-point connectivity, strong Wi-Fi coexistence, data channel for audio playback control, very low power consumption	20mW	1.5dBm	16 bit, 44.1Ks/s stereo	AEC Q100

For more information on SMSC's automotive and consumer infotainment solutions, please contact the following SMSC offices:



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SMSC provides a complete workbench for MOST (development or implementation) including training, workshops, tools, network management software and IP licensing.

PC SYSTEM & I/O CONTROLLERS

Notebook/Netbook Products

Embedded Controller and Super I/O Devices for Notebook and Netbook PC Platforms

PART	FEATURES	I/O PORTS	SYSTEM INTERFACE	PIN	PACKAGE
MEC1609	Mobile embedded controller with 192K bytes embedded Flash, PECL 2.0/3.0 support, ADC, SMSC BC-Link™ technology	4 PS/2, 2 SMBus, 4 PWMs, 2 tachs, 1 serial (2-pin), 55 GPIOs, RC-6 CIR, 1 BC-Link	LPC/SMBus	128/144	VTQFP/TFBGA
MEC1308	Mobile embedded controller with 64K bytes SRAM, SPI Flash Memory Interface, ADC, Consumer IR, SMSC BC-Link technology	4 PS/2, 2 SMBus, 4 PWMs, 2 tachs, 1 serial (2-pin), 55 GPIOs, RC-6 CIR, 1 BC-Link	LPC/SMBus	128/144	VTQFP/TFBGA
MEC1312	Mobile embedded controller with 96K bytes SRAM, SPI Flash Memory Interface, PECL, ADC, PID Fan Control, SMSC BC-Link technology	4 PS/2, 3 SMBus, PECL, 4 PWMs, 2 tachs, 1 serial (2-pin), 63 GPIOs, 1 BC-Link	LPC/SMBus	128	VTQFP
SI01028	Super I/O controller, small form factor package	3 serial, 24 GPIOs	LPC	64	QFN
LPC47N217	Super I/O controller for notebook and embedded PC applications	1 serial, 1 parallel, 14 GPIOs, IrDA, CIR	LPC	64/56	STQFP
LPC47N217N		1 serial, 1 parallel, 14 GPIOs	LPC	64/56	STQFP/QFN
ECE1088	GPIO expander with SMSC BC-Link technology	20 GPIOs	SMBus or BC-Link	28	QFN
ECE1099	GPIO expander with Keyscan and SMSC BC-Link technology	32 GPIOs, 23:8 Keyscan	SMBus or BC-Link	40	QFN
ECE1105	GPIO expander with Keyscan, PS/2 and SMSC BC-Link technology	40 GPIOs, 23:8 Keyscan, 2 PS/2	SMBus or BC-Link	48	QFN

Desktop PC Products

Embedded Controller and Highly-Integrated Super I/O Devices for Desktop PC Platforms

PART	FEATURES	I/O PORTS	SYSTEM INTERFACE	PIN	PACKAGE
SCH5617C	Desktop embedded controller, LPC hardware monitoring, PECL support	FDC, parallel, 2 serial, 8042 KB controller, 2 SMBus, 3 PWMs, 3 tachs, 46 GPIOs	LPC	128	QFP
SCH5620	Legacy-light desktop embedded controller with SMBus Master for PCH temperature support, PECL 2.0 support and voltage monitoring	1 serial, 8042 KB controller, 2 SMBus, 3 PWMs, 4 tachs, 45 GPIOs	LPC	100	TQFP
SCH5627	Desktop embedded controller, SMBus master for PCH temperature support, PECL 2.0 support, voltage monitoring	FDC, parallel, 2 serial, 8042 KB controller, 2 SMBus, 4 PWMs, 4 tachs, 60 GPIOs	LPC	128	QFP
SCH5627P	Desktop embedded controller with "XLS5" power savings mode, SMBus master for PCH temperature support, PECL 2.0 support and voltage monitoring	FDC, parallel, 2 serial, 8042 KB controller, 2 SMBus, 4 PWMs, 4 tachs, 60 GPIOs	LPC	128	QFP
SCH5147	Super I/O controller, LPC hardware monitoring, PECL support, voltage monitoring	FDC, parallel, 2 serial, 8042 KB controller, 2 SMBus, 3 PWMs, 3 tachs, 29 GPIOs	LPC	128	QFP
SCH5027E	Super I/O controller, SMBus hardware monitoring, PECL support, voltage monitoring	FDC, parallel, 2 serial, 8042 KB controller, 2 SMBus, 5 PWMs, 6 tachs, 25 GPIOs	LPC	128	QFP

Server/Workstation Products

Embedded Controller and Super I/O Devices for Server and Workstation PC Platforms

PART	FEATURES	I/O PORTS	SYSTEM INTERFACE	PIN	PACKAGE
SCH4304	Super I/O controller, X-Bus interface, RTC and auto fan control over SMSC SensorBus™ sensor interface	FDC, parallel, 2 serial, 8042 KB controller, SMBus, 3 PWMs, 8 tachs, 51 GPIOs	LPC	128	QFP

Embedded I/O Products

Highly-Integrated Super I/O Devices with Long Product Lifecycles for Embedded PC Platforms

PART	FEATURES	I/O PORTS	SYSTEM INTERFACE	PIN	PACKAGE
SCH3112	Super I/O controller with SMBus hardware and voltage monitoring	2 serial, parallel, FDC, 8042 KB controller, 40 GPIOs	LPC	128	VTQFP
SCH3114		4 serial, parallel, FDC, 8042 KB controller, 40 GPIOs	LPC	128	VTQFP
SCH3116		6 serial, parallel, FDC, 8042 KB controller, 40 GPIOs	LPC	128	VTQFP
LPC47M10x	Super I/O controller, full legacy I/O support	2 serial ports, parallel, 8042 KB controller, FDC, 37 GPIOs	LPC	100	QFP
SI010N268	Super I/O controller for ISA or LPC designs, X-Bus interface for I/O memory and FWH emulation	4 serial ports, parallel, FDC, WDT, 33 GPIOs	LPC/ISA	128	VTQFP
FDC37B78x	Super I/O controller, real time clock, consumer IR, watchdog timer, 5V operation	2 serial ports, parallel, FDC, 8042 KB controller, parallel IRQs, serial IRQs, 20 GPIOs	ISA	128	QFP

THERMAL MANAGEMENT

Temperature Sensors

Highly-Accurate Temperature Sensors Featuring Resistance Error Correction, Beta Compensation and Ideality Configuration

PART	FEATURES	ACCURACY	ZONES†	INTERRUPTS	PIN	PACKAGE
EMC1001	Ultra-small, ambient temperature sensor	1.5°C	1	2	6	SOT23
EMC1033	Resistance Error Correction, Anti-parallel Diodes	1°C	3	2	8	MSOP
EMC1043/1053/1063	Beta Compensation, default for embedded/Intel® CPU/AMD CPU	1°C	3	N/A	8	MSOP
EMC1072/1073/1074	Selectable address	1°C	2/3/4	2	8/10	MSOP
EMC1412/1413/1414	Auto Beta Compensation, Resistance Error Correction, address select	1°C	2/3/4	2	8/10	MSOP/DFN/ TDFN
EMC1422/1423/1424	Auto Beta Compensation, Resistance Error Correction, system shutdown	1°C	2/3/4	2	8/10	MSOP
EMC1046/1047	Auto Beta Compensation, Resistance Error Correction, Anti-parallel Diodes	1°C	6/7	N/A	10	MSOP
EMC1428/1438	Auto Beta Compensation, Resistance Error Correction, Anti-parallel Diodes, system shutdown and alert	1°C	8	2	16	QFN
EMC1501	Temperature sensor + EEPROM-compliant with JEDEC TSE2002av for DDR3	1°C	1	1	8	TDFN

†All devices come with one ambient temperature sensor which is included in the zone count.

Fan Controllers

Highly-Reliable Fan Controllers Enabling Lower Acoustic Noise and Accurately Controlled Fan Speed with RPM Closed-Loop Control and Temperature Sensing

PART	FEATURES	NUMBER OF FAN DRIVERS/TYPE	ACCURACY	TEMPERATURE MONITORS	PIN	PACKAGE
EMC2101	Single PWM/linear DAC fan driver with EEPROM load, 8-entry look-up table, interrupt	1 PWM/DAC	1°C	2 Zone	8	MSOP/SOIC
EMC2102	Single RPM, closed-loop linear fan driver with integrated FET, hardware shutdown logic, 5x5 QFN	1 Linear	1°C	4 Zone	28	QFN
EMC2112	Single RPM, closed-loop linear fan driver with integrated FET, hardware shutdown logic, Block Read/Write, 4x4 QFN	1 Linear	1°C	4 Zone	20	QFN
EMC2103-1	Single RPM, closed-loop PWM fan driver with hardware shutdown and 2 temps	1 PWM	1°C	2 Zone	12	QFN
EMC2113	Single RPM, closed-loop PWM fan driver with hardware shutdown, 4 temps and Block Read/Write	1 PWM	1°C	4 Zone	16	QFN
EMC2104	Dual closed-loop linear fan driver, hardware system shutdown	2 PWM	1°C	5 Zone	20	QFN
EMC2105	Single closed-loop linear fan driver with integrated FET, interrupts, hardware shutdown logic	1 Linear	1°C	5 Zone	20	QFN
EMC2106	Dual closed-loop PWM/linear fan driver, dedicated interrupts, hardware system shutdown	1 PWM/1 Linear	1°C	5 Zone	28	QFN
EMC2300	High-frequency PWM support for 4 fans	3 PWM	3°C	3 Zone	16	SSOP
EMC2301	Single closed-loop fan speed controller with alert and ramp rate control	1 PWM	N/A	N/A	8	MSOP
EMC2302	Dual closed-loop fan speed controller with alert and ramp rate control	2 PWM	N/A	N/A	10	MSOP
EMC2303	Triple closed-loop fan speed controller with alert and ramp rate control	3 PWM	N/A	N/A	12	QFN
EMC2305	Penta closed-loop fan speed controller with alert and ramp rate control	5 PWM	N/A	N/A	16	QFN
EMC6D103S	High-frequency PWM support for 4 fans, voltage monitoring	3 PWM	3°C	3 Zone	24	SSOP

Linear fan driver indicates an integration of an FET and that the fan driver can be directly connected to the fan with no additional circuitry.

CAPACITIVE TOUCH SENSORS

Capacitive Touch Sensors

Featuring RightTouch Technology Which Simplifies Development and Provides Robust Protection from System Noise and ESD



PART	INPUT CHANNELS	LED DRIVERS	ADDITIONAL FEATURES	PROXIMITY INCLUDED	INTERFACE	PIN	PACKAGE
CAP1114	14	11	Slider, reset and alert, automatic recalibration, base capacitance compensation	✓	I ² C/SMBus	32	QFN
CAP1188	8	8	Reset, wake and alert, automatic recalibration, base capacitance compensation	✓	I ² C/SPI/BC-Link	24	QFN
CAP1128	8	2	Reset, wake and alert, automatic recalibration, base capacitance compensation	✓	I ² C/SPI/BC-Link	20	QFN
CAP1166	6	6	Reset, wake and alert, automatic recalibration, base capacitance compensation	✓	I ² C/SPI/BC-Link	20	QFN

Continued on following page

Capacitive Touch Sensors

Featuring RightTouch Technology Which Simplifies Development and Provides Robust Protection from System Noise and ESD



PART	INPUT CHANNELS	LED DRIVERS	ADDITIONAL FEATURES	PROXIMITY INCLUDED	INTERFACE	PIN	PACKAGE
CAP1126	6	2	Reset, wake and alert, automatic recalibration, base capacitance compensation	✓	I ² C/SPI/BC-Link	16	QFN
CAP1133	3	3	Alert, automatic recalibration, base capacitance compensation	✓	I ² C/SMBus	10	DFN
CAP1106	6	0	Alert, automatic recalibration, base capacitance compensation	✓	I ² C/BC-Link	10	DFN
CAP1105	5	0	Automatic recalibration, base capacitance compensation	✓	SPI	10	DFN
CAP1214	14	11	Slider, reset and alert, automatic recalibration, base capacitance compensation, audio output	✓	I ² C/SMBus	32	QFN

CURRENT/POWER SENSORS

Current/Power Sensors

Featuring Peak Detection and Accurate Power Measurement

PART	FEATURES	CURRENT SENSORS	INPUT VOLTAGE	TEMP MONITORS	INTERFACE	PIN	PACKAGE
EMC1700	Current and proportional power readings, peak detection, 2 alerts, sampling interval up to 2.6s	1	3-24V	0	I ² C/SMBus	10	MSOP
EMC1701	Current and proportional power readings, peak detection, 2 alerts, sampling interval up to 2.6s with temperature monitor	1	3-24V	1	I ² C/SMBus	10/12	MSOP/QFN
EMC1702	Current and proportional power readings, peak detection, 2 alerts, sampling interval up to 2.6s with 2 temperature monitors	1	3-24V	2	I ² C/SMBus	16	QFN
EMC1704	Current and proportional power readings, peak detection, 2 alerts, sampling interval up to 2.6s with 4 temperature monitors	1	3-24V	4	I ² C/SMBus	14/16	SOIC/QFN
PAC1710	Proportional power measurement, alert, sampling interval up to 2.6s	1	0-40V	0	I ² C/SMBus	10	DFN
PAC1720	Dual, proportional power measurement, alert, sampling interval up to 2.6s	2	0-40V	0	I ² C/SMBus	10	DFN

WIRELESS AUDIO

Highly-Integrated Wireless Audio Baseband Processors



PART	FEATURES	FREQUENCY	INTERFACE	PIN	PACKAGE
DARR82	Supports streaming of four wireless uncompressed stereo audio channels simultaneously or complete wireless 7.1 channel surround sound system, latency <20ms, point-to-multi-point transmission in home audio networking, SD & HD audio, excellent Wi-Fi and Bluetooth® coexistence, bi-directional audio support, control data channel up to 100kbps, integrated MCU and SRC, integrated audio class USB (DARR83 only)	Dual-band 2.4/5.8GHz	I ² S, S/PDIF, I ² C, SPI	80	LQFP
DARR83		Tri-band 2.4/5.2/5.8GHz	I ² S, S/PDIF, I ² C, SPI, USB 2.0	129	FBGA

Highly-Integrated Wireless Audio Modules



PART	FEATURES	FREQUENCY	INTERFACE	PIN	MODULE DIMENSIONS
DWAM82	Uncompressed wireless digital audio transceiver OEM modules based on the DARR82 and DARR83 chipsets, supports up to 4 stereo audio streams, data encryption, bi-directional control messaging, automatic pairing, WLAN detection, automatic frequency allocation	Single-band, 5.8GHz	I ² S, S/PDIF, I ² C, SPI	26-pin FFC Connector	42x42mm Square PCB
DWAM83		Tri-band, 2.4/5.2/5.8GHz	I ² S, S/PDIF, I ² C, SPI	26-pin FFC Connector	35x35mm Square PCB
LCOS82	Uncompressed wireless digital audio transceiver OEM module based on the DARR82 chip, supports up to 2 stereo audio streams, data encryption, bi-directional control messaging, automatic pairing, WLAN detection, automatic frequency allocation, well-suited for receiver applications such as speakers	Single-band, 2.4 GHz	I ² S, S/PDIF, I ² C, SPI	26-pin Pin Header Connector	30x50mm Rectangle

Radio Frequency Digital Audio Transceivers



PART	FEATURES	TYPICAL SINK MODE POWER CONSUMPTION	PA OUTPUT POWER	AUDIO	QUALIFICATION
KLR3012	Wirelessly streams uncompressed lossless audio up to 25m over robust 2.4GHz radio link, multi-point to multi-point connectivity, strong Wi-Fi coexistence, data channel for audio playback control, very low power consumption	20mW	1.5dBm	16 bit, 44.1Ks/s stereo	JEDEC

SECURITY

Smart Card Readers and Encrypted Storage

Smart Card Reader Family for Readers, Tokens, POS Terminals and Computing

PART	FEATURES	USB INTERFACE	PIN	PACKAGE
SEC1100	USB single-port smart card reader with integrated self clock	USB 1.1	16	QFN
SEC1200	USB dual-port smart card reader with with UART/SPI interface and integrated self clock	USB 1.1	24/48	QFN
SEC1300	USB keyboard and LCD controller with smart card reader and self clock (Device will be available for sampling fall 2011)	USB 1.1	64	QFN/Bare Die
SEC2410	USB secure authentication and encrypted storage token, with AES encryption, 35MB/s transfer rates and 32-bit controller	USB 2.0	64/72	QFN

* Secure Digital (SD™) / SD High Capacity™ / MultiMediaCard™ (MMC) / SmartMedia™ (SM) / xD-Picture Card™ (xD) / Memory Stick® (MS) / MS/ MS Pro™ / MS Pro-HG™ / CompactFlash® (CF) are registered trademarks or trademarks of their respective holders. xD licensing information is available on our website: www.smcs.com/licensing.

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