EPSON
NEWSLETTER 2001
3

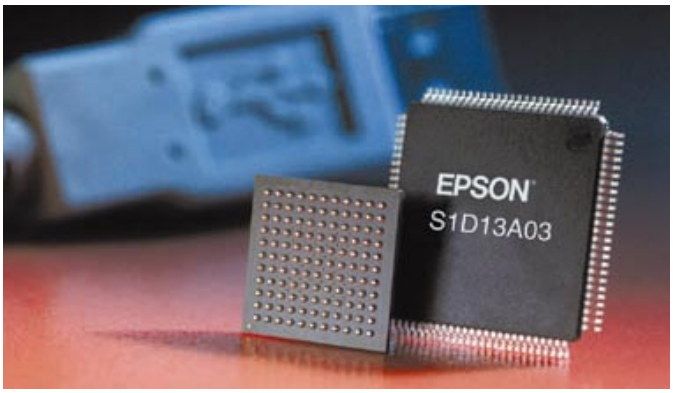
ASSP

INTEGRATED USB CLIENT

S1D13A03

The first LCD Controller from EPSON with integrated USB client

The S1D13A03 is a LCD/USB solution designed for seamless connection to a wide variety of microprocessors. The S1D13A03 integrates a USB slave controller and a LCD graphics controller with an embedded 112 kB SRAM display buffer. The LCD controller, based on the popular S1D13706, supports all standard panel types including the Sharp HR-TFT family of products. In addition to the S1D13706 feature set, the S1D13A03 includes a Hardware Acceleration Engine to greatly improve screen drawing functions. The USB controller provides revision 1.1 compliance for applications requiring a USB client. This high level of integration provides a low cost, low power, single chip solution to meet the demands of embedded markets requiring USB client support, such as Mobile Communications devices and Palm-size PCs. The S1D13A03 utilizes a guaranteed low-latency CPU architecture that provides support for microprocessors without READY/WAIT# handshaking signals. The 32-bit internal data path, write buffer and the Hardware Acceleration Engine provide high performance bandwidth into display memory allowing for fast display updates. 'Direct' support for the Sharp HR-TFT removes the requirement of an external timing control IC. Additionally, products requiring a rotated display can take advantage of the



SwivelView ™ feature which provides hardware rotation of the display memory transparent to the software application. The S1D13A03 also provides support for "Picture-in-Picture Plus" (a variable size overlay window).
The S1D13A03, with its integrated USB client, provides impressive support for Palm OS handhelds. However, its impartiality to CPU type or operating system makes it an ideal display solution for a wide variety of applications.
The S1D13A03 will be available as sample by May 2001 and in mass production by September 2001.

LCD

TRANSFLECTIVE COLOR STN LCDs

Color display series for the mobile phone market

EPSON has released a new series of transflective color STN LCDs especially designed to comply with the requirements of the mobile phone market. This color display series allows operation with and without backlight unit – a fact that does assure good readability under all different ambient light conditions thus during day and night time.

Currently the series is available in two types, measuring 1.7" or 2.0" screen diagonals. Along with a compact design, high image quality and extraordinary low power consumption, this new passive color LCD module series features:

- High pixel density at relatively large screen sizes convenient for E-mail and Internet applications.
- High image quality, contrast and good color reproduction achieved by applying the newly developed SPD (Single Polarizer Display) technology with the reflector placed inside the LCD cell and use of the MLS (Multi-Line Selection) driving method.
- Compact module structure due to built-in display memory, voltage booster and power supply circuit.
- Super low power consumption due to implemented power save modes (i.e. Partial Display Mode), use of the MLS driving method and the fact that the backlight does not need to be switched on during day time use.
- Clear color images shown even in dark locations by using optional backlight units.

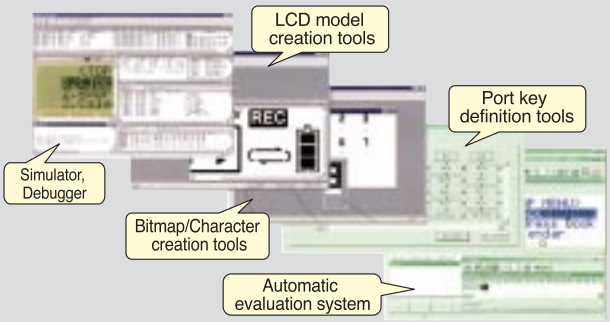
ASMIC

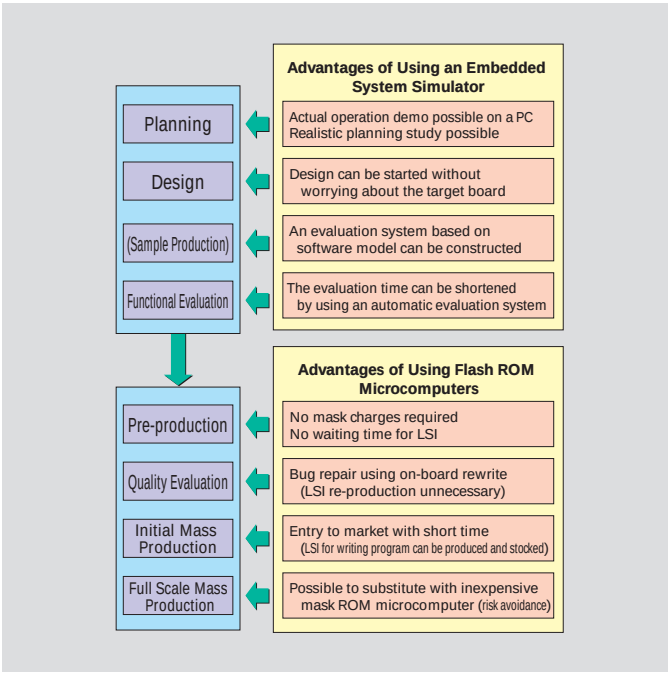
8-BIT FLASH µC & LCD SIMULATOR

SIM88

8-bit Flash µC and enhanced development environment

EPSON has released the S1C8F360, a low-voltage-operation, low-power-consumption 8-bit Flash ROM microcontroller supported by SIM88, a software based LCD simulator. This simulator enables the development engineer to start the LCD design directly with no need of any Hardware development environment, providing high flexibility especially in the early project stage. The S1C8F360 is available in small volumes as well as in mass production.
At a minimum of 2000 units quantity in mass production, EPSON offers flash programming (charging an additional programming fee) to support the customer in shortening the time-to-market dramatically. With a wide range of on-board peripherals like Dot matrix LCD driver, ADC, external address-/databus, the S1C8F360 is targeting applications like high function watches, health care equipment (heart rate monitors, blood pressure meters, body fat meters, thermometers, etc.), portable game equipment, etc. A pin-compatible mask ROM Microcontroller, the S1C88349, is also available. In addition to the S1C8F360, EPSON is introducing the SIM88, a S1C88 family LCD simulator, supporting the complete product lineup of the EPSON 8-bit Microcontrollers with the following features:
System emulation possible on PC software, System function evaluation can be done without ICE (hardware emulator) or evaluation board, full range of software model group Microcontroller (S1C8F360, etc.), expansion LCD driver (SED152A/1565), ROM, RAM, LCD panel, Backlight, Key, Key-matrix, port setting utility (PrtUtil.exe - this utility sets the simulator port setting and creates the port definition file (*.prt)).





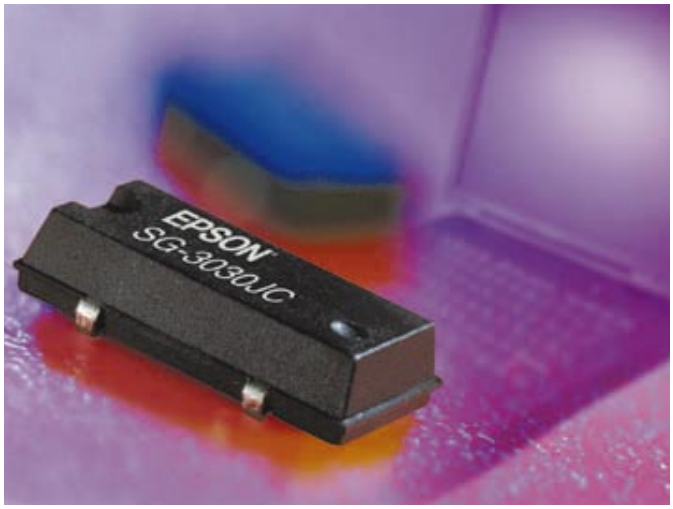
QD

EXTENDED TEMPERATURE RANGE

SG-3030

Small 32 kHz Crystal Oscillator with extended temperature range

EPSON extends its product range of 32 kHz SMD Crystal Oscillators. The SG-3030 (successor of the SG-3032) with its small size package and its low power consumption offers a real advantage for applications where space & power consumption are critical, e.g. like PCs, workstation, servers, OA equipment.
All applications which request extended temperature range will be as well satisfied by its characteristics.
Moreover, with a built-in oscillator circuit, this advanced technology product, will permit the designer to cut the design time and secure the oscillation circuit.
Having the same concept as the SG3032, the new EPSON design requires only a power supply for obtaining the 32.768 kHz output.
The SG-3030JF has just been released.



QD

CRYSTAL OSCILLATOR

SG-636PDE

Low Voltage & High Frequency Crystal Oscillator

New portable devices, notebooks or PDAs request a higher frequency range oscillation with a restriction to optimise their global power consumption. For this new requirement, EPSON has developed a complete new productline crystal oscillator with low voltage technology (2.5V), the SG-XXXPDE. The first new product of this family is the SG-636PDE. Operated at 2.5 V, in a compact SMD package, the SG-636PDE can support an output frequency range of 2.21675 to 41.0000 MHz. Its Output Enable (OE) function allows designers to reduce the power consumption.
An ideal product for portable devices like notebooks, PDA or other small devices, this new SG636PDE will bring real technology advantages in the market for new designs.
The SG-636PDE has just been released for mass production.

Target Applications

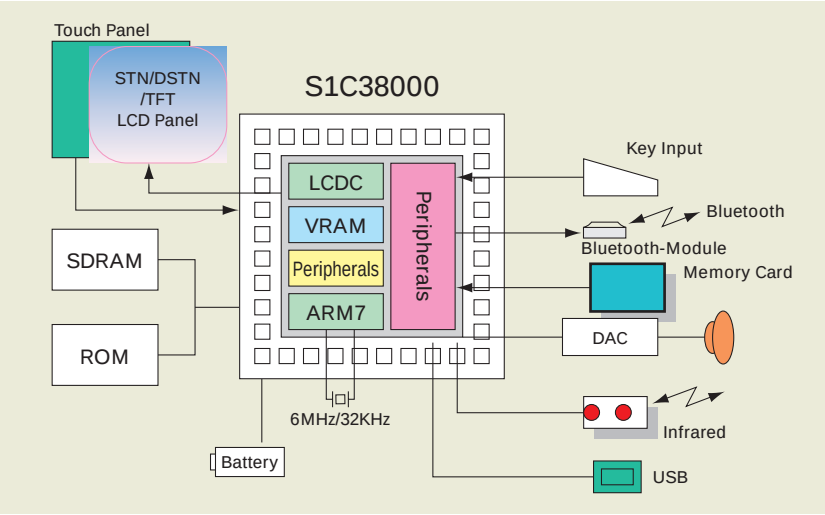
- Notebook, PDA, PC peripheral, small devices, etc.

ASSP

SYSTEM-0N-CHIP

S1C38000

System-on-Chip for PDAs and SmartPhones



With the number of functionalities in PDAs and SmartPhones increasing rapidly there is a growing demand for highly integrated LSIs specifying in this area. Epson has developed a new family of System-on-Chip solutions for this area and now releases the S1C38000, which is a complete single chip solution for a variety of embedded applications, including PDAs and SmartPhones, providing everything from processor, peripherals, to display controller.

The ARM720TDMI processor core provides high performance and low power consumptions while a feature rich set of embedded peripherals compliment the device. The popular EPSON SED1376 Color LCD Controller is an integral part of this device with it's dedicated embedded display buffer providing substantial performance increase over similar devices using "shared" memory architectures. The embedded display buffer has been expanded to 112 kB in order to enable higher display resolutions. Other peripherals include USB client 1.1, SPI interfaces, PLL, Timer, A/D converter and more.

The S1C38000 is scheduled for sample shipping in April 2001 and mass production in summer 2001. Further versions of the S1C38000 are planned to be released later this year.

Masao Ueno appointed new president of EPSON EUROPE ELECTRONICS GmbH

On April 1st, 2001, Mr. Masao Ueno has become the new President of EPSON EUROPE ELECTRONICS GmbH. He took over from Mr. Takao Yokoyama, who, after five years, is returning to the parent company in Japan.

Masao Ueno was born in Shiga/Japan on February 26th, 1955 and he has been with the SEIKO EPSON Corporation since 1978.

Immediately after earning a degree in economy at Yokohama National University, he started his career in the electronic components division and worked as a sales manager for crystal products until 1991.

In 1991 he was appointed Senior Manager at the Amsterdam office, which served as the central European headquarters at that time.

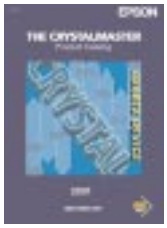
The transformation of EPSON Semiconductors GmbH into EPSON EUROPE ELECTRONICS GmbH, and the transfer of the corporate headquarters for electronic components to Munich in 1996, made him the General Manager of EEG.

Mr. Masao Ueno held this title for one year and after returning to Japan, he became General Manager in 1997, responsible for EPSON electronic component sales in Europe.

On April 1st, 2001, Mr. Masao Ueno has taken on the responsibilities as President of EPSON EUROPE ELECTRONIS GmbH.

Our actual catalogues

Ask for our latest catalogues.



Please contact us.

EPSON EUROPE ELECTRONICS

Headquarters Munich	+49-(0)89-14005-0
Office Leverkusen	+49-(0)2171-50450
Office Paris	+33-1-648-623-50
Office London	+44-1344-381-700

www.epson-electronics.de
info@epson-electronics.de

ISO 14001

THE POWER TO CREATE

EPSON®
ELECTRONIC DEVICES