EPSON

NEWSLETTER 2001

2

ASMIC

8-BIT "MULTITALENT"

E0C88816

8-bit "Multitalent" with large ROM capacity

EPSON has developed an 8-bit Microcontroller with an integrated ROM of 116 Kbytes. This makes the E0C88816 suitable for large programmable and multilingual applications, such as battery driven metering and time management devices with country specific parameter settings. A 4,224-bit large display memory and a 512-Byte melody RAM allows the remaining 8 kB to be fully available for the program-dedicated variables and stack. The melody functionality is more and more requested for handheld products in order to indicate events and status not only visually, but also with sound. Compared to a software emulated sound generator, EPSON melody peripheral is optimised to reduce external components and is able to minimise the workload during output, without occupying any timer or additional resources like RAM or Interrupts.

This microcontroller also includes a LCD Controller/Driver (88/72 segments x 32/16/8 commons) for Segment and Dot Matrix Displays. Integrated Booster and regulator circuit ensure the best contrast for low-end and high-end LCD panels. A software-controlled contrast improves the information availability on the display.

The E0C88816 is fully operable over a wide temperature and voltage range. This device performs high-speed operations even at low voltage combined with low power consumption.

QD

OSCILLATORS FOR UMTS AND CDMA

TG-2820

TCXO ideal for UMTS and CDMA applications

Mobile Telecommunication is evolving quickly. High-speed data transmission and the steadily growing number of subscribers create new challenges for the industry. EPSON took another step to cope with tighter requirements related to this process. With the TG-2820CB EPSON provides a new component fitting ideally to the needs especially of CDMA and UMTS applications.

This Temperature Compensated Crystal Oscillator (TCXO) achieves an impressively high frequency stability of +/-4.5x10^{-6} over a temperature range of –30°C to +80°C. Available in a wide range of frequencies between 12 and 19.8 MHz, the use of the TG-2820CB will be versatile. Its extraordinary noise characteristics leave competitors far behind. Power consumption creates another hurdle on the track of mobile devices that the TG-2820CB takes easily.

1.5 mA max. consumption at a supply level of 2.8 V is a result of EPSON's efforts for the development of "power saving" components. All this leading technology will be delivered in a size of 3.2 x 2.5 mm^2 with a mere height of 1.5 mm, of course in an industry standard SMD ceramic package.

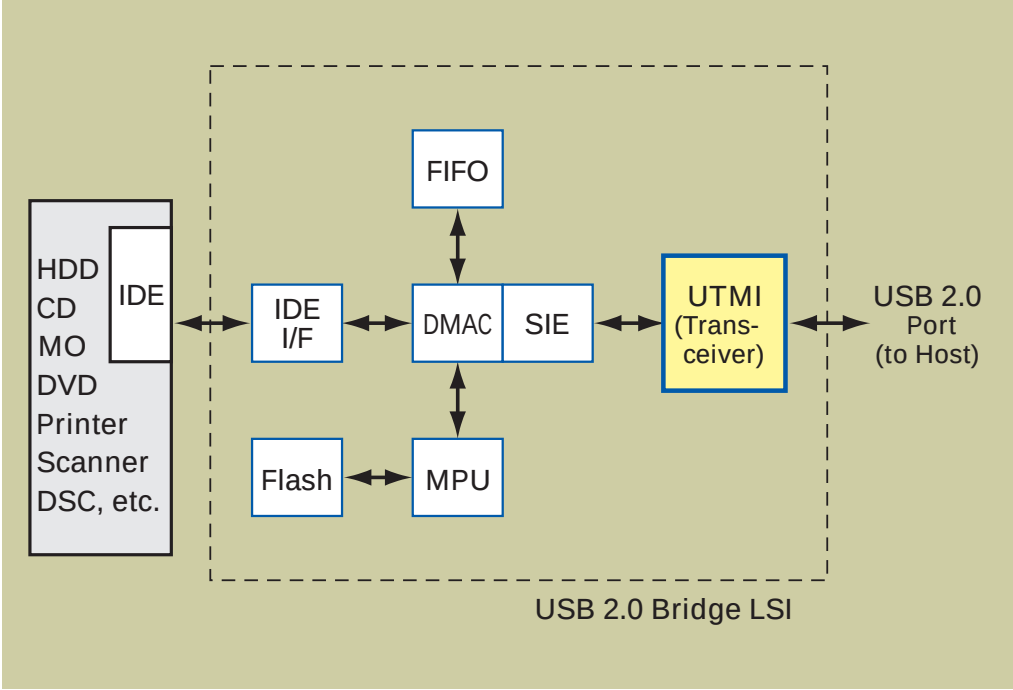
All these features make the TG-2820CB first choice for mobile applications.

ASIC

USB 2.0 - MACROCELL

USB 2.0

USB 2.0 Transceiver In Macrocell Form released for ASIC



After the successful introduction of the USB 1.0 and USB 1.1 macrocells on the market, EPSON has developed for its embedded array SSL50000 Series a transceiver block macrocell that is compatible with USB 2.0. This macrocell complies with the UTMI (USB 2.0 Transceiver Macrocell Interface) standard.

The EPSON macrocell supports HS mode (480 Mbits/s) and FS mode (12 Mbits/s). It has a built-in HS/FS terminator and 8-bit interface with SIE. Operating voltage is 3.3 V single supply.

Using this macrocell, it is easy to realize Devices interfacing USB 2.0 connectable peripheral equipment.

USB (Universal Serial Bus) is a standard for serial buses connecting PCs and peripherals. As an evolution of the USB 1.1 specification it has basically the same behaviour but a much higher bandwidth. USB 2.0 enables high speed data transfer of up to 480 Mbits/second. This feature opens the door to higher performance peripherals such as fast storage devices, next generation printers and scanners or even video-conferencing cameras.

It incorporates circuit blocks such as UTMI, SIE (Serial Interface Engine), DMAC, MPU, and FIFO as well as circuits within the peripheral equipment.
This macrocell is scheduled for release in the spring 2001. In parallel EPSON is developing a USB 2.0 bridge that realizes a connection between USB 2.0 and IDE.

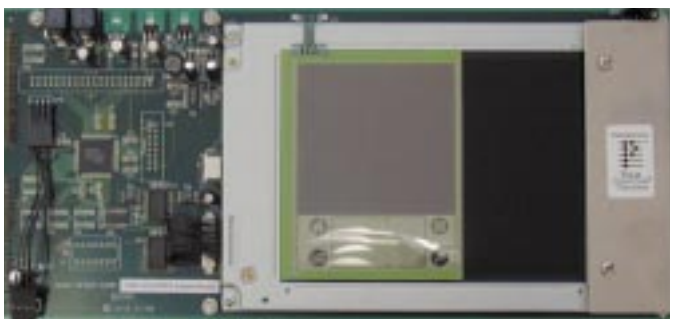
ASSP

LCD-CONTROLLER USED BY HANDSPRING™

SED1376

EPSON LCD-Controller in Handspring™ VISOR PRISM™

The EPSON SED1376 LCD-Controller has been selected by Handspring, Inc. as the backbone for their newly announced color handheld computer, Visor Prism™.
The SED1376 enables the Visor Prism to display 65,536 colors thereby taking handheld applications to a whole new level of quality. Its unique ability to directly interface with the new LCD panel technologies brings an unprecedented level of integration to a system designer. The high level of integration provided by the SED1376 offers a low-cost, low-power, feature-rich color display solution for handheld markets.
Typical features of the SED1376 are the programmable color-depth and display resolution. Additionally the SED1376 offers HW-rotation (90°, 180°, 270°) and Picture-in-Picture-Plus.
The SED1376 is specified to work with different host I/Fs using a WAIT# - line. Unique within the SED137x series is the low-latency host I/F which does not need a WAIT# line.
EPSON's strong commitment to the handheld market has produced a vast product offering covering all areas of the individual segments, with new product announcements slated for the end of the year.
Specific product information regarding the Handspring Visor Prism can be found at www.handspring.com

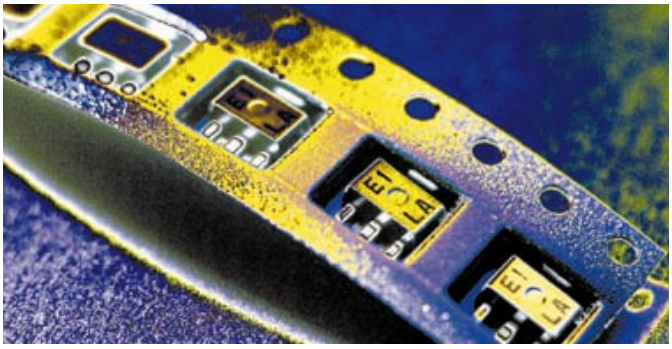


ASSP

AUTOMOTIVE SPECIFIED

SCI7810YxB series

New Automotive Specified Voltage Regulators



The SCI7810YxB series is now available as a revised version of the SCI7810YxA series with an expanded temperature range for automotive applications. The SCI7810YxB series are fixed type positive voltage regulators being developed utilising the CMOS silicon gate process.
The SCI7810YxB device mainly consists of the reference voltage circuit driven with low operating current, differential amplifier, transistor for output control and voltage setting resistor.
Typical features are the low operating current (typ. 1.5 µA @ VDD = 5.0V), a small difference between the input and output voltage (typ. 0.02V (IO = 10 mA, VO = 5.0V), built-in, highly stable reference voltage source (typ. 1.0V), a small temperature factor on the output voltage (typ. – 100 ppm/°C) and a wide operating voltage range of maximum 15V.

The output voltage is fixed on the IC. A wide variety of standard voltage products are available: the series offers 14 types in the range of 1.5V to 6V.

The SCI7810YxB comes in a SOT89-3 pins plastic package. Additionally to the automotive application area, the very low operating current makes the SCI7810YxB series ideal for all kind of battery driven and handheld applications.

SLP

BREAK THE LIMITS - 300 MHz

CARD-PCI/GX1+

First module to break the limits of 300 MHz

EPSON announces the CARD-PCI/GX1+ based on the Geode™ GX1 processor from National Semiconductor®. This product is one of the first embedded modules which break the barrier of 300 MHz.
Measuring 101.6x63.5x16mm³ the Card-PCI/GX1+ is a very high compact solution with a high integration of technology, the size of a cigarette package. It sets new standard for low cost and various Windows, CE, NT, Nte, 98, 2000, QNX, VxWorks-based applications.

The EPSON CARD-PCI/GX1+ is a card module integrating:

- 300 MHz Geode™ GX1 processor from National Semiconductor ®
- SDRAM memory (32 MB, 64 MB or 128 MB)
- High performance SXGA video controller (2D graphics accelerator) which supports CRT resolutions and can drive aTFT LCD panel (with up to 4 MB video memory)
- PCI bus interfaces (3 slots supported) and ISA subset bus interface
- Integrated Super I/O controller which allows to have two IDE (Ultra DMA), two USB, two serial channel (IrDA 1.0 supported), an audio interface (AC97)

The CARD-PCI/GX1+ features a very low-power consumption rate of about 4.4 W and does not require a fan for cooling.
The EPSON CARD-PCI/GX1+ is targeting a broad market where high performance and low power consumption are valued.
Networking devices, factory automation, mobile test, measurement system, panel PC, visual devices (like mobile projectors), and more generally compact PCI board and other embedded systems are typical applications.

It is fully compatible with famous operating systems like Microsoft, Windows 95/98/NT, CE 3.0 and embedded NT; but also real-time operating systems like QNX, VxWorks, Microware, pSoS and others.

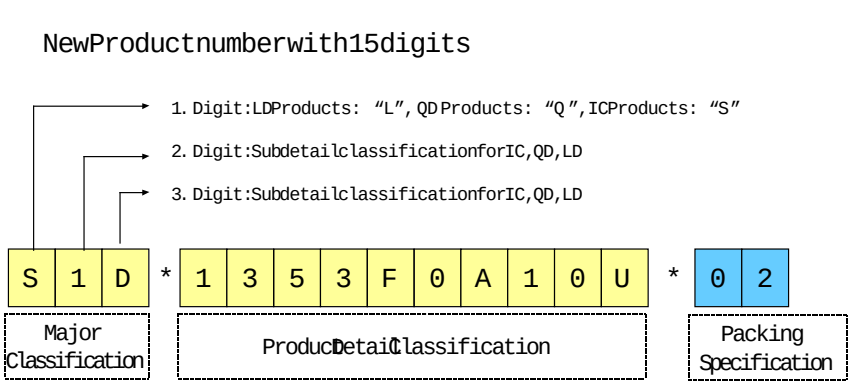
A development kit is also available to provide total technical support. This development kit includes an evaluation board, a single CARD-PCI/GX1+, a cable set, software and documentation.

EPSON OPENS BRANCH OFFICE IN BARCELONA

On the 1st of January 2001 a new branch of EPSON EUROPE ELECTRONICS GmbH was opened in Barcelona/Spain.
Together with branches in Germany, France and the United Kingdom this is the fourth Branch office of the EPSON headquarters in Europe. The main activity of the Barcelona Branch will be the Hardware development of ASIC devices and "System-On-Chip" solutions for battery driven application, especially for mobile equipment such as portable multimedia equipment, mobile phones and portable audio. These activities will be improved by working closely with EPSON's Scotland Design Center, specialised in providing Firmware and System level solutions. Therefore EPSON is now able to provide complete and local support at a pan European level in hardware and firmware design for mobile equipment. The decision to establish an office in Spain was made due to the promising developments in the Spanish market for Electronic Devices - which is expecting a major growth in the next 3 to 5 years - and also based on the to access to skilled engineers in the area, both local and from other European areas. Moreover the Government of Catalonia, by means of CIDEM (Catalonia Office of Foreign Investment), actively supports and promotes the set up of high-tech companies in this area. The Branch Office has started operation on 01.01.2001 and is based in Sant Cugat del Vallés (25 km from Barcelona city center). The office starts with 7-8 engineers and will expand up to 10-12 engineers by the end of 2001.
The manager of the Barcelona Design Center will be Mr. Narcís Avellana.

EPSON CHANGES PRODUCT NUMBER SYSTEM

EPSON will unify the product numbers worldwide: starting on April 01, 2001 there will be a renaming of all existing product numbers to a unified format. This will also effect the marking of the products! more info under www.epson-electronics.de



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