TOSHIBA

Microcontroller NEWSFlash

High performance, Low Cost 20 pin OTP TMP86P202P

www.toshiba-components.com

The new 20 pin TMP86P202 is available in DIP20 and soon in SOP20* packaging and will suit applications including:

- home appliances,
- office automation systems,
- industrial equipment
- small measurement instruments.
- Slave MCU e.g. as port or serial I/I expander

Despite its small size, the device integrates the CPU core along with ROM, RAM, a timer/counter, a watchdog timer, an 8-bit A/D converter and an interrupt controller.

Based on the TLCS-870/C series core, the TMP86P202 operates at frequencies up to 8MHz and features powerful instruction sets using 731 basic instructions. Supply voltage for the new microcontroller is rated at 3.3 to 5.5V, while one STOP and two IDLE modes serve to minimise power consumption.

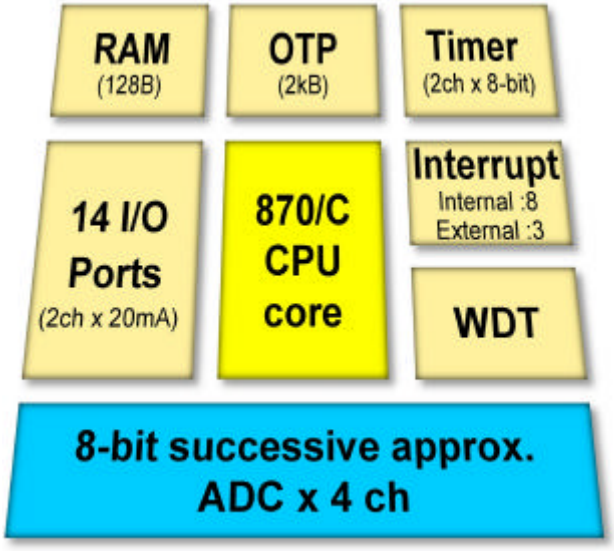
Toshiba's TMP86P202 offers 16 I/O pins, two of which are for high current outputs of typically 20mA. On board memory comprises 2k x 8 bits of ROM and 128 x 8 bits of RAM. The two on-board 8-bit timers provide a PPG or PWM output, event counter input and can be configured for 16-bit timer operation. Additionally a four channel 8-bit A/D converter is available. Built in interrupt handling allows the designer to use eight internal and three external interrupts.

**currently under development*

Datasheets are available here : http://www.toshiba-components.com/products/semiconductors/microcontrollers/Documents.html

P-DIP20-300-2.54D
TMP86P202P

P-SOP20-300-1.27
TMP86P202M
(under Development)



In Touch with Tomorrow
TOSHIBA

TOSHIBA

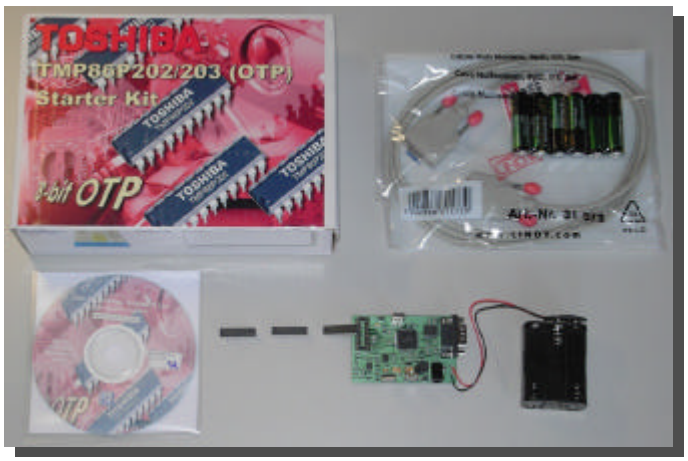
Microcontroller NEWSFlash

TMP86P202P

Starter Kit available NOW!

Including :

- AND simulator (limited version)
- Toshiba Compiler (limited version)
- Programming Board
- Software examples
- Documentation on CD ROM
- Serial Cable
- Battery pack
- OTP samples

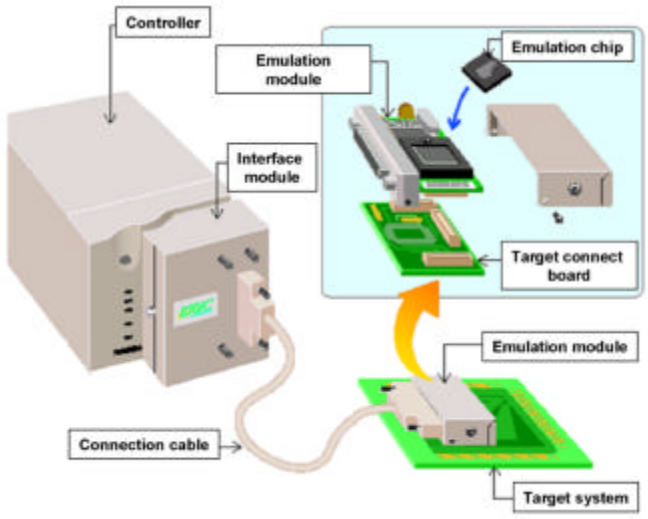


Software updates : www.andtr.com

Development Tool support:

Language Tools	C Compiler & Assembler Set	SW86YN0-ZCE
Test Tools	Debugger	SW86DN9-ZFE
Development Tools	Controller	BM1040R0A
	Emulation Module	BMP86A200010B
	Interface module	BMP86A100010A
	Target connection board	BMP86D020NA0A
	OTP/MCU mount adapter	BM11203
Starter Kit	BMSKTOPASP202(AND) :	OTP programming system with AND simulator and Toshiba compiler

Tool chain for TLCS 870/C series:



- **Test Tools**
  The test tools include the debugger, the Real-Time emulation controller and the emulation POD. The debugger functions as a user interface, offering a unified debugging environment.

- **Language Tools**
  Software tools which generate object files such as Intel Hex files from source files written in C or assembly language:
  - Build manager with user-friendly GUI
  - ANSI C-compiler
  - A wide variety of options for improving the efficiency of code and using RAM efficiently is provided.

In Touch with Tomorrow
TOSHIBA