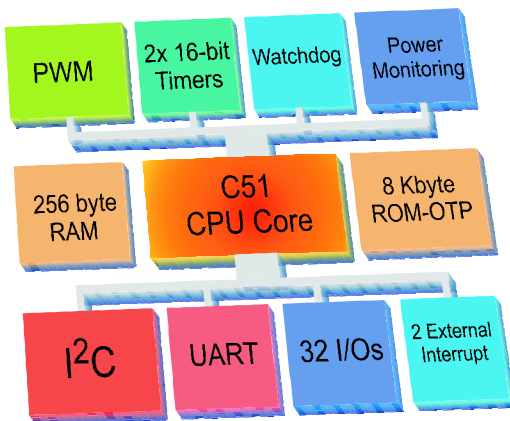


TSC8051i2 8-bit Microcontroller with I²C Interface

- On-chip I²C bus controller
- 12 PWM channels
- Enhanced watchdog
- Power management



In today's electronic systems, communication between components is of major importance. On-board component functions are becoming more and more complex and there is an increasing need to interface with external systems.

Microcontrollers, as the core of many systems, influence the methods used by designers to implement inter-IC communication on their applications. Therefore, providing microcontroller solutions with industry standard serial interfaces, helps design implementation.

UARTs have been used in microcontrollers since decades for serial links but have some limitations. Progressively the I²C bus has been adopted as the industry standard for multi IC serial communication where 400 kbit/s maximum speed fits the application needs. With only 2 active wires, it provides a flexible bi-directional communication with multi-master capability (more than one IC in master position) allowing easy and powerful implementation.

The TSC8051i2 is an 8-bit microcontroller, based on the market-leading 80C51 Intel architecture. In addition to standard UART it comprises a multi-master I²C controller, offering a cost effective solution to implement I²C based systems. With up to 12 programmable 8-bit PWM channels it allows driving of external analog peripherals. An enhanced watchdog and power monitoring features enables implementation of secure designs. The TSC8051i2 includes a 256 byte RAM data memory and a 8 Kbyte ROM or EPROM/OTP program memory.

The TSC8051i2 is especially adapted for industrial and video-audio applications, but also fit in phones, telephony systems and computer peripherals.

for industrial and consumer applications

- Audio & Video equipments
- Appliances
- Instrumentation systems
- Test equipments
- Telephone systems

- 80C51 Architecture
- Plug-in replacement of Philips 80C652

Product Features

- 256 byte RAM
- 8 Kbyte ROM/EPROM
- Four 8-bit parallel I/O ports, including enhanced I/Os
- Full duplex UART
- Two 16-bit timers/counters
- Multi-master master/slave I²C controller
- Up to 12 programmable 8-bit PWM channels
- Watchdog Timer
- Power Monitoring
 - power-fail reset
 - Idle and power-down modes
- 6 interrupt sources, including 2 external

Development Tools

- Emulators: Ceibo, Metalink (1Q99)
- Compilers: Keil as well as all standard 80C51 compilers available on the market
- Device programmers: Advantec Equipment, Advin, BP Microsystem, Ceibo, Data I/O, Hi-Lo Systems research, Needham's Electronics, System General, SMS, Xeltek... (please check our web site for details)
- TSC8051i2 is available in EPROM version, with following windowed packages: CDIL40, JLCC44, JLCC52.

Available Versions

- ROMless version: TSC8031I2, OTP ROM version: TSC8751I2, Mask ROM version: TSC51I2
- High speed version: 4.5 to 5.5 V operating 16MHz or 24MHz
- Low voltage version*: 2.7V to 5.5 V operating 12 MHz
- Temperature range:
 - Commercial (0 to 70°C)
 - Industrial (-40°C to 85°C)
- Packages: PDIL40, PLCC44, PLCC52**, PQFP44
Die form and Ceramic packages***

* Only for ROMless and ROM versions.

** PLCC52 package enables use of 12 PWM channels while other 40/44 pins packages limits to 4 the number of usable PWM channels.

*** Please ask for availability.



Purchase of TEMIC Semiconductors I²C components conveys a license under the Philips I²C Patent Rights to use these components in an I²C system, provided that the system conforms to the I²C Standard Specification as defined by Philips.

An I²C microcontroller fits to your project? Just contact us!

Finland
Kappeltie
Tel: 358 9 4520 8219
Fax: 358 9 529 619

France
78054 St. Quentin en
Yvelines
Tel: 33 1 3060 7000
Fax: 33 1 3060 7111

Germany
Eching
Tel: 49 89 3 19 70 0
Fax: 49 89 3 19 46 21
Essen
Tel: 49 2 01 24 73 00
Fax: 49 2 01 24 73 047
Heilbronn
Tel: 49 71 31 67 36 36
Fax: 49 71 31 67 31 63

Italy
Milano
Tel: 39 2 38 03 71
Fax: 39 2 38 03 72

Spain
Madrid
Tel: 34 91 564 51 81
Fax: 34 91 562 7514

Sweden
Sundbyberg, Sweden
Tel: 46 8 587 48 800
Fax: 46 8 587 48 850

United Kingdom
Bracknell
Tel: 44 1344 707 300
Fax: 44 1344 427 371

USA-Eastern
Basking Ridge (NJ)
Tel: 1 908 630 9200
Fax: 1 908 630 9201

USA-Western
San Jose (CA)
Tel: 1 408 441 0311
Fax: 1 408 436 4200

China
Shanghai
Tel: 86 21 6280 9241
Fax: 86 21 6283 8816

Hong Kong
Tel: 852 23 789 789
Fax: 852 23 755 733

Taiwan
Taipei City
Tel: 886 2 2609 5581
Fax: 886 2 2600 2735

Korea
Seoul
Tel: 82 2 785 1136
Fax: 82 2 785 1137

Singapore
Tel: 65 788 6668
Fax: 65 787 9819

Japan
Tokyo
Tel: 81 3 5562 3321
Fax: 81 3 5562 3316

Product Information

Email: c51@temic.fr

<http://www.temic-semi.de/nt/micro>