TX03 Series

32-bit / 100-pin

MANO

TMPM361F10FG

An ARM[®] Cortex[®]-M3 core based microcontroller with built-in maximum 1-Mbyte flash ROM (making it suitable for software development), multiple serial channels (maximum 10 channels), a backup power module which reduces standby power consumption and operates at a maximum operating frequency of 64MHz.

Features

ARM[®] Cortex[®]-M3 CPU Core

- Operating voltage: 2.7 to 3.6V (Single supply/on-chip regulator)
- Maximum Operating frequency: 64 MHz (8 by PLL)
- On-chip debug circuit: SWD, SWV or 4-bit trace interface
- Power saving operation Clock gear (for dividing clock to 1/1, 1/2, 1/4, or 1/8) Standby modes (IDLE1, 2, SLOW, SLEEP, STOP, BACKUP)

Built-in Functions

- DMA controller : 2 channels
- I/O ports : 68 pins Input ports : 8 pins
- 10-bit AD converter : 8 channels
- 16-bit timer : 16 channels
- SIO/UART : 5 channels
- \blacktriangleright I²C/SIO : 3 channels
- ▶ I²C : 1 channel
- SSP(SPI/SSI/MicroWire mode) : 1 channel
- RTC : 1 channel
- CEC : 1 channel
- Remote control signal preprocessor : 1 channel (RMC)
- External memory interface : 16-bit (Multiplex bus)
- CS/WAIT controller : 4 channels

* ARM and Cortex are the registered trademarks of ARM Limited in the EU and other countries.

* NANO FLASH is a trademark of Toshiba Corporation.

NANO FLASH ROM SSP (Ich) SCLK/DO/DI FSS 32kHz CG Timer/Counter Input SIO/UART (5ch) SCLK/SL/SO TXD/RXD 16bit TIMER (16ch) RAM PPG Output I²C/SIO (3ch) SDA/SCL SCLK/SI/SO 10bit AD (8ch) Analog Input ARM Cortex -M3 CORE CEC I/F (Ich) 10(76) I/O Port CEC Ext DMAC (2ch) RMC (1ch) BUS RXIN

Flash Memory Size

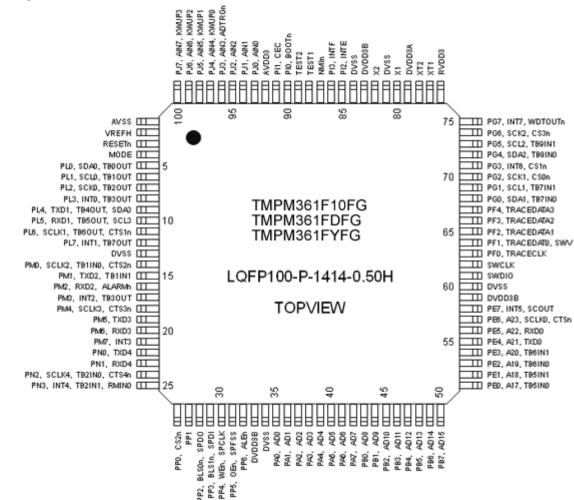
8MHz

Part number	ROM (Flash)	RAM
TMPM361F10FG	1 Mbyte	64 Kbyte

WDT

Package Information

Pin Assignments



Package name: LQFP100-P-1414-0.50H

» For further information about Toshiba microcomputers and Toshiba microcomputer development systems, please visit http://www.semicon.toshiba.co.jp/eng/product/micro/index.html

Toshiba Corporation, and its subsidiaries and affiliates (collectively "TOSHIBA"), reserve the right to make changes to the information in this document, and related hardware, software and systems (collectively "Product")

This document and any information herein may not be reproduced without prior written permission from TOSHIBA. Even with TOSHIBA's written permission, reproduction is permissible only if reproduction is without alteration/omission

alteration/omission.
• Though TOSHIBA works continually to improve Product's quality and reliability, Product can malfunction or fail. Customers are responsible for complying with safety standards and for providing adequate designs and safeguards for their hardware, software and systems which minimize risk and avoid situations in which a malfunction or fail are of Product could cause loss of human life, bodily injury or damage to property, including data loss or corruption. Before customers use the Product, create designs including the Product, or incorporate the Product into their own applications, customers must also refer to and comply with (a) the latest versions of all relevant TOSHIBA information, including without limitation, this document, the specifications, the data sheets and application notes for Product and the precautions and conditions set forth in the "TOSHIBA Semiconductor Reliability Handbook" and (b) the instructions for the applications (b) the use of this Product in such design or applications; (b) evaluating and determining the application intervations, and with entry, diagram, programs, algoing the appropriate presponsible for all aspects of their own product design or applications; (b) evaluating and determining the application introation contained in this document, or instructions; (b) evaluating and determining the applications. TOSHIBA ASSUMES NO LIABILITY FOR CUSTOMERS' PRODUCT DESIGN OR APPLICATIONS. application circuits, APPLICATIONS.

APPLICATIONS. PRODUCT IS NEITHER INTENDED NOR WARRANTED FOR USE IN EQUIPMENTS OR SYSTEMS THAT REQUIRE EXTRAORDINARILY HIGH LEVELS OF QUALITY AND/OR RELIABILITY, AND/OR A MALFUNCTION OR FAILURE OF WHICH MAY CAUSE LOSS OF HUMAN LIFE, BODILY INJURY, SERIOUS PROPERTY DAMAGE AND/OR SERIOUS PUBLIC IMPACT ("UNINTENDED USE"). Except for specific applications as expressly stated in this document, Unintended Use includes, without limitation, equipment used in nuclear facilities, equipment used in the aerospace industry, medical equipment, equipment used for automobiles, trains, ships and other transportation, traffic signaling equipment, equipment used to control combustions or explosions, safety devices, elevators and escalators, devices related to electric power, and equipment used in finance-related fields. IF YOU USE PRODUCT FOR UNINTENDED USE, TOSHIBA ASSUMES NO LIABILITY FOR PRODUCT. For details, please contact your TOSHIBA sales representative. Do not disassemble, analyze, reverse-engineer, alter, modify, translate or copy Product, whether in whole or in part.

Product shall not be used for or incorporated into any products or systems whose manufacture, use, or sale is prohibited under any applicable laws or regulations

Product shall not be used for or incorporated into any products or systems whose manufacture, use, or sale is prohibited under any applicable laws or regulations.
 The information contained herein is presented only as guidance for Product use. No responsibility is assumed by TOSHIBA for any infringement of patents or any other intellectual property rights of third parties that may result from the use of Product. No license to any intellectual property right is granted by this document, whether expresses or implied, by estoppel or otherwise.
 ABSENT A WRITTEN SIGNED AGREEMENT, EXCEPT AS PROVIDED IN THE RELEVANT TERMS AND CONDITIONS OF SALE FOR PRODUCT, AND TO THE MAXIMUM EXTENT ALLOWABLE BY LAW, TOSHIBA (1) ASSUMES NO LIABILITY WHATSOEVER, INCLUDING WITHOUT LIMITATION, INDIRECT, CONSEQUENTIAL, SPECIAL, OR INCIDENTAL DAMAGES OR LOSS, INCLUDING WITHOUT LIMITATION RELATED TO SALE, USE OF PROPIUT, OR INFORMATION, INCLUDING WARRANTIES AND CONDITIONS RELATED TO SALE, USE OF PROPOTICT, OR INFORMATION, INCLUDING WARRANTIES OR CONDITIONS RELATED TO SALE, USE OF PRODUCT, OR INFORMATION, INCLUDING WARRANTIES OR CONDITIONS OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, ACCURACY OF INFORMATION, OR NONINFRINGEMENT.
 Do not use or otherwise make available Product or related software or technology for any military purposes, including without limitation, for the design, development, use, stockpiling or manufacturing of nuclear, chemical, or biological weapons or missile technology products (mass destruction weapons). Product and related software on technology may be controlled under the applicable export laws and regulations.
 Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. Please use Product in compliance with all applicable laws and regulations that resource that source t

- apprication export have and regulations. Please contact your TOSHIBA sales representative for details as to environmental matters such as the RoHS compatibility of Product. Please use Product in compliance with all applicable laws and regulations that regulate the inclusion or use of controlled substances, including without limitation, the EU RoHS Directive. TOSHIBA ASSUMES NO LIABILITY FOR DAMAGES OR LOSSES OCCURRING AS A RESULT OF NONCOMPLIANCE WITH APPLICABLE LAWS AND REGULATIONS.

TOSHIBA

TOSHIBA CORPORATION

Semiconductor & Storage Products Company