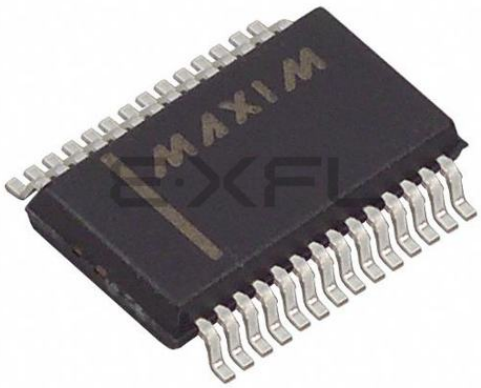
Analog Devices Inc./Maxim Integrated - ZLP12840H2828G Datasheet



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What is "Embedded - Microcontrollers"?

"Embedded - Microcontrollers" refer to small, integrated circuits designed to perform specific tasks within larger systems. These microcontrollers are essentially compact computers on a single chip, containing a processor core, memory, and programmable input/output peripherals. They are called "embedded" because they are embedded within electronic devices to control various functions, rather than serving as standalone computers. Microcontrollers are crucial in modern electronics, providing the intelligence and control needed for a wide range of applications.

Applications of "Embedded - Microcontrollers"

Details	
Product Status	Obsolete
Core Processor	Z8 LXM
Core Size	8-Bit
Speed	8MHz
Connectivity	UART/USART
Peripherals	Brown-out Detect/Reset, HLVD, POR, WDT
Number of I/O	24
Program Memory Size	128KB (128K x 8)
Program Memory Type	OTP
EEPROM Size	-
RAM Size	1K x 8
Voltage - Supply (Vcc/Vdd)	2V ~ 3.6V
Data Converters	-
Oscillator Type	Internal
Operating Temperature	0°C ~ 70°C (TA)
Mounting Type	Surface Mount
Package / Case	28-SSOP (0.209", 5.30mm Width)
Supplier Device Package	28-SSOP
Purchase URL	https://www.e-xfl.com/product-detail/analog-devices/zlp12840h2828g

Crimzon® Infrared Microcontrollers

ZLP12840 OTP MCU
with Learning Amplification
Product Brief

PB015605-1007

Overview

Zilog's ZLP12840 OTP MCU is a member of the Crimzon® MCU family of infrared microcontrollers. With 1 KB of general-purpose RAM and up to 128 KB of OTP, Zilog's CMOS microcontrollers offer fast executing, efficient use of memory, sophisticated interrupts, input/output bit manipulation capabilities, automated pulse generation/reception, and internal key-scan pull-up transistors.

Product Block Diagram

<table>
<tr><td>Power-On Reset</td><td>32/64/96/128K OTP ROM</td><td>T8 Timer Capture and Transmit</td></tr>
<tr><td>High Battery Voltage Detection</td><td rowspan="2">Z8® LXM Core</td><td>T16 Timer Capture and Transmit</td></tr>
<tr><td>Low Battery Voltage Detection</td><td>8-Bit Timer w/ UART</td></tr>
<tr><td>2 Comparators</td><td rowspan="2">1 KB RAM</td><td rowspan="2">Watchdog Timer</td></tr>
<tr><td>Dedicated IR Amplifier</td></tr>
<tr><td>Port 0
8 I/O</td><td>Port 2
8 I/O</td><td>Port 3
8 I/O</td></tr>
</table>

Features

Key features of ZLP12840 OTP MCU include:

- Low power consumption
- Three standby modes
  - STOP—2 µA (typical)
  - HALT—0.8 mA (typical)
  - Low-Voltage Reset
- Infrared dedicated timers
  - Capture and transmit, 8- and 16-bit
  - 8-bit timer with full duplex UART
- Twenty priority interrupt sources
  - Three from UART Tx, UART Rx, UART BRG
  - Two assigned to T8, T16 time-out and capture
  - One low-voltage detection interrupt
  - Fourteen from Stop Mode Recovery sources P20–P27, P30–P33, P00, and P04
- High and Low voltage detection with Flag IRQ (Low voltage only)
- Programmable Watchdog Timer
- Power-On Reset circuits
- OTP-selectable pull-up transistors on Port 0 and Port 2
- Two comparators
- Infrared learning amplification comparator
- Up to 24 GPIO
  - Port 0: 0–3 (with pull-up option)
  - Port 0: 4–7 (with pull-up option)
  - Port 2: 0–7 (with pull-up option)
  - Port 3: 0–7
- Flexible Stop Mode Recovery
- Compatible with Zilog's Z86L98, ZLP32300, ZLR32300, and ZLR64400 product families.

Block Diagram

Figure 1 displays the functional block diagram.

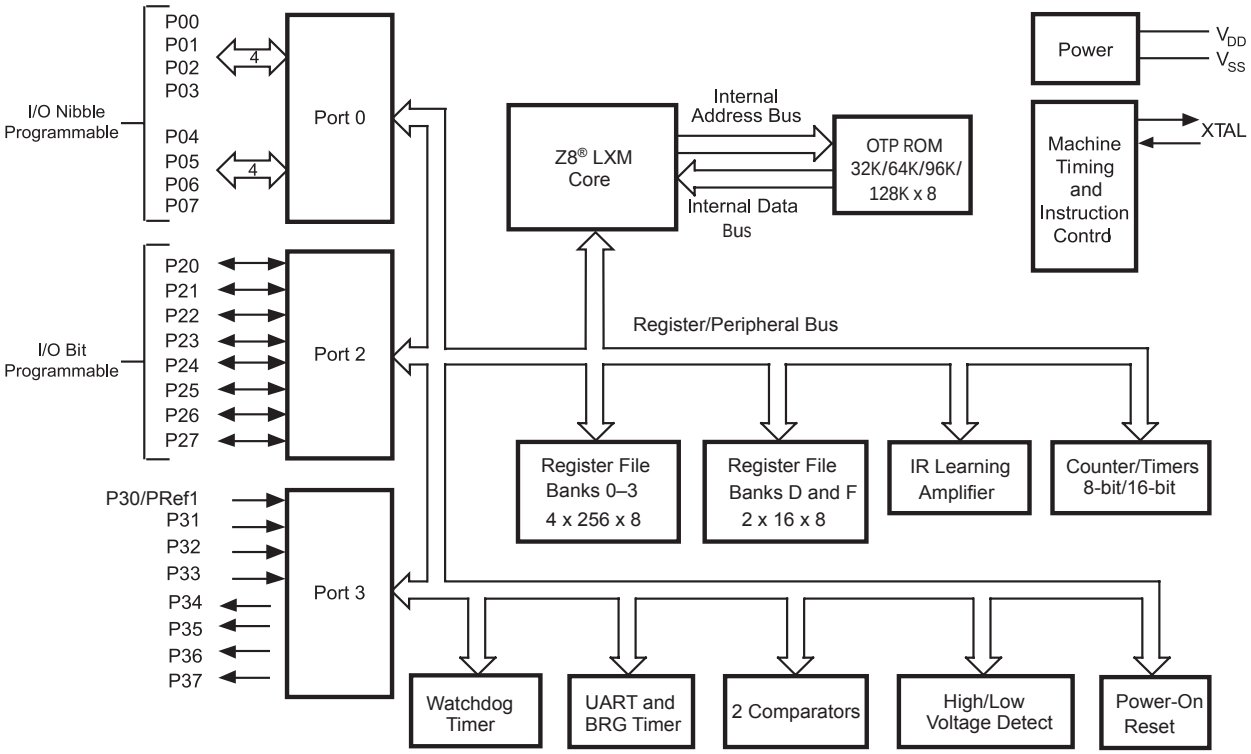

Figure 1. Functional Block Diagram

Pin-Outs and Pin Directions

Figure 2 displays the 20-pin PDIP, SOIC, and SSOP pin assignments.

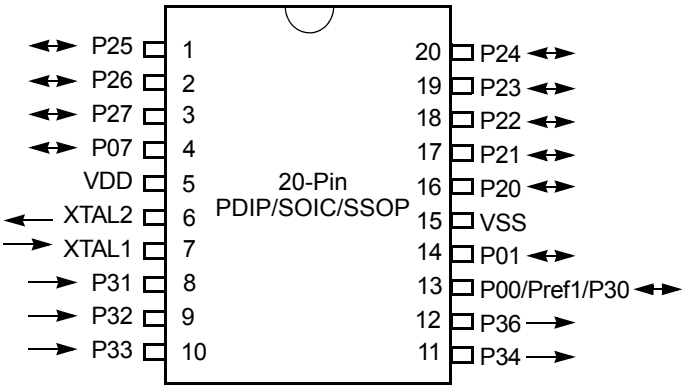

Figure 2. 20-Pin PDIP/SOIC/SSOP Pin Assignment

Figure 3 displays the 28-pin PDIP, SOIC, and SSOP pin assignments.

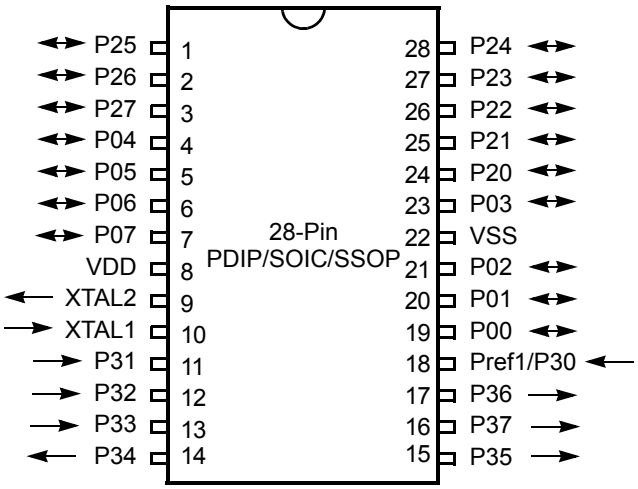

Figure 3. 28-Pin PDIP/SOIC/SSOP Pin Assignment

Applications and Support Tools

The following development tools are available for programming and debugging this device:

- ZCRMZNICE01ZEMG—Crimzon In-Circuit Emulator
- ZCRMZNICE01ZACG—20-pin Accessory Kit to the ZCRMZNICE01ZEMG
- ZCRMZNICE02ZACG—40-/48-pin Accessory Kit to the ZCRMZNICE01ZEMG
- ZCRMZN00100KITG—Crimzon IR Development Kit
- Zilog Developer Studio II (ZDSII), available for download at www.zilog.com

Ordering Information

Each of the parts listed in table is available in a lead-free package that conforms to responsible environmental standards. To order a leaded package, contact Zilog Customer Service. For more information regarding ordering, contact your local Zilog sales office. Zilog web site, www.zilog.com, lists all regional offices and provides additional product information.

Part Number	Description
ZLP12840H2828G	28-pin SSOP 128K OTP
ZLP12840S2828G	28-pin SOIC 128K OTP
ZLP12840P2828G	28-pin PDIP 128K OTP
ZLP12840H2028G	20-pin SSOP 128K OTP
ZLP12840S2028G	20-pin SOIC 128K OTP
ZLP12840P2028G	20-pin PDIP 128K OTP

Part Number	Description
ZLP12840H2896G	28-pin SSOP 96K OTP
ZLP12840S2896G	28-pin SOIC 96K OTP
ZLP12840P2896G	28-pin PDIP 96K OTP
ZLP12840H2096G	20-pin SSOP 96K OTP
ZLP12840S2096G	20-pin SOIC 96K OTP
ZLP12840P2096G	20-pin PDIP 96K OTP
ZLP12840H2864G	28-pin SSOP 64K OTP
ZLP12840S2864G	28-pin SOIC 64K OTP
ZLP12840P2864G	28-pin PDIP 64K OTP
ZLP12840H2064G	20-pin SSOP 64K OTP
ZLP12840S2064G	20-pin SOIC 64K OTP
ZLP12840P2064G	20-pin PDIP 64K OTP
ZLP12840H2832G	28-pin SSOP 32K OTP
ZLP12840S2832G	28-pin SOIC 32K OTP
ZLP12840P2832G	28-pin PDIP 32K OTP
ZLP12840H2032G	20-pin SSOP 32K OTP
ZLP12840S2032G	20-pin SOIC 32K OTP
ZLP12840P2032G	20-pin PDIP 32K OTP
ZCRMZNICE01ZEMG	Crimzon In-Circuit Emulator

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