



## Crimzon<sup>®</sup> Infrared Microcontrollers

# ZLP12840 OTP MCU with Learning Amplification

### Product Brief

PB015605-1007



## Overview

Zilog's ZLP12840 OTP MCU is a member of the Crimzon<sup>®</sup> 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

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

## Features

Key features of ZLP12840 OTP MCU include:

- Low power consumption
- Three standby modes
  - STOP—2  $\mu$ A (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.

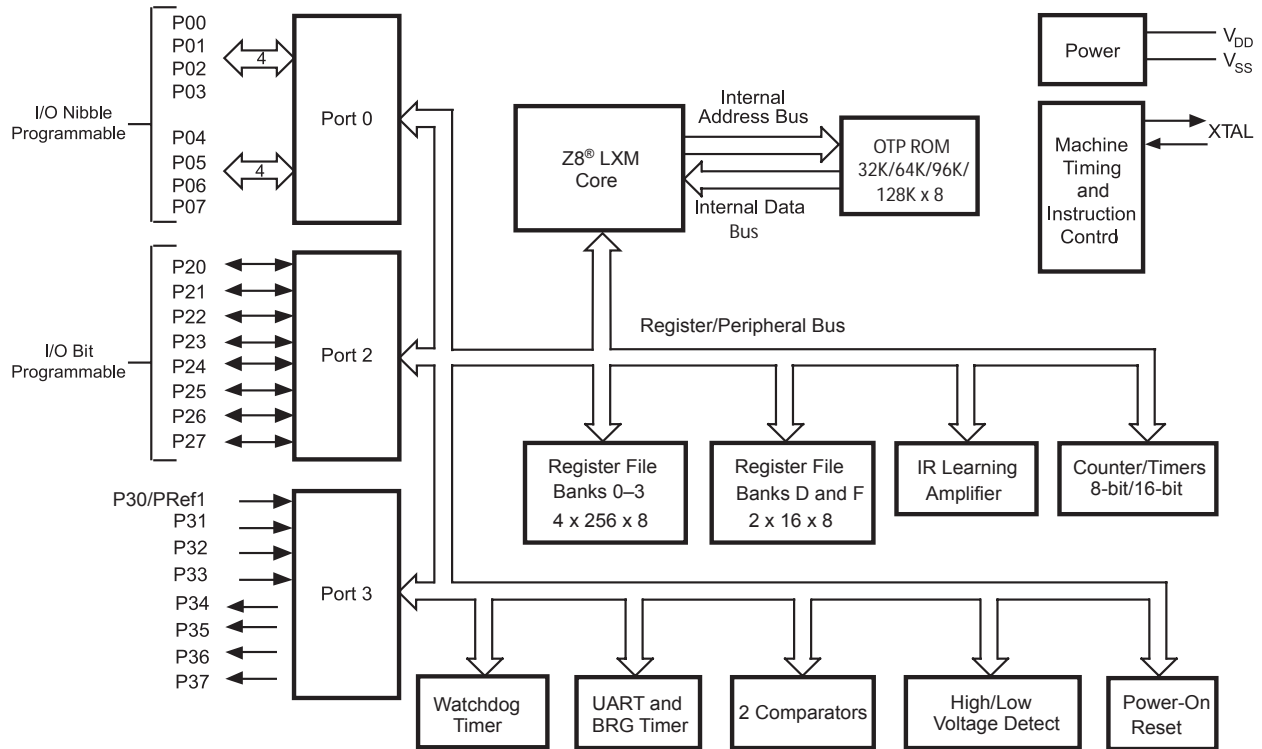


Figure 1. Functional Block Diagram

## Pin-Outs and Pin Directions

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

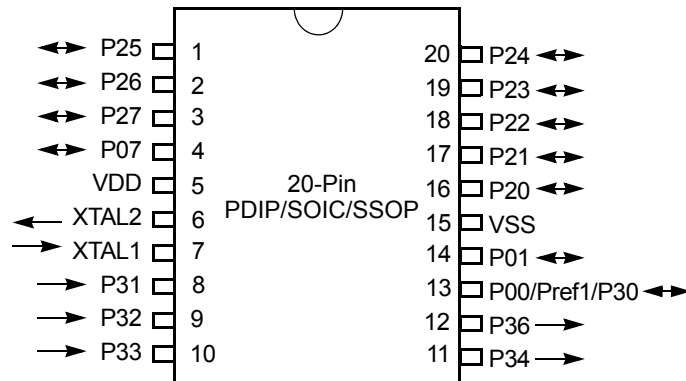


Figure 2. 20-Pin PDIP/SOIC/SSOP Pin Assignment

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

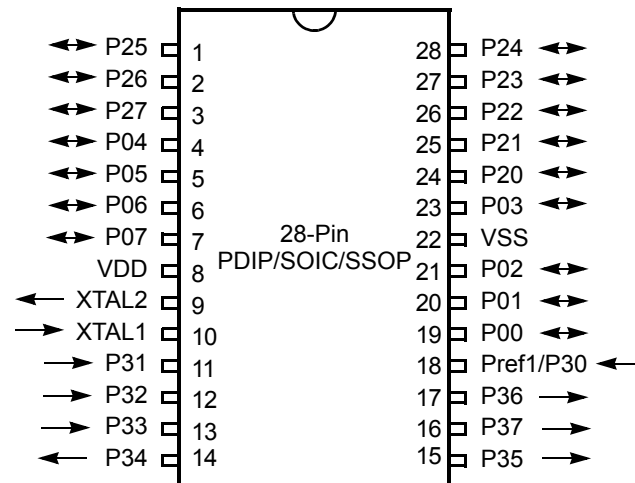


Figure 3. 28-Pin PDIP/SOIC/SSOP Pin Assignment

## 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](http://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](http://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



**Warning:** DO NOT USE IN LIFE SUPPORT

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