

Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from, Europe, America and south Asia, supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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## MAX71313L

# ZON M1L/M1 Single-Phase Electricity Meter SoC

Best-in-Class Metrology with Ultra-low Power Metering Mode

🤮 NDA Required. Request Full Data Sheet 📩 Subscribe



Active: In Production.

#### **OVERVIEW**

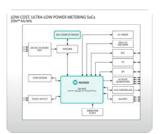
### Description

The ZON™ M1L (MAX71313L) and M1 (MAX71314L) electricity meter systems-onchip (SoC) integrate dual 32-bit processors for demanding single-phase metering applications with 128KB or 64KB flash, 8KB RAM, and a single-cycle 32 x 32 + 64 multiplier. A low-power metering mode allows metering in the presence of neutral disconnect tampering. The low-power, dedicated compute engine (CE) handles high-rate metrology processing and a 32-bit MAXQ30 MPU core handles other application functions including communications and display control.

## **Key Features**

- Single ADC Offers High-Accuracy Performance and Cost-Effective Solution
  - Supports Up to 5 Multiplexed Inputs

MAX71313L. MAX71314L: Diagram



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- 0.1% (typ) Wh Accuracy over 2000:1 Current Range
- Dual-Core Architecture Improves System Performance
  - Dedicated 32-bit DSP Core for High-Rate Metrology Processing
  - MAXQ30 32-Bit RISC MPU, 10 MIPS (at 10MHz)
- Highly Integrated Product Features and Flexible Peripherals Support Broad Application Needs
  - 128KB (M1) or 64KB (M1L)
    Flash, 8KB SRAM
  - Supports Current Transformers or Shunts for Current Measurement
  - RTC with Hardware Temperature Compensation
  - Digital Temperature
    Compensation for Metrology
  - 45Hz to 65Hz Line Frequency Range
  - Phase Compensation (10)
  - Four Pulse Outputs
  - LCD Controller Supports Up to 39 Segment Drivers and Up to Six Common Planes
  - Two PWM Channels with Programmable Frequency, Duty Cycle, Ramp Time
  - Five General-Purpose Timers
  - Touch Switch Input
  - SPI (Master and Slave)
  - I<sup>2</sup>C (Master and Slave)
  - 3x UARTs (One with Optical Encoder)
- Small 64-Pin LQFP Package Saves Board Space

- Low-Power Operation Extends Battery Life
  - Enables Metering Mode
    Operation During Neutral
    Disconnect Tampering
  - 5.6mA Consumption at 3.3V in Typical Metering Mode
  - 1.6mA Typical Current Consumption at 3.3V in Low-Power Metering Mode
  - 1.75µA Typical Sleep Mode Current