



For Low-end Polyphase Meters, 0.5% Accuracy

Description

The Teridian 71M6523 is a highly integrated SOC with an MPU core, RTC, FLASH and LCD driver. Teridian's patented Single Converter Technology[®] with a 22-bit delta-sigma ADC, four analog inputs, digital temperature compensation, precision voltage reference, battery voltage monitor, and 32-bit computation engine (CE) supports a wide range of metering applications with very few low-cost external components. A 32kHz crystal time base for the entire system and internal battery backup support for RAM and RTC further reduce system cost. The IC supports poly-phase metering applications along with tamper-detection mechanisms.

Maximum design flexibility is provided by multiple UARTs, I²C[™], μWire[™], up to 18 DIO pins and in-system programmable FLASH memory, which can be updated with data or application code in operation.

A complete array of ICE and development tools, programming libraries and reference designs enable rapid development and certification of TOU, AMR and Prepay meters that comply with worldwide electricity metering standards.

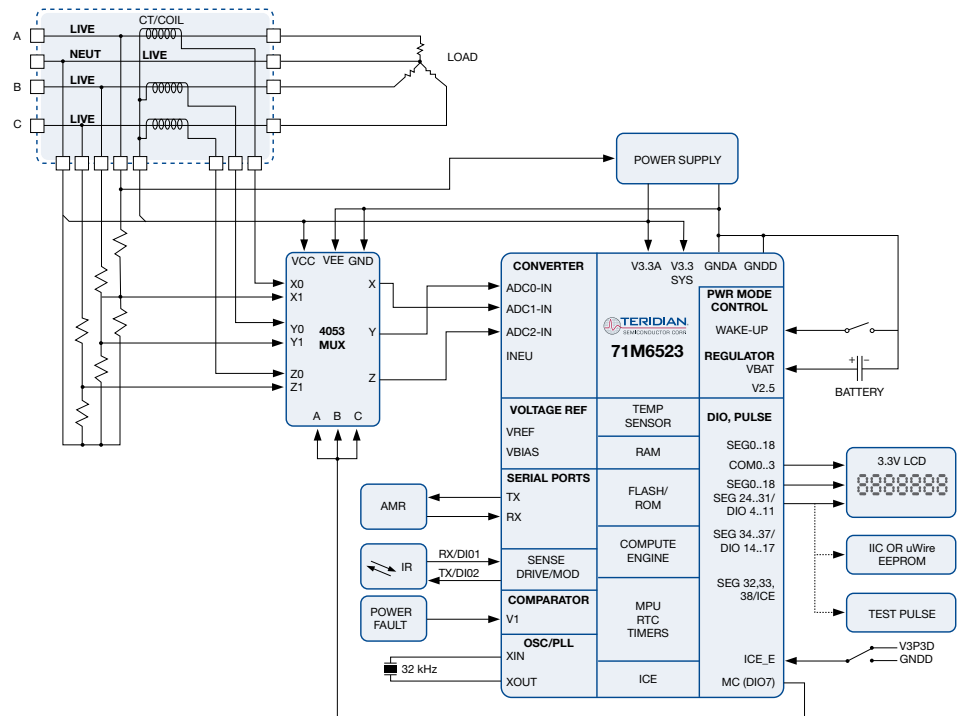
KEY FEATURES	KEY FEATURES
> < 0.5% Wh accuracy over 1000:1 current range and over temperature	> 8-bit MPU (80515), 1 clock cycle per instruction w/ integrated ICE for MPU debug
> Exceeds IEC62053 / ANSI C12.20 standards	> 32KB Flash with security
> Voltage reference < 40ppm/°C	> 2KB MPU XRAM
> Supports up to 7 sensor inputs	> Energy display on main power failure
> Low jitter Wh pulse test outputs (10kHz max)	> 22-bit delta-sigma ADC
> Pulse count for pulse outputs	> RTC with temperature compensation
> Tamper detection - Neutral current with CT, Magnetic tamper input	> Hardware watchdog timer, power fail monitor
> Line frequency count for RTC	> LCD driver (up to 152 pixel)
> Digital temperature compensation	> Up to 18 general purpose I/O pins
> Sag detection for phase A and B	> 32.768kHz time base
> Independent 32-bit compute engine	> Two UARTs for IR and AMR
> Phase compensation (±7°)	> Digital I/O pins compatible with 5V inputs
> Battery backup for RTC and battery monitor	> 68-pin QFN lead free package
> Three battery modes w/ wake-up on push-button or timer: Brownout mode (48uA), LCD mode (5.7uA) and Sleep mode (2.9uA)	



Applications

- > Low-end poly-phase meters, active power measurement only, 0.5% accuracy

Block Diagram



Ordering Information

PART DESCRIPTION	ORDERING NUMBER
71M6523 68-pin QFN, Lead Free, 32KB Flash	71M6523-IM/F
71M6523 68-pin QFN, Lead Free, 32KB Flash, Tape and Reel	71M6523-IMR/F