

For Residential Meters, 0.1% & 0.5% Accuracy



Description

The Teridian 71M6511 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, 3 analog inputs, digital temperature compensation, precision voltage reference and 32-bit computation engine (CE) supports a wide range of single-phase 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.

Maximum design flexibility is supported with multiple UARTs, I²C, a power fail comparator, a 5V LCD charge pump, up to 12 DIO pins and an in-system programmable FLASH. The device is offered in high (0.1%) and standard (0.5%) accuracy versions for multifunction residential/commercial meter applications requiring multiple voltage/current inputs and complex LCD or DIO configurations.

A complete array of ICE and development tools, programming libraries and reference designs enable rapid development and certification of meters that meet most demanding worldwide electricity metering standard

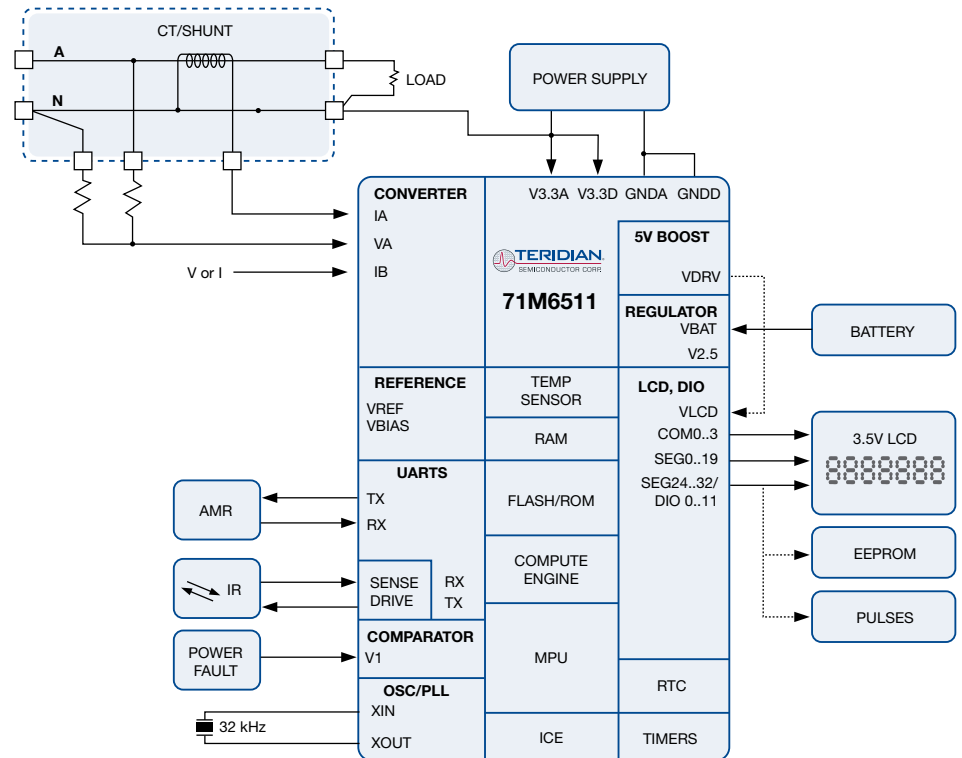
KEY FEATURES	KEY FEATURES
<ul style="list-style-type: none"> > Wh accuracy over 2000:1 range <ul style="list-style-type: none"> < 0.1% – 71M6511H < 0.5% – 71M6511 	<ul style="list-style-type: none"> > Voltage reference <ul style="list-style-type: none"> < 10ppm/°C – 71M6511H < 50ppm/°C – 71M6511
<ul style="list-style-type: none"> > Exceeds IEC62053 / ANSI C12.20 standards 	<ul style="list-style-type: none"> > 2mW @3.3V, 7.2µW back up
<ul style="list-style-type: none"> > Three sensor inputs - VDD referenced 	<ul style="list-style-type: none"> > Flash memory option with security
<ul style="list-style-type: none"> > Low jitter with Wh/VARh pulse outputs 	<ul style="list-style-type: none"> > 22-bit delta-sigma ADC
<ul style="list-style-type: none"> > Pulse count for pulse outputs 	<ul style="list-style-type: none"> > 8-bit MPU (80515) - 1 clock cycle per instruction
<ul style="list-style-type: none"> > Four-quadrant metering 	<ul style="list-style-type: none"> > LCD driver (≤128 pixels)
<ul style="list-style-type: none"> > Voltage/current angle 	<ul style="list-style-type: none"> > High speed SSI serial output
<ul style="list-style-type: none"> > Line frequency count for RTC 	<ul style="list-style-type: none"> > RTC for time-of-use functions
<ul style="list-style-type: none"> > Digital temperature compensation 	<ul style="list-style-type: none"> > Hardware watchdog timer
<ul style="list-style-type: none"> > Sag detection 	<ul style="list-style-type: none"> > Up to 12 general purpose I/O pins
<ul style="list-style-type: none"> > Independent 32-bit compute engine 	<ul style="list-style-type: none"> > 64kB FLASH, 7KB RAM
<ul style="list-style-type: none"> > 40-70Hz line frequency range 	<ul style="list-style-type: none"> > Two UARTs for IR and AMR
<ul style="list-style-type: none"> > Phase compensation (±7°) 	<ul style="list-style-type: none"> > 64-lead LQFP package
<ul style="list-style-type: none"> > Battery Backup for RAM and RTC 	



Applications

- > Residential meters, 0.1% & 0.5% accuracy

71M6511, 71M6511H Block Diagrams



Ordering Information

PART DESCRIPTION	ORDERING NUMBER
71M6511 64-pin LQFP, Lead Free, 0.5% accuracy	71M6511-IGT/F
71M6511 64-pin LQFP Lead Free, Tape and Reel, 0.5% accuracy	71M6511-IGTR/F
71M6511H 64-pin LQFP Lead Free, 0.1% accuracy	71M6511H-IGT/F
71M6511H 64-pin LQFP Lead Free, Tape and Reel, 0.1% accuracy	71M6511H-IGTR/F