M41T00

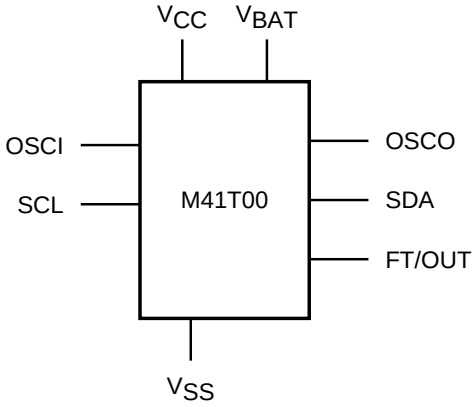
Serial Access TIMEKEEPER® SRAM

DATA BRIEFING

- 2.0V to 5.5V SUPPLY VOLTAGE
- COUNTERS for SECONDS, MINUTES, HOURS, DAY, DATE, MONTH, YEARS and CENTURY
- YEAR 2000 COMPLIANT
- SOFTWARE CLOCK CALIBRATION
- AUTOMATIC SWITCH-OVER and DESELECT CIRCUITRY
- I^2C BUS COMPATIBLE
- ULTRA-LOW BATTERY SUPPLY CURRENT of 1µA
- LOW OPERATING CURRENT of 100µA
- OPERATING TEMPERATURE of –40 to 85°C
- AUTOMATIC LEAP YEAR COMPENSATION
- SPECIAL SOFTWARE PROGRAMMABLE OUTPUT

SO8 (S)
150mil Width

Logic Diagram



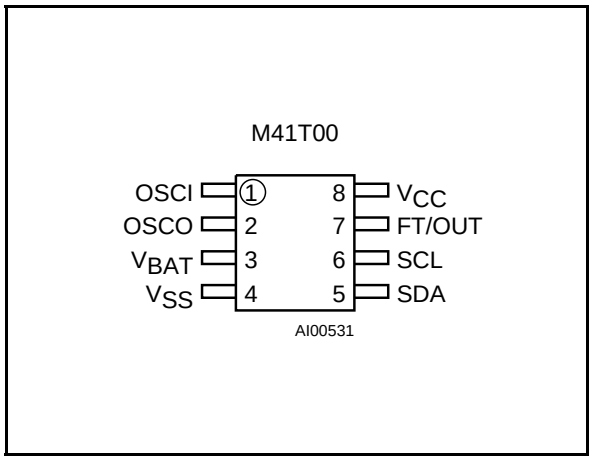
DESCRIPTION

The M41T00 TIMEKEEPER® RAM is a low power Serial TIMEKEEPER with a built-in 32.768 kHz oscillator (external crystal controlled). Eigth bytes of the RAM are used for the clock/calendar function and are configured in binary coded decimal (BCD) format. Addresses and data are transferred serially via a two-line bi-directional bus. The built-in address register is incremented automatically after each write or read data byte.

The M41T00 clock has a built-in power sense circuit which detects power failures and automatically switches to the battery supply during power failures. The energy needed to sustain the RAM and clock operations can be supplied from a small lithium coin cell.

Typical data retention time is in excess of 10 years with a 50mA/h 3V lithium cell. The M41T00 is supplied in 8 lead Plastic Small Outline package.

SOIC Pin Connections



Signal Names

OSCI	Oscillator Input
OCSO	Oscillator Output
FT/OUT	Frequency Test / Output Driver
SDA	Serial Data Address Input / Output
SCL	Serial Clock
V_{BAT}	Battery Supply Voltage
V_{CC}	Supply Voltage
V_{SS}	Ground

Ordering Information Scheme

For a list of available options or for further information on any aspect of this device, please contact the STMicroelectronics Sales Office nearest to you.

Example: M41T00 M 6 TR

Package

M SO8
150mil Width

Temperature Range

6 –40 to 85°C

Shipping Method for SOIC

blank Tubes

TR Tape & Reel