



## M41T56

### 512 bit (64b x8) Serial Access TIMEKEEPER® SRAM

#### DATA BRIEFING

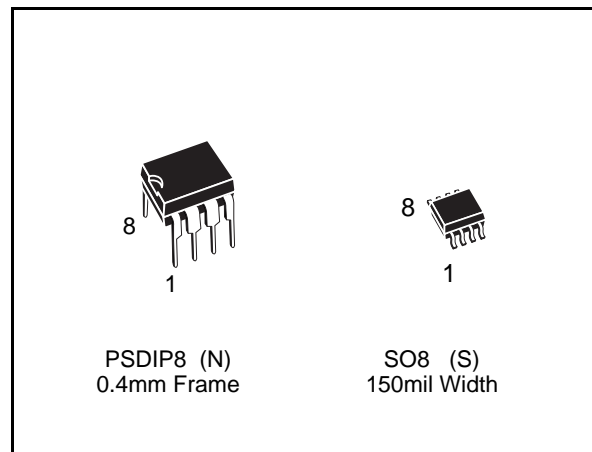
- 5V  $\pm$  10% SUPPLY VOLTAGE
- COUNTERS for SECONDS, MINUTES, HOURS, DAY, DATE, MONTH, YEARS and CENTURY
- YEAR 2000 COMPLIANT
- SOFTWARE CLOCK CALIBRATION
- AUTOMATIC POWER-FAIL DETECT and SWITCH CIRCUITRY
- I<sup>2</sup>C BUS COMPATIBLE
- 56 BYTES of GENERAL PURPOSE RAM
- ULTRA-LOW BATTERY SUPPLY CURRENT of 500nA
- LOW OPERATING CURRENT of 100 $\mu$ A
- OPERATING TEMPERATURE of -40 to 85°C
- AUTOMATIC LEAP YEAR COMPENSATION
- SPECIAL SOFTWARE PROGRAMMABLE OUTPUT

#### DESCRIPTION

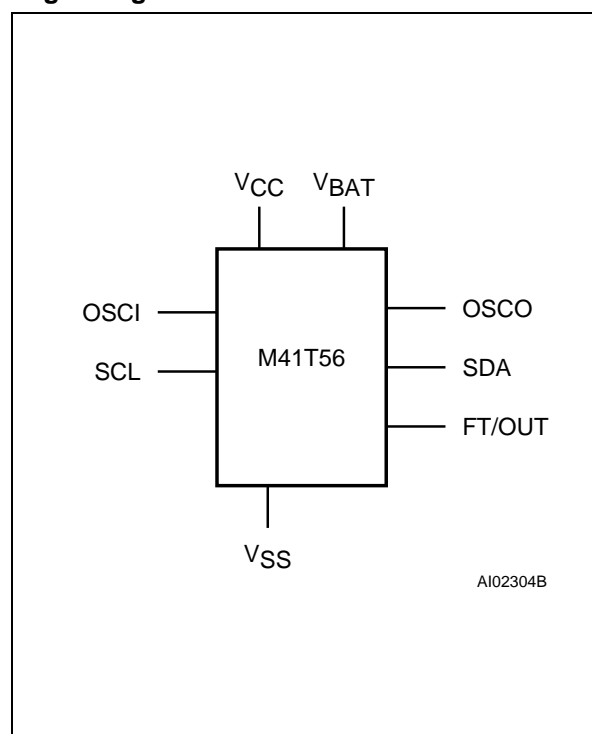
The M41T56 TIMEKEEPER® is a low power 512 bit static CMOS RAM organized as 64 words by 8 bits. A built-in 32.768 kHz oscillator (external crystal controlled) and the first 8 bytes of the RAM are used for the clock/calendar function and are configured in binary coded decimal (BCD) format. Addresses and 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 M41T56 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 50mAh 3V lithium cell. The M41T56 is supplied in 8 pin Plastic Dual-in-Line and 8 lead Plastic SOIC packages.

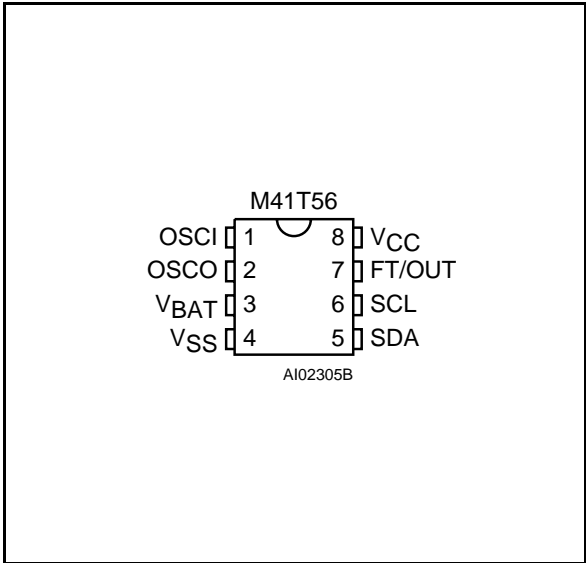


#### Logic Diagram



M41T56

DIP Pin Connections



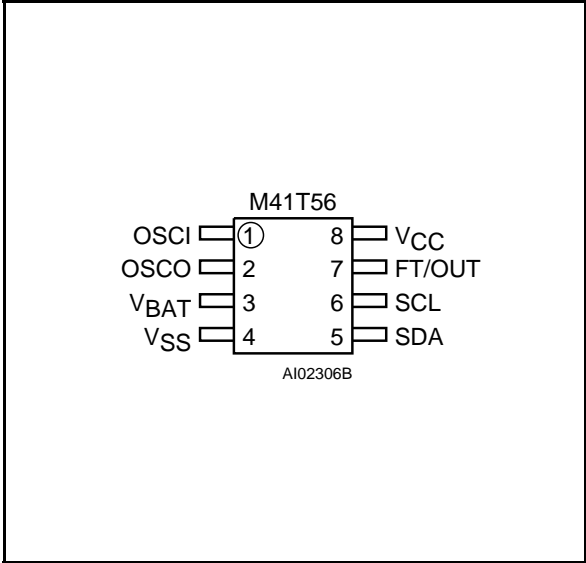
Signal Names

OSCI	Oscillator Input
OSCO	Oscillator Output
FT/OUT	Frequency Test / Output Driver
SDA	Serial Data Address Input / Output
SCL	Serial Clock
VBAT	Battery Supply Voltage
VCC	Supply Voltage
VSS	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.

SOIC Pin Connections



Example:	M41T56	N	6	TR
<b>Package</b>				
N	PSDIP8			
	0.4mm Frame			
M	SO8			
	0.15mm Frame			
<b>Temperature Range</b>				
6	-40 to 85°C			
<b>Shipping Method for SOIC</b>				
blank	Tubes			
TR	Tape & Reel			