

Features

- High Performance, Low Power AVR[®] 8-Bit Microcontroller
- Advanced RISC Architecture
 - 54 Powerful Instructions – Most Single Clock Cycle Execution
 - 16 x 8 General Purpose Working Registers
 - Fully Static Operation
 - Up to 12 MIPS Throughput at 12 MHz
- Non-volatile Program and Data Memories
 - 4K Bytes of In-System Programmable Flash Program Memory
 - 256 Bytes Internal SRAM
 - Flash Write/Erase Cycles: 10,000
 - Data Retention: 20 Years at 85°C / 100 Years at 25°C
- Peripheral Features
 - One 8-bit Timer/Counter with Two PWM Channels
 - One 8/16-bit Timer/Counter
 - 10-bit Analog to Digital Converter
 - 12 Single-Ended Channels
 - Programmable Watchdog Timer with Separate On-chip Oscillator
 - On-chip Analog Comparator
 - Master/Slave SPI Serial Interface
 - Slave TWI Serial Interface
- Special Microcontroller Features
 - In-System Programmable
 - External and Internal Interrupt Sources
 - Low Power Idle, ADC Noise Reduction, Stand-by and Power-down Modes
 - Enhanced Power-on Reset Circuit
 - Internal Calibrated Oscillator
- I/O and Packages
 - 20-pin SOIC/TSSOP: 18 Programmable I/O Lines
 - 20-pad VQFN/MLF: 18 Programmable I/O Lines
- Operating Voltage:
 - 1.8 – 5.5V
- Programming Voltage:
 - 5V
- Speed Grade
 - 0 – 4 MHz @ 1.8 – 5.5V
 - 0 – 8 MHz @ 2.7 – 5.5V
 - 0 – 12 MHz @ 4.5 – 5.5V
- Industrial Temperature Range
- Low Power Consumption
 - Active Mode:
 - 200 μ A at 1 MHz and 1.8V
 - Idle Mode:
 - 25 μ A at 1 MHz and 1.8V
 - Power-down Mode:
 - < 0.1 μ A at 1.8V



**8-bit AVR[®]
Microcontroller
with 4K Bytes
In-System
Programmable
Flash**

ATtiny40

Preliminary



1. Pin Configurations

Figure 1-1. Pinout of ATtiny40

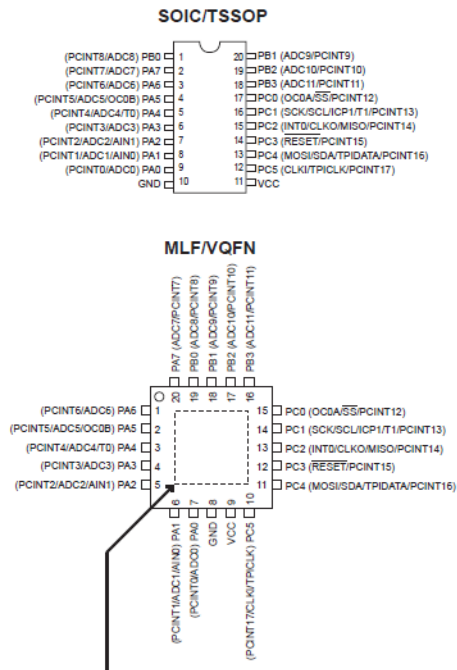
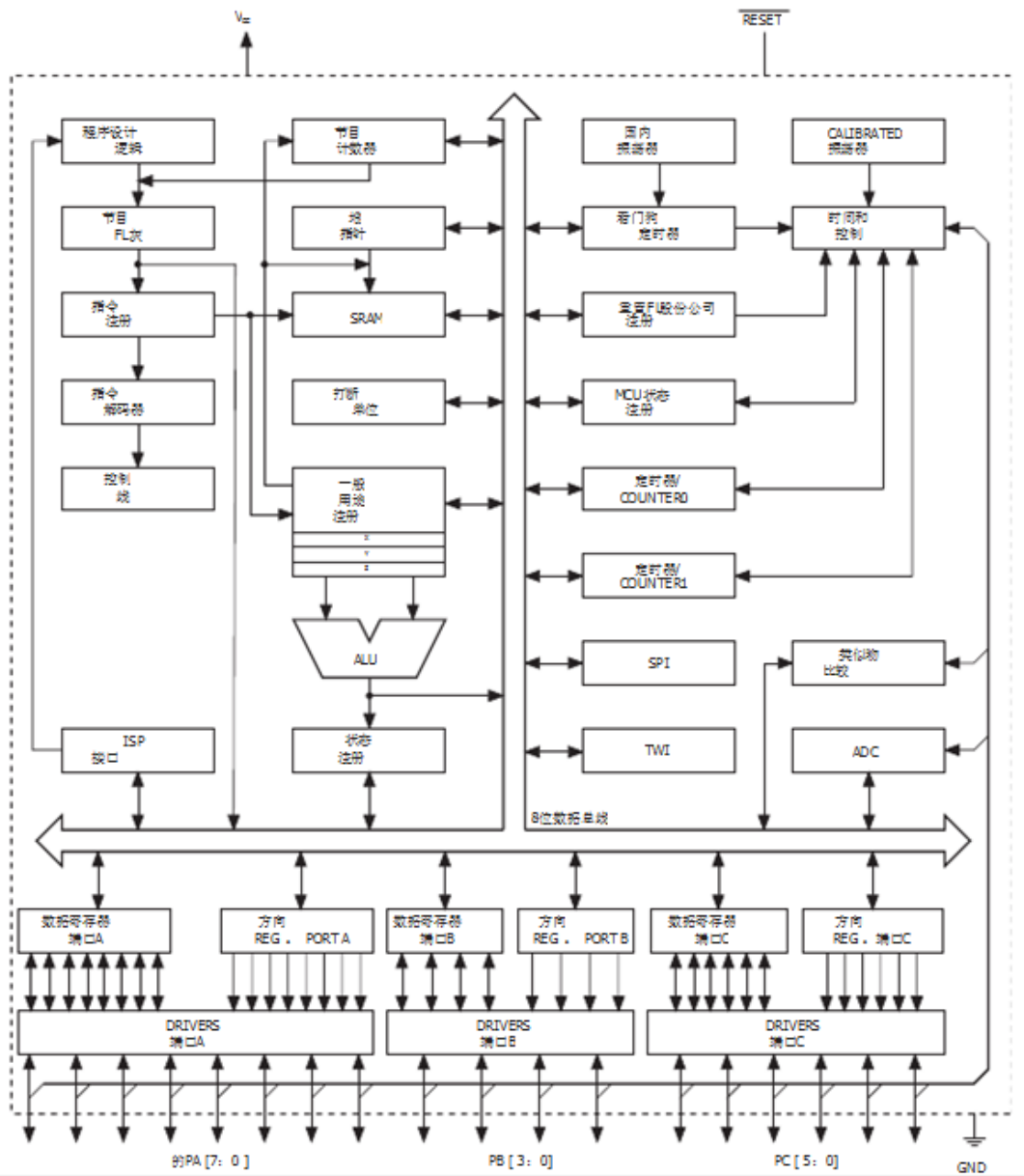
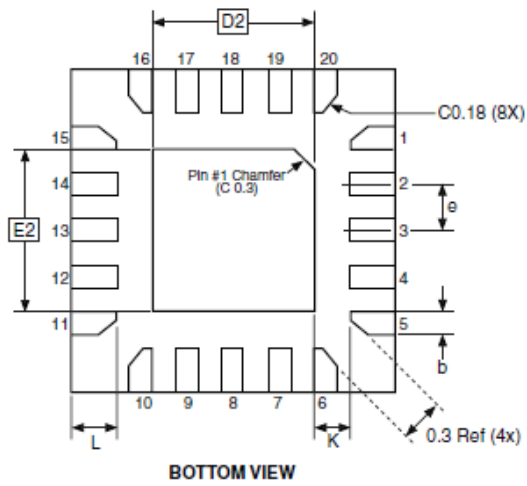
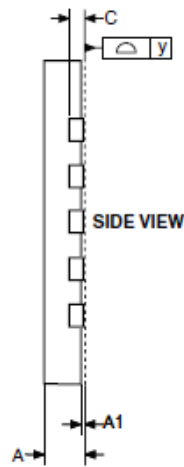
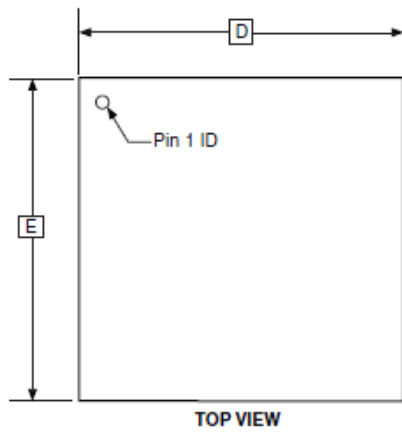


图2-1 . 框图



26.3 20M2

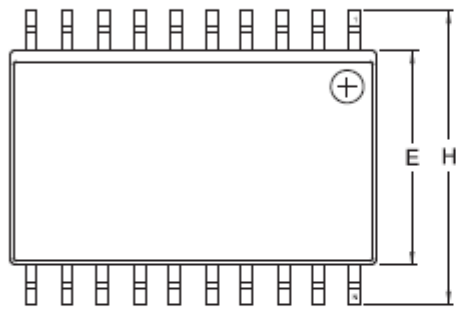


COMMON DIMENSIONS
(Unit of Measure = mm)

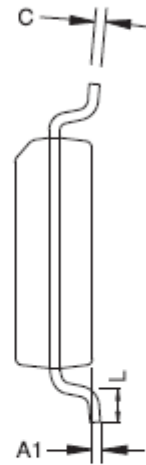
SYMBOL	MIN	NOM	MAX	NOTE
A	0.75	0.80	0.85	
A1	0.00	0.02	0.05	
b	0.17	0.22	0.27	
C	0.152			
D	2.90	3.00	3.10	
D2	1.40	1.55	1.70	
E	2.90	3.00	3.10	
E2	1.40	1.55	1.70	
e	-	0.45	-	
L	0.35	0.40	0.45	
K	0.20	-	-	
y	0.00	-	0.08	

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20S2



Top View



End View



Side View

COMMON DIMENSIONS
(Unit of Measure - mm)

SYMBOL	MIN	NOM	MAX	NOTE
A	2,35		2,65	
A1	0,10		0,30	
b	0,33		0,51	4
C	0,23		0,32	
D	12,60		13,00	1
E	7,40		7,60	2
H	10,00		10,65	
L	0,40		1,27	3
e	1,27 BSC			