

IN80C32N/IN80C52N

CMOS SINGLE-CHIP 8-BIT MICROCONTROLLER

The 80C32/80C52 is a high-performance microcontroller fabricated with high-density CMOS technology.

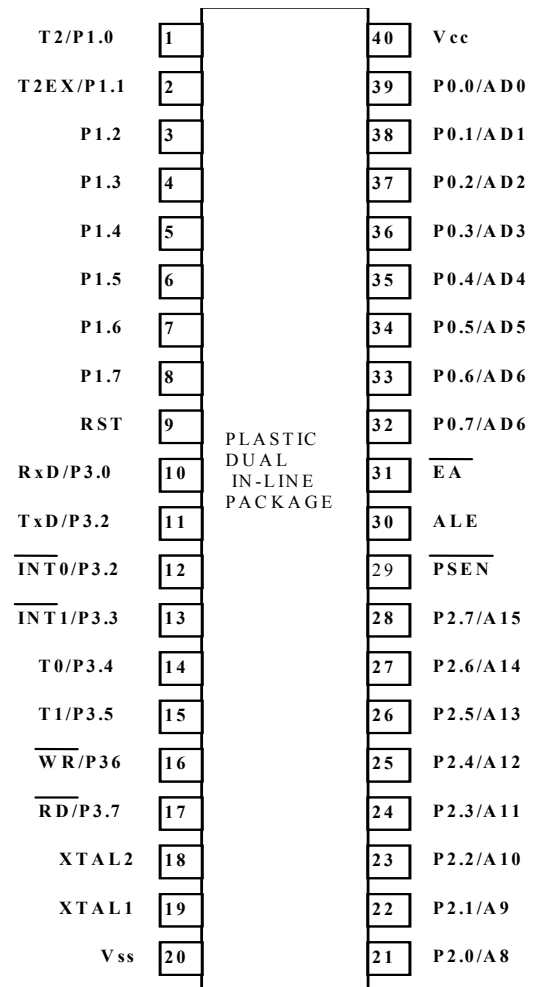
The 80C52 contains a 8k x 8 ROM , a 256 x 8 RAM , 32 I/O lines, three 16-bit counter/timers, a five-source, two-priority level nested interrupt structure, a serial I/O port for either multi-processor communications, I/O expansion or full duplex UART, and on-chip oscillator and clock circuits.

The device has two software selectable modes of power reduction — idle mode and power-down mode. The idle mode freezes the CPU while allowing the RAM, timers, serial port, and interrupt system to continue functioning. The power-down mode saves the RAM contents but freezes the oscillator, causing all other chip functions to be inoperative.

FEATURES

- 8032/8052 compatible (MCS-51 family)
 - 8k x 8 ROM (80C52)
 - ROMless (80C32)
 - 256 x 8 RAM
 - Three 16-bit counter/timers
 - Full duplex serial channel
 - Boolean processor
- Memory addressing capability
 - 64k ROM and 64k RAM
- Power control modes:
 - Idle mode
 - Power-down mode
- CMOS and TTL compatible
- Two speed ranges at $V_{CC}=5V$
 - 12 Mhz
 - 16 Mhz

PIN CONFIGURATIONS



IN80C32N/IN80C52N

CMOS single-chip 8-bit microcontroller 80C32/80C52

DC ELECTRICAL CHARACTERISTICS FOR INTEGRAL DEVICES

T=-10 °C to + 70°C; Vcc= 5V ± 10%

	Parameter Symb	Test conditions	Limits	
			Min	Max
Vcc			4,5	5,5
Icc	Supply current operating, mA	Vcc = 5,5 V Fclc = 12MHz	-	18
Icc1	Idle mode current, mA	Vcc = 5,5 V Fclc = 12MHz	-	5,0
Ipd	Pover-down current, mkA	2V≤Vpd≤Vcc max	-	50
INPUTS:				
Vil	LOW level input voltage, V (exept EA)		-0,5	0.2Vcc-0,1
Vili	LOW level input voltage, V (for EA)		-0,5	0.2Vcc-0,3
Vih	HIGH level input voltage, V (exept XTAL1, RST)		0,2Vcc +0,9	Vcc+0,5
Vih1	HIGH level input voltage, V (for XTAL1, RST)		0,7Vcc	Vcc+0,5
-Iil	Input current logic 1, mkA (Ports 1, 2 and 3)	Vi=0,45 V	-	50
±Itl	Input current logic 1 to 0, mkA (Ports 1, 2 and 3)	Vi=2 V	-	500
±Ili	Input leacage current, mkA (Port 0, EA)	0,45V≤Vi≤Vcc	-	10
OUTPUTS:				
Vol	LOW level output voltage, V (Ports 1, 2 and 3)	Iol = 1,6 mA	-	0,45
Vol1	LOW level output voltage, V (Ports 0, ALE, PSEN)	Iol = 3,2 mA	-	0,45
Voh	HIGH level output voltage, V (Ports 1, 2 and 3)	-Ioh=60 mkA Vcc=5V±10%	2,4	-
Voh1	HIGH level output voltage, V (Ports 0, ALE, PSEN)	-Ioh=400 mkA Vcc=5V±10%	2,4	-
Rrst	RST pull-down resistor, kOm		20	120
Ci/0	I/O pin capacitance, pF	test frequency=1MHz	-	10

AC ELECTRICAL CHARACTERISTICS FOR INTEGRAL DEVICES

T=-10 °C to + 70°C; Vcc= 5V ± 10%

Symbol	Parameter	Variable Oscillator		Unit
		Min	Max	
Fclc				
Oscillator Frequency:				
	IN80C32N - 12	1,6	12	MHz
	IN80C32N - 16	1,6	16	MHz
	IN80C52N - 12	1,6	12	MHz
	IN80C52N - 16	1,6	16	MHz