

# IN80C39N/IN80C49N

## CMOS SINGLE-CHIP 8-BIT MICROCONTROLLER

The 80C39/80C49 is a high-performance microcontroller fabricated with high-density CMOS technology.

The 80C49 contains a 2k x 8 ROM , a 128 x 8 RAM , 27 I/O lines, 8-bit counter/timers, a two-source, one level interrupt structure, and on-chip oscillator and clock circuits.

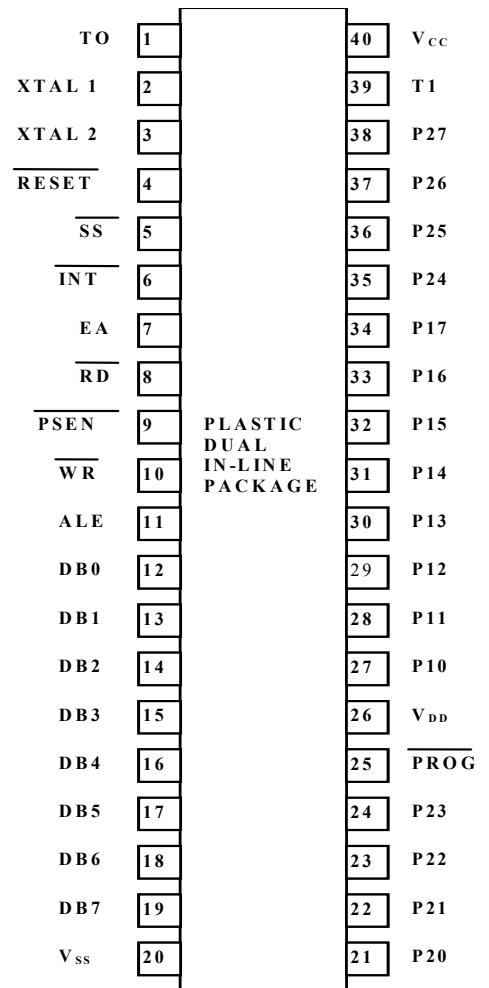
The device has two modes of power reduction — idle mode and power-down mode. The idle mode freezes the CPU while allowing the RAM, timer, and interrupt system to continue functioning. The power-down mode saves the RAM contents but freezes the oscillator, causing all other chip functions to be inoperative.

### FEATURES

8039/8049 compatible (MCS-48 family)

- 2k x 8 ROM (80C49)
- ROMless (80C39)
- 128 x 8 RAM
- 8-bit counter/timers
- Memory addressing capability
  - 4k ROM and 4k RAM
- Power control modes:
  - Idle mode
  - Power-down mode
- CMOS and TTL compatible
- Speed range at  $V_{CC}=5V$ 
  - 8 MHz
- Fully static design operation from DC to 8MHz
- Single step input

### PIN CONFIGURATIONS



# IN80C39N/IN80C49N

## CMOS single-chip 8-bit microcontroller 80C39/80C49

### 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 = 8MHz	-	8
Icc1	Idle mode current, mA	Vcc = 5,5 V Fclc = 8MHz	-	4
Ipd	Pover-down current, mkA	2V≤Vpd≤Vcc max	-	10
<b>INPUTS:</b>				
Vil	LOW level input voltage, V (exept RESET, XTAL 1)		-0,5	0.18Vcc
Vili	LOW level input voltage, V (for RESET, XTAL 1)		-0,5	0.13Vcc
Vih	HIGH level input voltage, V (exept XTAL1, RESET)		0,4Vcc	Vcc+0,5
Vih1	HIGH level input voltage, V (for XTAL1, RESET)		0,7Vcc	Vcc+0,5
±Iil	Input current logic 1 to 0, mkA (Ports 1, 2 )	0,45V≤Vi≤Vcc	-	500
±Ili	Input leacage current, mkA (Port 0, T0, T1, INT, EA )	0,45V≤Vi≤Vcc	-	10
<b>OUTPUTS:</b>				
Vol	LOW level output voltage, V (Ports 1, 2 )	Iol = 2,5 mA	-	0,45
Vol1	LOW level output voltage, V (Ports 0, ALE, PSEN, RD, WR)	Iol = 2,5 mA	-	0,45
Voh	HIGH level output voltage, V (Ports 1, 2 )	-Ioh=400 mkA Vcc=5V±10%	Vcc-0.4	-
Voh1	HIGH level output voltage, V (Ports 0, ALE, PSEN, RD, WR)	-Ioh=400 mkA Vcc=5V±10%	Vcc-0.4	-
Rrst	RST pull-down resistor, kOm		10	100
Ci/0	I/O pin capasitance, pF	test frecuency=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:			
	IN80C39N	0	8	MHz
	IN80C49N	0	8	MHz