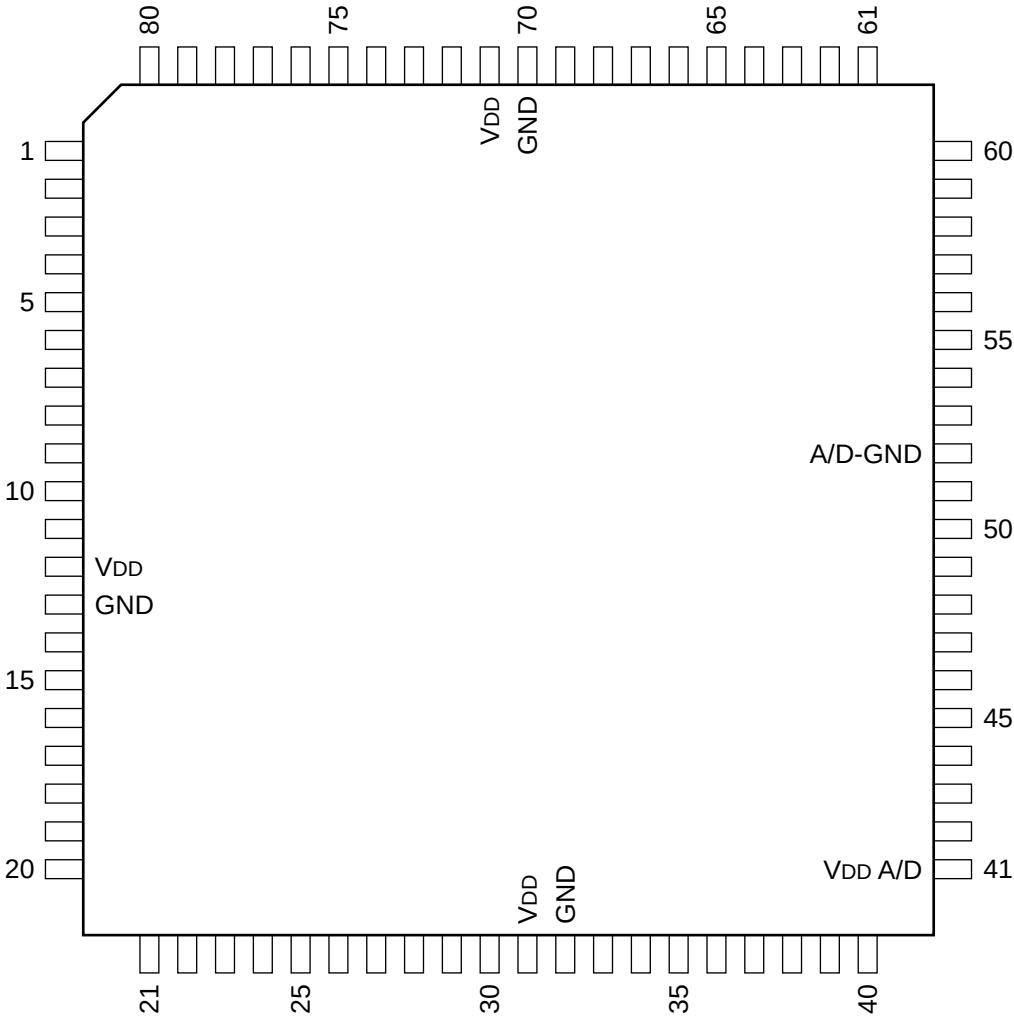


HC-MOS 8-BIT SINGLE CHIP MICROCONTROLLER

—TOP VIEW—



MODE CONTROL

MODB	MODA	MODE SELECTED
1	0	SINGLE CHIP
1	1	EXPANDED MULTIPLEXED
0	0	SPECIAL BOOTS TRAP
0	1	SPECIAL TEST

PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL	PIN No.	I/O	SIGNAL
1	I/O	PD3/MOSI/SDO	21	I/O	PB0/A8	41	—	V _{DD} A/D	61	I	IRQ
2	I/O	PD4/SCK	22	I/O	PH0/KWI0/PW0	42	I	PE7/AN7	62	I/O	PC0/D0
3	I/O	PD5/SS/CS	23	I/O	PH1/KWI1/PW1	43	I	PE6/AN6	63	I/O	PC1/D1
4	I/O	PA7/PAI/OC1	24	I/O	PH2/KWI2/PW2	44	I	PE5/AN5	64	I/O	PC2/D2
5	I/O	PA6/OC2/OC1	25	I/O	PH3/KWI3/PW3	45	I	PE4/AN4	65	I/O	PC3/D3
6	I/O	PA5/OC3/OC1	26	I/O	PH4/KWI4	46	I	PE3/AN3	66	I/O	PC4/D4
7	I/O	PA4/OC4/OC1	27	I/O	PH5/KWI5	47	I	PE2/AN2	67	I/O	PC5/D5
8	I/O	PA3/IC4/OC5/OC1	28	I/O	PH6/KWI6	48	I	PE1/AN1	68	I/O	PC6/D6
9	I/O	PA2/IC1	29	I/O	PH7/KWI7	49	I	PE0/AN0	69	I/O	PC7/D7
10	I/O	PA1/IC2	30	I	XIRQ	50	I	V _{RL}	70	—	GND
11	I/O	PA0/IC3	31	—	V _{DD}	51	I	V _{RH}	71	—	V _{DD}
12	—	V _{DD}	32	—	GND	52	—	A/D-GND	72	O	E
13	—	GND	33	I/O	PG7/R/W	53	I/O	PF7/A7	73	I	EXTAL
14	I/O	PB7/A15	34	I/O	PG6	54	I/O	PF6/A6	74	O	XTAL
15	I/O	PB6/A14	35	I/O	PG5/SS/CS	55	I/O	PF5/A5	75	I/O	RESET
16	I/O	PB5/A13	36	I/O	PG4/SCK	56	I/O	PF4/A4	76	I	MODB/V _{STBY}
17	I/O	PB4/A12	37	I/O	PG3/MOSI/SDO	57	I/O	PF3/A3	77	I/O	MODA/LIR
18	I/O	PB3/A11	38	I/O	PG2/MISO/SDI	58	I/O	PF2/A2	78	I/O	PD0/RXD
19	I/O	PB2/A10	39	I/O	PG1	59	I/O	PF1/A1	79	I/O	PD1/TXD
20	I/O	PB1/A9	40	I/O	PG0	60	I/O	PF0/A0	80	I/O	PD2/MISO/SDI

INPUT

EXTAL	: MASTER CLOCK FREQUENCY CONTROL
$\overline{\text{IRQ}}$, $\overline{\text{XIRQ}}$	: EXTERNAL INTERRUPT PULSE
MODB/ $\overline{\text{VSTBY}}$	: MODE CONTROL/STANDBY VOLTAGE
PE0/AN0 - PE7/AN7	: INPUT PORT E FOR A/D CONVERTER
V _{RH} , V _{RL}	: REFERENCE VOLTAGE FOR A/D CONVERTER

OUTPUT

E	: MASTER CLOCK
XTAL	: MASTER CLOCK FREQUENCY CONTROL

INPUT/OUTPUT

MODA/ $\overline{\text{LIR}}$	: MODE CONTROL/ $\overline{\text{LIR}}$ OUTPUT
PA0/IC3 - PA2/IC1	: DATA DIRECTION REGISTER A/TIMER INPUT CAPTURE 1 - 3
PA3/IC4/OC5/OC1	: DATA DIRECTION REGISTER A/TIMER INPUT CAPTURE 4/ OUTPUT COMPARE 5/TIMER OUTPUT COMPARE 1
PA4/OC4/OC1 - PA6/OC2/OC1	: DATA DIRECTION REGISTER A/TIMER OUTPUT COMPARE 2 - 4/ TIMER OUTPUT COMPARE 1
PA7/PAI/OC1	: DATA DIRECTION REGISTER A/PULSE ACCUMULATOR INPUT/ TIMER OUTPUT COMPARE 1
PB0/A8 - PB7/A15	: DATA DIRECTION REGISTER B/DATA ADDRESS OUTPUT
PC0/D0 - PC7/D7	: DATA DIRECTION REGISTER C/DATA BUS
PD0/RXD	: DATA DIRECTION REGISTER D/SCI RECEPTION INPUT
PD1/TXD	: DATA DIRECTION REGISTER D/SCI TRANSMISSION OUTPUT
PD2/MISO/SDI	: DATA DIRECTION REGISTER D/SPI1 MASTER INPUT, SLAVE OUTPUT/ SERIAL DATA INPUT
PD3/MOSI/SDO	: DATA DIRECTION REGISTER D/SPI1 MASTER OUTPUT, SLAVE INPUT/ SERIAL DATA OUTPUT
PD4/SCK	: DATA DIRECTION REGISTER D/SPI1 SERIAL CLOCK
PD5/ $\overline{\text{SS}}$ / $\overline{\text{CS}}$	: DATA DIRECTION REGISTER D/SPI1 SLAVE SELECT/CHIP SELECT
PF0/A0 - PF7/A7	: DATA DIRECTION REGISTER F/DATA ADDRESS OUTPUT
PG0, PG1, PG6	: DATA DIRECTION REGISTER G
PG2/MISO/SDI	: DATA DIRECTION REGISTER G/SPI2 MASTER INPUT, SLAVE OUTPUT/ SERIAL DATA INPUT
PG3/MOSI/SDO	: DATA DIRECTION REGISTER G/SPI2 MASTER OUTPUT, SLAVE INPUT/ SERIAL DATA OUTPUT
PG4/SCK	: DATA DIRECTION REGISTER G/SPI2 SERIAL CLOCK
PG5/ $\overline{\text{SS}}$ / $\overline{\text{CS}}$	: DATA DIRECTION REGISTER G/SPI2 SLAVE SELECT/CHIP SELECT
PG7/ $\overline{\text{R/W}}$	: DATA DIRECTION REGISTER G/OUTPUT STROBE IN SINGLE CHIP MODE, READ/WRITE FUNCTION IN EXPANSION MULTIPLEXED MODE
PH0/KWI0/PW0 - PH3/KWI3/PW3	: DATA DIRECTION REGISTER H/KEY WAKEUP INTERRUPTION INPUT/ PWM OUTPUT
PH4/KWI4 - PH7/KWI7	: DATA DIRECTION REGISTER H/KEY WAKEUP INTERRUPTION INPUT
$\overline{\text{RESET}}$	: RESET

