Single-chip 8-bit Telecom Microcontroller

PCD3344A PCD3349A

FOR DETAILED INFORMATION SEE THE LATEST ISSUE OF HANDBOOK IC03 OR DATASHEET

FEATURES

- 8-bit CPU, ROM, RAM, I/O in a single 28-lead package
- 2 k ROM bytes (PCD3344A)
- 4 k ROM bytes (PCD3349A)
- 224 bytes RAM
- Over 100 instructions (based on MAB8048) all of 1 or 2 cycles
- 20 quasi-bidirectional I/O port lines
- 8-bit programmable timer/event counter 1
- Two single-level vectored interrupts: external, 8-bit programmable timer/event counter 1
- Two test inputs, one of which also serves as the external interrupt input
- DTMF tone generator
- Reference for supply and temperature-independent tone output
- Filtering for low output distortion (CEPT CS203 compatible)
- Power-on reset
- Stop and idle modes
- Logic supply from 1.8 V to 6 V (DTMF tone output from 2.5 V)
- Low standby voltage of 1 V
- Low standby current of 2 μA (typ.)
- Clock frequency from 1 MHz to 16 MHz (3.58 MHz for DTMF suggested)
- Manufactured in silicon gate CMOS process.

GENERAL DESCRIPTION

This data sheet details the specific properties of the PCD3344A and PCD3349A. The shared characteristics of the PCD33XXA family of microcontrollers are described in the PCD33XXA family data sheet, which should be read in conjunction with this publication. The PCD3344A and PCD3349A are microcontrollers which have been designed primarily for Telecom applications. They include an on-chip dual tone multi-frequency (DTMF) generator. The PCD3344A and the PCD3349A provide 2 k and 4 k bytes respectively of program memory, 224 bytes of RAM and 20 I/O lines. The instruction set is based on that of the MAB8048 and is software compatible with the PCD33XXA family.

LIMITING VALUES

In accordance with the Absolute Maximum System (IEC 134).

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V_{DD}	positive supply voltage	−0.5	+7.0	V
V_I	all input voltages	−0.5	V_{DD}+0.5	V
I_I,I_O	DC input or output current	−10	+10	mA
I_{SS}	ground supply current	−50	+50	mA
P_{tot}	total power dissipation	−	125	mW
P_O	power dissipation per output	−	30	mW
T_{stg}	storage temperature range	−55	+150	°C
T_J	operating junction temperature	−	90	°C

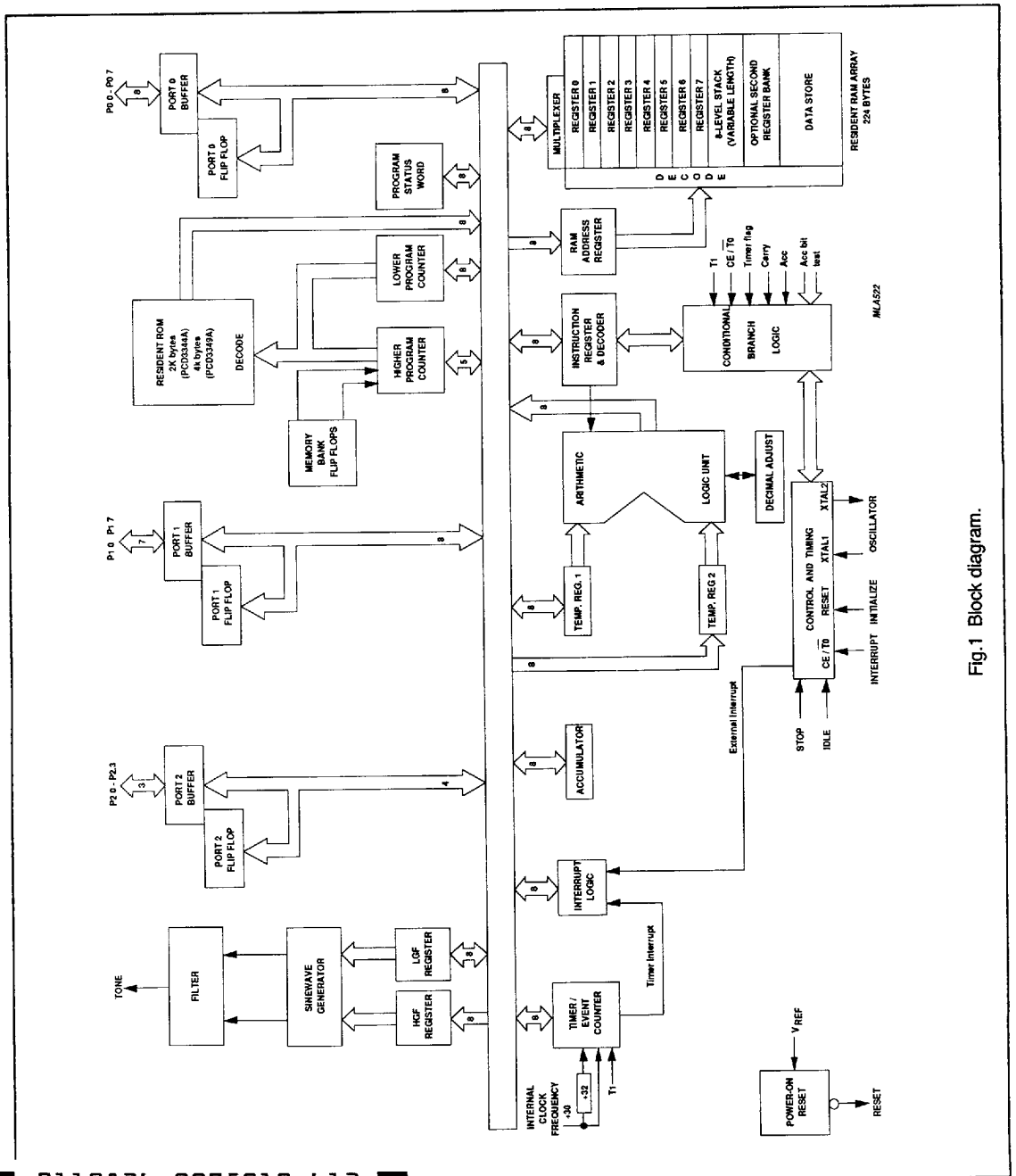

Fig.1 Block diagram.

ORDERING INFORMATION

EXTENDED TYPE NUMBER	PACKAGE			
	PINS	PIN POSITION	MATERIAL	CODE
PCD3344AP/49AP	28	DIL	plastic	SOT117
PCD3344AT/49AT	28	mini-pack	plastic	SOT136A

Note to the Ordering Information

Full and up-to-date data for this device is available upon request via your Philips local sales office.

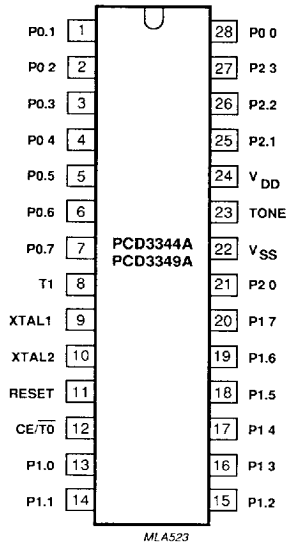

Fig.2 Pin configuration.

PINNING

SYMBOL	PIN	I/O	DESCRIPTION
P0.1-P0.7	1-7	I/O	Port 0: quasi-bidirectional I/O lines
T1	8	I	test 1/count input of 8-bit timer/event counter 1
XTAL1	9	I	crystal oscillator/ external clock input
XTAL2	10	O	crystal oscillator output
RESET	11	I	reset input
CE/$\overline{T0}$	12	I	chip enable / test 0
P1.0-P1.7	13-20	I/O	Port 1: quasi-bidirectional I/O line
P2.0	21	I/O	Port 2: quasi-bidirectional I/O line
V_{SS}	22	P	ground
TONE	23	O	DTMF output
V_{DD}	24	P	positive supply voltage
P2.1-P2.3	25-27	I/O	Port 2: quasi-bidirectional I/O lines
P0.0	28	I/O	Port 0: quasi-bidirectional I/O line

PURCHASE OF PHILIPS I²C COMPONENTS

Purchase of Philips I²C components conveys a license under the Philips' I²C patent to use the components in the I²C system provided the system conforms to the I²C specification defined by Philips. This specification can be ordered using the code 9398 393 40011.