



PIC12C50(X) → PIC12C50(X)A Migration

DEVICE MIGRATIONS

This document is intended to describe the functional differences and the electrical specification differences that are present when migrating from one device to the next.

Note: Even though compatible devices are specified to be tested to the same electrical specification, the characteristics of the devices may be different from each other (due to process difference). For systems that were designed to the device specifications, these process differences should not cause any issues in the application. For systems that did not tightly meet the electrical specifications, the process differences may cause the device to behave differently in the application.

Table 1 shows the considerations that must be taken into account when migrating from the PIC12C50(X) to the PIC12C50(X)A.

TABLE 1: PIC12C50(X) → PIC12C50(X)A DIFFERENCES

Functional Differences				
No.	Difference	H/W	S/W	Prog.
1	The OSCCAL register has changed.	✓	—	—

Note: If you change from one device to another device, please verify oscillator characteristics in your application.

Electrical Specification Differences										
Parm. No.	Sym.	Characteristic	PIC12C50(X) Data Sheet			PIC12C50(X)A Data Sheet			Units	Conditions
			Min	Typ	Max	Min	Typ	Max		
	VDD	Supply Voltage	3.0 3.0	— —	5.5 5.5	2.5 3.0	— —	5.5 5.5	V V	Com., Industrial Extended
	IDD	Supply Current XT and EXTRC options INTRC option LP Option LP Option LP Option	— — — — —	0.78 1.1 10 14 14	2.4 2.4 27 35 35	— — — — —	0.8 0.8 19 19 30	1.4 1.4 27 35 55	mA mA μA μA μA	Note 1 Note 2 Note 3 Note 4 Note 5
	IPD	Power Down Current Extended	—	2.0	18	—	2.0	12	μA	VDD=3.0V WDT disabled
	ΔI _{WDT}	Commercial Industrial Extended	— — —	3.75 3.75 3.75	8 9 14	— — —	2.2 2.2 4	5 6 11	μA μA μA	VDD=3.0V VDD=3.0V VDD=3.0V
	V _{IL}	Input Low Voltage I/O Ports with Schmitt Trigger MCLR, GP2, T0CKI OSC1 (EXTRC)	V _{SS} V _{SS} V _{SS}	— — —	0.15 V _{DD} 0.15 V _{DD} 0.15 V _{DD}	V _{SS} V _{SS} V _{SS}	— — —	0.2 V _{DD} 0.2 V _{DD} 0.2 V _{DD}	V V V	
	V _{IH}	Input High Voltage I/O Ports with Schmitt Trigger MCLR, GP2, T0CKI OSC1 (EXTRC mode)	0.85 V _{DD} 0.85 V _{DD} 0.85 V _{DD}	— — —	V _{DD} V _{DD} V _{DD}	0.85 V _{DD} 0.85 V _{DD} 0.9 V _{DD}	— — —	V _{DD} V _{DD} V _{DD}	V V V	For all V _{DD}
	I _{IL}	Input Leakage Current I/O Ports MCLR, GP2, T0CKI OSC1	-1 20 -3	0.5 130 0.5 0.5	±1 250 +5 +3	— — — —	— — — —	±1 — ±5 ±5	μA μA μA μA	V _{SS} ≤ V _{PIN} ≤ V _{DD} , Pin at hi-impedance V _{PIN} = V _{SS} + 0.25V V _{PIN} = V _{DD} V _{SS} ≤ V _{PIN} ≤ V _{DD}

- Note 1:** FOSC=4.0MHz, VDD=5.5V
2: FOSC=20MHz, VDD=5.5V
3: FOSC=32kHz, VDD=3.0V, WDT disabled, Commercial Temperature
4: FOSC=32kHz, VDD=3.0V, WDT disabled, Industrial Temperature
5: FOSC=32kHz, VDD=3.0V, WDT disabled, Extended Temperature

NOTES:



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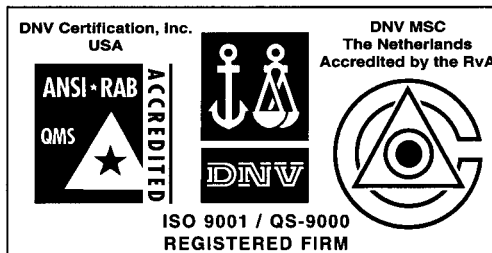
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