

**PIC10F220/222 Rev. B Silicon/Data Sheet Errata**

The PIC10F220/222 silicon Rev. B. parts you have received conform functionally to the Device Data Sheet (DS41270E), except for the anomalies described below.

**1. Module: Analog-to-Digital (A/D) Converter**

The A/D Converter does not meet the design target. The specifications listed below in Table 10-5 of DS41270E apply to silicon Rev. B.

**TABLE 10-5: A/D CONVERTER CHARACTERISTICS**

Standard Operating Conditions (unless otherwise stated) Operating temperature $-40^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$							
Param No.	Sym.	Characteristic	Min.	Typ†	Max.	Units	Conditions
A01	NR	Resolution	—	—	8 bits	bit	
A03	EIL	Integral Error	—	—	$\pm 1.5$	LSb	
A04	EDL	Differential Error	—	—	$-1 \leq \text{EDL} \leq + 1.5$	LSb	
A05	EFS	Full-scale Range	2.0*	—	5.5*	V	
A06	EOFF	Offset Error	—	—	$\pm 1.5$	LSb	
A07	EGN	Gain Error	—	—	$\pm 1.8$	LSb	
A10	—	Monotonicity	—	guaranteed <sup>(1)</sup>	—	—	$V_{SS} \leq V_{AIN} \leq V_{DD}$
A25	VAIN	Analog Input Voltage	VSS	—	VDD	V	
A30	ZAIN	Recommended Impedance of Analog Voltage Source	—	—	10	k $\Omega$	
A31*	$\Delta I_{AD}$	A/D Conversion Current <sup>(2)</sup>	—	120	150	$\mu\text{A}$	2.0V
			—	200	250	$\mu\text{A}$	5.0V
A32	VIVRF	Internal Voltage Reference	0.500	0.600	0.700	V	

\* These parameters are characterized but not tested.

† Data in the "Typ" column is at 5.0V, 25°C unless otherwise stated. These parameters are for design guidance only and are not tested.

**Note 1:** The A/D conversion result never decreases with an increase in the input voltage.

**2:** This is the additional current consumed by the A/D module when it is enabled; this current adds to base I<sub>DD</sub>.

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## Clarifications/Corrections to the Data Sheet:

In the Device Data Sheet (DS41270E), the following clarifications and corrections should be noted.

### 1. Module: Electrical Specifications (Comparator)

Added parameter A32, VIVRF in Table 10-5 as shown in bold below.

**TABLE 10-5: A/D CONVERTER CHARACTERISTICS**

Standard Operating Conditions (unless otherwise stated)							
Operating temperature $-40^{\circ}\text{C} \leq T_A \leq +125^{\circ}\text{C}$							
Param No.	Sym.	Characteristic	Min.	Typ†	Max.	Units	Conditions
A01	NR	Resolution	—	—	8 bits	bit	
A03	EIL	Integral Error	—	—	$\pm 1.5$	LSb	
A04	EDL	Differential Error	—	—	$-1 \leq \text{EDL} \leq +1.5$	LSb	
A05	EFS	Full-scale Range	2.0*	—	5.5*	V	
A06	EOFF	Offset Error	—	—	$\pm 1.5$	LSb	
A07	EGN	Gain Error	—	—	$\pm 1.8$	LSb	
A10	—	Monotonicity	—	guaranteed <sup>(1)</sup>	—	—	$V_{SS} \leq V_{AIN} \leq V_{DD}$
A25	VAIN	Analog Input Voltage	VSS	—	VDD	V	
A30	ZAIN	Recommended Impedance of Analog Voltage Source	—	—	10	k $\Omega$	
A31*	$\Delta I_{AD}$	A/D Conversion Current <sup>(2)</sup>	—	120	150	$\mu\text{A}$	2.0V
			—	200	250	$\mu\text{A}$	5.0V
<b>A32</b>	<b>VIVRF</b>	<b>Internal Voltage Reference</b>	<b>0.500</b>	<b>0.600</b>	<b>0.700</b>	<b>V</b>	

\* These parameters are characterized but not tested.

† Data in the "Typ" column is at 5.0V, 25°C unless otherwise stated. These parameters are for design guidance only and are not tested.

**Note 1:** The A/D conversion result never decreases with an increase in the input voltage.

**Note 2:** This is the additional current consumed by the A/D module when it is enabled; this current adds to base IDD.

## APPENDIX A: REVISION HISTORY

### Rev A Document (10/2008)

First revision of this document.

### Rev B Document (03/2009)

Added parameter A32 to Module 1.

Clarifications/Corrections to the Data Sheet: Added  
Module 1: Electrical Specifications (Comparator);  
adding parameter A32 to Table 10-5.

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NOTES:

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