

**PERFORMANCE SPECIFICATIONS (CONTINUED)**

**PRESSURE OUTPUT CHARACTERISTICS (V<sub>DD</sub> = 3 V, T = 25°C UNLESS OTHERWISE NOTED)**

Parameter	Conditions		Min.	Typ.	Max	Unit
Operating Pressure Range	P <sub>range</sub>		300		1200	mbar
Extended Pressure Range	P <sub>ext</sub>	Linear Range of ADC	10		2000	mbar
Relative Accuracy <sup>(1) (4)</sup>	600...1000 mbar, at 20°C		-0.5		+0.5	mbar
	300...1100 mbar, 0...60°C		-2		+2	
	300...1100 mbar, -20...85°C		-4		+4	
Resolution RMS	OSR	8192		0.016	mbar	
		4096		0.021		
		2048		0.028		
		1024		0.039		
		512		0.062		
		256		0.11		
Maximum error with supply voltage <sup>(2)</sup>	V <sub>DD</sub> = 1.5 V...3.6 V			±2		mbar
Long-term stability				±2		mbar/yr
Reflow soldering impact	IPC/JEDEC J-STD-020C (Refer to application note AN808)			±4		mbar
Recovering time after reflow <sup>(3)</sup>				7		days

<sup>(1)</sup> With autozero at one pressure point

<sup>(2)</sup> With autozero at 3V point

<sup>(3)</sup> Time to recover at least 66% of reflow impact

<sup>(4)</sup> Wet/dry cycle: sensor must be dried typically once a day

**TEMPERATURE OUTPUT CHARACTERISTICS (V<sub>DD</sub> = 3 V, T = 25°C UNLESS OTHERWISE NOTED)**

Parameter	Conditions		Min.	Typ.	Max	Unit
Relative Accuracy	0...60°C, 600...1100 mbar			±1		°C
	-20...85°C, 300...1100 mbar		-2		+2	°C
Maximum error with supply voltage	V <sub>DD</sub> = 1.5 V...3.6 V			±0.3		°C
Resolution RMS	OSR	8192		0.002	°C	
		4096		0.003		
		2048		0.004		
		1024		0.006		
		512		0.009		
		256		0.012		

## MS5840-02BA

Low profile, gel-filled, ultra-compact watertight pressure sensor, with stainless steel cap

### DIGITAL INPUTS (SDA, SCL)

Parameter	Symbol	Conditions	Min.	Typ.	Max	Unit
Serial data clock	SCL				400	kHz
Input high voltage	V <sub>IH</sub>		80% V <sub>DD</sub>		100% V <sub>DD</sub>	V
Input low voltage	V <sub>IL</sub>		0% V <sub>DD</sub>		20% V <sub>DD</sub>	V
Input leakage current	I <sub>leak</sub>	T = 25 °C			0.1	μA

### DIGITAL OUTPUTS (SDA)

Parameter	Symbol	Conditions	Min.	Typ.	Max	Unit
Output high voltage	V <sub>OH</sub>	I <sub>source</sub> = 1 mA	80% V <sub>DD</sub>		100% V <sub>DD</sub>	V
Output low voltage	V <sub>OL</sub>	I <sub>sink</sub> = 1 mA	0% V <sub>DD</sub>		20% V <sub>DD</sub>	V