PERFORMANCE SPECIFICATIONS

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Conditions	Min.	Typ.	Max	Unit
Supply voltage	V_{DD}		-0.3		+4.0	V
Storage temperature [3]	T_S		-40		+125	°C
Overpressure	P_{max}	ISO 6425 [1]			30	bar
Maximum Soldering Temperature [2]	T_{max}	40 sec max			250	°C
ESD rating		Human Body Model	-4		+4	kV
Latch up		JEDEC standard No 78	-100		+100	mA

[1] The MS5807-14BA is qualified referring to the ISO 6425 standard and can withstand an absolute pressure of 30 bar in salt water.
[2] Refer to application note 808
[3] Storage in an environment of dry and non-corrosive gases

ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Min.	Typ.	Max	Unit
Operating Supply voltage	V_{DD}		1.8	3.0	3.6	V
Operating Temperature	T		-40	+25	+85	°C
Supply current (1 sample per sec.)	I_{DD}	OSR 4096 2048 1024 512 256		12.5 6.3 3.2 1.7 0.9		µA
Peak supply current		during conversion		1.4		mA
Standby supply current		at 25°c		0.02	0.14	µA
VDD Capacitor		From VDD to GND	100			nF

ANALOG DIGITAL CONVERTER (ADC)

Parameter	Symbol	Conditions	Min.	Typ.	Max	Unit
Output Word				24		bit
Conversion time [4]	t_c	OSR 4096 2048 1024 512 256	7.40 3.72 1.88 0.95 0.48	8.22 4.13 2.08 1.06 0.54	9.04 4.54 2.28 1.17 0.60	ms

[4] Maximum values must be used to determine waiting times in I2C communication

PERFORMANCE SPECIFICATIONS (CONTINUED)

PRESSURE OUTPUT CHARACTERISTICS (V_{DD} = 3 V, T = 25°C UNLESS OTHERWISE NOTED)

Parameter	Conditions		Min.	Typ.	Max	Unit
Operating Pressure Range	P_{range}	Full Accuracy	0		14	bar
Absolute Accuracy, (1) Temperature range 0 … 40 °C	0 … 6 bar 0 … 10 bar 0 … 14 bar		-20 -60 -150		+20 +20 +20	mbar
Absolute Accuracy, (1) Temperature range -40 … 85 °C	0 … 6 bar 0 … 10 bar 0 … 14 bar		-40 -120 -200		+40 +80 +100	mbar
Maximum error with supply voltage (3)	V_{DD} = 1.8 V … 3.6 V			+/-20		mbar
Long-term stability (2)				-20		mbar/yr
Resolution RMS	OSR	4096 2048 1024 512 256		0.2 0.3 0.4 0.6 1.0		mbar

(1) Wet/dry cycle: sensor must be dried typically once a day.
(2) The long-term stability is measured with non-soldered devices.
(3) With autozero at 3V point

TEMPERATURE OUTPUT CHARACTERISTICS (V_{DD} = 3 V, T = 25°C UNLESS OTHERWISE NOTED)

Parameter	Conditions		Min.	Typ.	Max	Unit
Absolute Accuracy	0 …10 bar -20..85°C -40..85°C		-0.8 -2.0 -4.0		+0.8 +2.0 +4.0	°C
Maximum error with supply voltage (4)	V_{DD} = 1.8 V … 3.6 V			+/-0.5		°C
Resolution RMS	OSR	4096 2048 1024 512 256		0.002 0.003 0.005 0.008 0.012		°C

(4) With autozero at 3V point