

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}	ISO22810 ⁽¹⁾			10	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⁾ Qualified referring to ISO 22810, pressure ramp up/down min 60s

⁽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 ($V_{DD} = 3\text{ V}$, $T = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

Parameter	Conditions		Min.	Typ.	Max	Unit
Operating Pressure Range	P_{range}	Full Accuracy	300		1100	mbar
Extended Pressure Range	P_{ext}	Linear Range of ADC	10		1300	mbar
Absolute Accuracy, no autozero ⁽¹⁾	at 25°C , 700..1100 mbar		-1.5		+1.5	mbar
	at $0..50^\circ\text{C}$, 300..1100 mbar		-2.0		+2.0	
	at $-20..85^\circ\text{C}$, 300..1100 mbar		-3.5		+3.5	
	at $-40..85^\circ\text{C}$, 300..1100 mbar		-6.0		+6.0	
Absolute Accuracy, autozero at one pressure point ⁽¹⁾	at 25°C , 700..1100 mbar		-0.5		+0.5	mbar
	at $0..50^\circ\text{C}$, 300..1100 mbar		-1.0		+1.0	
	at $-20..85^\circ\text{C}$, 300..1100 mbar		-2.5		+2.5	
	at $-40..85^\circ\text{C}$, 300..1100 mbar		-5.0		+5.0	
Maximum error with supply voltage ⁽³⁾	$V_{DD} = 1.8\text{ V} \dots 3.6\text{ V}$			+/- 2		mbar
Long-term stability ⁽²⁾				-1		mbar/yr
Resolution RMS	OSR	4096		0.012		mbar
		2048		0.018		
		1024		0.027		
		512		0.042		
		256		0.065		

(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 ($V_{DD} = 3\text{ V}$, $T = 25^\circ\text{C}$ UNLESS OTHERWISE NOTED)

Parameter	Conditions		Min.	Typ.	Max	Unit
Absolute Accuracy	at 25°C		-0.8		+0.8	$^\circ\text{C}$
	$-20..85^\circ\text{C}$		-2.0		+2.0	
	$-40..85^\circ\text{C}$		-4.0		+4.0	
Maximum error with supply voltage ⁽⁴⁾	$V_{DD} = 1.8\text{ V} \dots 3.6\text{ V}$			+/- 0.5		$^\circ\text{C}$
Resolution RMS	OSR	4096		0.002		$^\circ\text{C}$
		2048		0.003		
		1024		0.005		
		512		0.008		
		256		0.012		

(4) With autozero at 3V point