

PIN CONFIGURATION



Fig. 2: Pin configuration of MS5536-CPJU, MS5536-CNJU

PIN DESCRIPTION

Pin Name	Pin	Type	Function
N/C	1		Not Connected
VDD	2	P	Positive Supply Voltage
MCLK	3	I	Master Clock (32.768kHz)
DIN	4	I	Data Input
DOUT	5	O	Data Output
SCLK	6	I	Serial Data Clock
GND	7	G	Ground
N/C	8		Not Connected
N/C	9		Not Connected
N/C	10		Not Connected
N/C	11		Not Connected
N/C	12		Not Connected
PV	13	N	Negative Programming Voltage
PEN	14	I	Programming Enable

NOTE

Pins 13 (PEN) and 14 (PV) are only used by the manufacturer for calibration purposes and should not be connected.

PRESSURE UNIT CONVERSION

mbar	kPa	bar	mm Hg	PSI	atm	mm H ₂ O	Inches H ₂ O
400.0	40.00	0.4000	300.0	5.801	0.3947	4079	160.57
1000.0	100.00	1.0000	750.0	14.503	0.9869	10198	401.45

ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Conditions	Min	Max	Unit	Notes
Supply voltage	V _{DD}		-0.3	4	V	
Differential Overpressure	P _{diff}		-5	5	bar	1, 2
CM Overpressure	P _{CM}			10	bar	1, 3
Storage temperature	T _s		-40	+125	°C	1

NOTES

- Storage and operation in an environment of dry and non-corrosive gases.
- For a differential sensor, Differential Pressure is the difference of pressure at port 1 minus pressure at port 2. For a gage sensor Differential Pressure is the difference of pressure at the port minus pressure of the ambient air.
- For a differential sensor Common Mode Pressure is the average of the pressure at port 1 and port 2. For a gage sensor Common Mode Pressure is the average of the pressure at the port and the pressure of the ambient air.

RECOMMENDED OPERATING CONDITIONS

(T_a = 25 °C, V_{DD} = 3.0 V unless noted otherwise)

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Supply voltage	V _{DD}		2.2	3.0	3.6	V
Supply current, average (1) during conversion (2) standby (no conversion)	I _{avg} I _{sc} I _{ss}	V _{DD} = 3.0 V		4 1	0.1	μA mA μA
Current consumption into MCLK (3)		MCLK = 32.768 kHz			0.5	μA
Operating pressure range (4)	p	Pressure Range P devices	-400		1000	mbar
Operating pressure range (4)	p	Pressure Range N devices	-1000		400	mbar
Operating temperature range	T _a		-40	+25	+85	°C
Conversion time	t _{conv}	MCLK = 32.768 kHz			35	ms
External clock signal (5)	MCLK		30.000	32.768	35.000	kHz
Duty cycle of MCLK			40/60	50/50	60/40	%
Serial data clock	SCLK				500	kHz

NOTES

- Under the assumption of one conversion every second. Conversion means either a pressure or a temperature measurement started by a command to the serial interface of MS5536C.
- During conversion the sensor will be switched on and off in order to reduce power consumption; the total on time within a conversion is about 2 ms. The current specified is active only during this time.
- This value can be reduced by switching off MCLK while MS5536C is in standby mode.
- Positive pressure corresponds to higher pressure at port 1 (nozzle port on plastic cap).
- It is strongly recommended that a crystal oscillator be used because the device is sensitive to clock jitter. A square-wave form of the clock signal is a must.