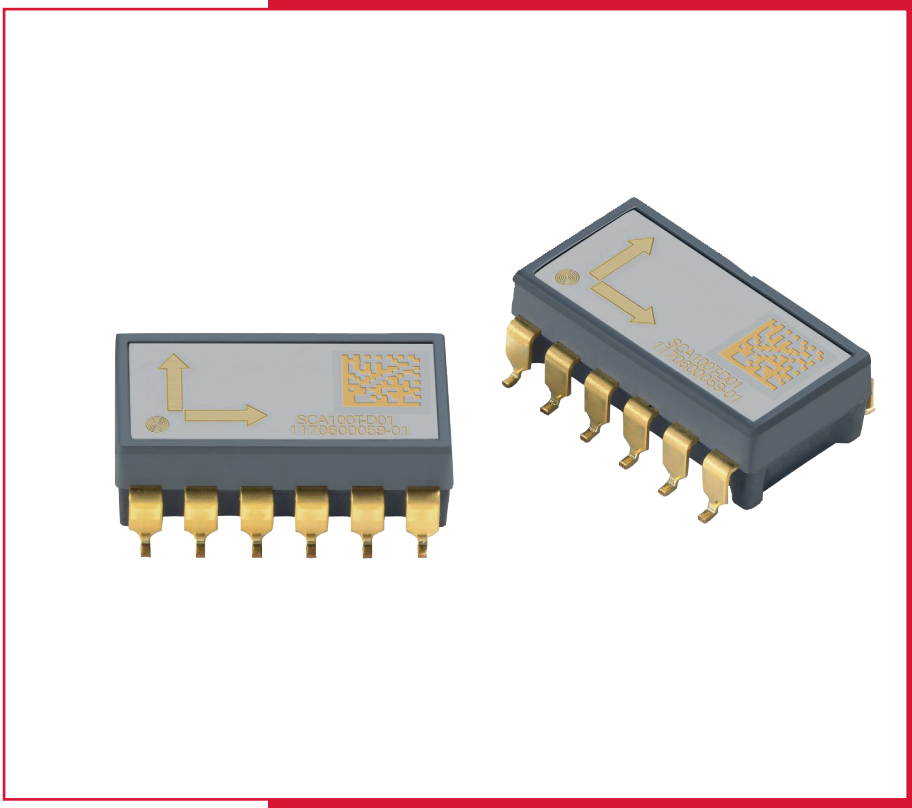
SCA100T

Analog High Performance
2-axis Inclinometer



Murata Electronics Oy

Innovator in Electronics

SCA100T

Analog High Performance 2-axis Inclinometer

Key features

- Size 11.31 x 5.08 x 15.58 mm (w x h x l)
- 5 V supply voltage
- ±30 º & ±90 º inclination measurement ranges
- 14 µg/√Hz noise density
- 0.0025º resolution (10 Hz BW, analog output)
- Offset temperature dependency (-25...85ºC) ±0.008 º/ºC
- Digital SPI temperature output
- Wide operating temperature range -40 ºC ...+125 ºC
- RoHS compliant
- Excellent stability over temperature and time
- Robust design, high shock durability (20000g)
- Sensing element controlled over damped frequence response (-3dB 18Hz)

Applications

- Platform leveling and stabilization
- 360 º vertical orientation measurement
- Moving machines operating in tough environments
- Leveling instruments
- Construction levels

SCA100T PERFORMANCE CHARACTERISTICS

Parameter	Condition	SCA100T-D01	SCA100T-D02	Units
Measuring range	Nominal	±30 ±0.5	±90 ±1.0	º g
Frequency response	-3dB LP	8-28	8-28	Hz
Offset (output at 0g)	Ratiometric output	Vdd/2	Vdd/2	V
Offset calibration error	Nominal	±0.11	±0.23	º
Offset digital output		1024	1024	LSB
Sensitivity	between 0...1º	4 70	2 35	V/g mV/ º
Sensitivity calibration error		±0.5	±0.5	%
Sensitivity digital output		1638	819	LSB / g
Offset temperature dependency	-25 ... 85 ºC (typical) -40 ... 125 ºC (max)	±0.008 ±0.86	±0.008 ±0.86	º/ºC º
Sensitivity temperature dependency	-25 ... 85 ºC (typical) -40 ... 125 ºC (max)	±0.014 -2.5...+1	±0.014 -2.5...+1	%/ºC %
Typical non-linearity	Measurement range	±0.11	±0.57	º
Digital output resolution	between 0...1º	11 0.035	11 0.07	Bits º / LSB
Output noise density	From DC ... 100Hz	0.0008	0.0008	º / √Hz
Analog output resolution	Bandwidth 10Hz	0.0025	0.0025	º
Ratiometric error	Vdd = 4.75...5.25V	±1	±1	%
Cross-axis sensitivity	Max.	4	4	%

FOR MORE INFORMATION, PLEASE REFER TO THE PRODUCT DATASHEETS AVAILABLE ONLINE AT WWW.MURATAMEMS.FI

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