SOLARMEMS
TECHNOLOGIES

nanoST
Star Tracker for nano satellites

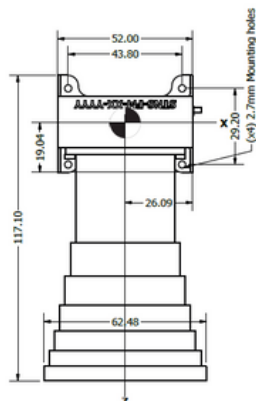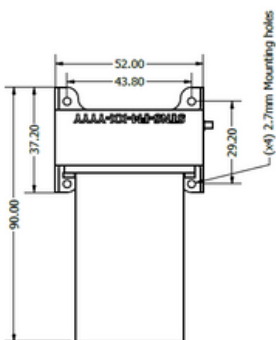## ITAR FREE & SPACE QUALIFIED (TRL 9)

Cubesat baffle version

EA+ baffle version (Wider Sun Exclusion Angle)

Assembly

nanoST with cubesat baffle

nanoST with non-cubesat baffle

Description

nanoST of Solar MEMS is an accurate device for attitude determination of Satellites. This sensor **captures images of a Star Field** with an internal CMOS device and identifies stars and constellations to determine pointing and attitude of the satellite with high accuracy.

Its robustness is based on highly used COTS devices together with space grade parts, **and it is plug & play,** so it does not need any additional electronic support or module for operating.

Technical Characteristics

Type	Autonomous Star Tracker (standalone)
Full Field of View	15°
Accuracy	Cross boresight: 30 arcsec (3sigma) About boresight: 200 arcsec (3sigma)
Maximum slew rate	1°/s
Exclusion HFOV	41deg (Sun) Cubesat bafle 30deg (Sun) EA+ bafle
Electrical interface	UART nanoD 15pins connector
Power supply	5V, 1W consumption
Mechanical interface	90x52x38mm 180g (cubesat) 118x63x63mm 220g (non-cubesat)

Qualification Data and Flight Heritage

Operating Temperature	-30° to 70° Celsius
Mechanical tests	Random RMS 8.8 gRMS Shock 2200 g at 2 kHz
EMC tests	MIL-STD 461G RE, CS, RS
Qualification	COTS camera with space heritage and space grade parts
Thickness of aluminum case	2mm
Radiation Hardness	20Krad

· Space grade and metallic connector
· Customization of baffle