Performance Specifications

SFQ 200 Fine Position Sensor
P/N 900030

Unless otherwise specified, tests were performed at lab ambient temperature with an input voltage to the unit of ±15.00V and a 517000Hz TTL level clock.

Parameter	Conditions/Notes	Min	Typ	Max	Units
Target Material			Al		
Gap at Null			1.016 (40)		mm (mils)
Range			± 381 (± 15)		µm (mils)
Output Voltage			± 9		Volts
Maximum Nonlinearity Error	Tested over ±15 mil (381µm) range.		1.5 (0.06)		µm (mils)
Noise	Tested at null over 0.1Hz to 100kHz. (See Note 1)		0.05 (2)		nm/√Hz, RMS (nano-in/√Hz, RMS)
Scale Factor	Tested over ±15 mil (381µm) range.	23.1 (588)	23.6 (600)	24.1 (612)	V/mm (V/in)
Null Drift at Constant Temp.	Over 24 hours. Tested at 23.5ºC.		± 1	± 3	mV
Null Drift Over Temperature	Tested over +5º to +50ºC.		± 2.5	± 3.5	mV/ºC
Scale Factor Stability	Tested over ±15 mil (381µm) range.		-0.05	-0.06	%/ºC
Electronics Operating Temp.	Range tested in vacuum.	-34		+65	ºC
Bandwidth	By analysis.		32		kHz
Input Voltage		± 14.25	± 15	± 15.75	V
Input Clock Frequency			517		kHz
Output Impedance			600		_
Power Consumption	For temperatures in the range -34ºC to +65ºC.			0.72	W
Survivable Vibration Levels	20Hz to 2kHz.	10			g^2/√Hz
Mean Time Between Failure	Average temperature of 20ºC.	33.24			10^6 Hours
Radiation Hardness, Ionizing Total Dose	By analysis. See Note 2.	65			Krad(Si)
System Mass/Weight			0.394 (13.9)		Kg (Ounces)

Notes:

1. Noise level specified is based on recent tests incorporating a minor change to the system that will be implemented on the next revision. System was tuned for ±10mil range, 20mil null gap, and a scale factor of 39.4V/mm (1000V/in).
2. All components used are guaranteed radiation hardened to >100Krad(Si).

Blue Line Engineering Co.
711 S. Tejon Street
Suite 202B
Colorado Springs, CO 80903

Phone: 719.447.1373
Fax: 719.447.1400
Info@BlueLineEngineering.com
www.bluelineengineering.com/