

Model Number
7705A2

PERFORMANCE SPECIFICATIONS

DUAL ELEMENT ACCELEROMETER

REV D. ECN 15839, 07/28/20



- DUAL ELEMENT TECHNOLOGY
- EXTENDED LOW FREQUENCY RESPONSE (0 Hz to 10kHz)
- HERMETICALLY SEALED

New type of accelerometer from Dytran Instruments Inc. combines the DC output of variable capacitance element with excellent high frequency response of piezoelectric sensor.

Both outputs are electrically summed up and seamlessly superimposed on each other to provide the broadest frequency response from a single output pin.

		ENGLISH		SI		
PHYSICAL						
Weight, Max.		0.53	oz	15	grams	
Mounting		10-32 Tapped Hole		10-32 Tapped Hole		
Connector	Type	4-pin, M4.5X0.35		4-pin, M4.5X0.35		
Housing	Material	Titanium	]	Titanium		
PERFORMANC	E					
Sensitivity, ±10% [1]		50	mV/g	5.1	mV/m/s <sup>2</sup>	
Acceleration Range		±40	g pk	±392	m/s² g pk	
Frequency Resp	onse, ±10%	0 to 10,000	Hz	0 to 10,000	Hz	
Resonance Fred	quency	>38	kHz	>38	kHz	
Linearity [2]		1	% F.S.	1	% F.S.	
Transverse Sens	sitivity	<3	%	<3	%	
Output Noise, Br	roadband, Max.	0.002	g RMS	0.0196	m/s <sup>2</sup> RMS	
Phase shift misn	natch, Max	+/-2	degrees	+/-2	degrees	
Absolute phase shift, Max [3]		+/-5	degrees	+/-5	degrees	
Base Strain		0.0004	g/με	0.0039	m/s²/με	
Bias Offset	Max	0.2	g's	1.96	m/s <sup>2</sup>	
ENVIRONMENT	ΓAL					
Maximum Mechanical Shock		5,000	g pk	49,050	m/s² pk	
Bias Temperature Shift, Max		56	(ppm of span)/°F	101	(ppm of span)/°C	
Bias Calibration Error		1.5	% of span	1.5	% of span	
Operating Temperature		-60 to +250	°F	-51 to 121	°C	
Thermal Coefficient		0.06	%/°F	0.12	%/°C	
Seal		Hermetic		Hermetic		
POWER						
Compliance Volt	tage	+5 to +28	] VDC	+5 to +28	VDC	
Current Range	go	5 to 10	mA DC	5 to 10	mA DC	
Output Bias Volt	age Typical	2.45	VDC	2.45	VDC	
Output Impedan	0 . 11	1	Ω	1	Ω	
Power Supply Rejection Ratio		>65	dB	>65	dB	
Electrical Isolation (Case)		Ground	1	Ground	QD	
Electrical isolation (Case)		Ground	J	Ground		

his	family	also	includes:	

<u> </u>							
Model	Sensitivity (mV/g)	Range (g pk)	Maximum Shock (g pk)	Noise Broadband (g RMS)			
7705A1	10	±200	5,000	0.008			
7705A3	100	±20	5,000	0.0008			
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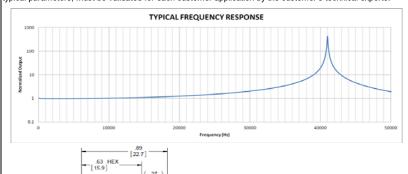
Refer to the performance specifications of the products in this family for detailed description

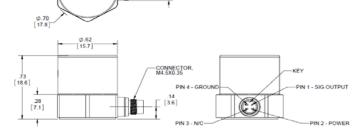
## Supplied Accessories:

- 1) Accredited calibration certificate (ISO 17025)
- 2) Model 6200 mounting stud (10-32 to 10-32) Qty. 1
- 3) Model 6693 mounting stud (10-32 to M5) Qty. 1

## Notes

- [1] Measured at 100Hz, 1 g RMS per ISA RP 37.2.
- [2] Measure using zero-based straight line method, % of F.S. or any lesser range.
- [3] 0 to 1000Hz
- [4] In the interest of constant product improvement, we reserve the right to change specifications without notice. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary overtime. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts.





Units on the line drawing are in inches, units in brackets are in millimeters. Refer to 127-7705A for more information.

