

CHT-SM5652 Series
Dual In Line Package, Sub PSI Range
mV Output, Temperature Compensated
Constant Voltage Supply

DESCRIPTION

Advanced Sensor Ceramic Hybrid Technology (CHT) SM5652 Series is a temperature compensated, mV output, PCB mounted pressure sensor packaged in a rugged Dual In Line package. The Ceramic Hybrid Technology uses a silicon MEMS pressure sensor bound to a ceramic substrate containing thick film resistors that are uniquely laser trimmed for each sensor. Incorporating a flexible design, the CHT-SM5652 Series is available with no, short or long tubes and can be mounted pin up or pins down to allow OEMs to optimize their board design. The CHT-SM5652 series is powered using a constant voltage with a high level 25mV output. The CHT-SM5652 series superior die performance coupled with rugged ceramic substrate ensures long term stability with superior temperature performance over a wide operating range.

APPLICATIONS

- Medical Equipment
- Medical Respirators
- Process Flow Controls
- Building Automation, HVAC

FEATURES

- Normalized 40mV Output
- Constant Voltage
- High mV Output
- Differential Pressures
- Temperature Compensated
- Sub PSI Pressure Ranges

Specification All Ranges

SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Performance Characteristic						
Supply Voltage		0.5	10.00	12	Vdc	
Bridge Resistance, Input & Output		9000		20000	Ω	
Zero Pressure Offset		-2.0	± 0.1	+2.0	mV	
Pressure Non Linearity		See Table Below			%FSS	2
Hysteresis & Repeatability		-0.30	0.05	+0.30	%FSS	
Full Scale Span	FSS	38.75	40	41.25	mV	3
Response Time			100		μ S	
Insulation Resistance		50			M Ω	
Long Term Stability, Offset & Span			± 0.4		%FSS	5
Weight				3.0	grams	
Compensated Temperature		0 to 60			$^{\circ}$ C	
Operating Temperatures		-40 to 125			$^{\circ}$ C	

Specification for 0.15 PSI Range

SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Performance Characteristic						
Thermal Error of Span		-2.0		+2.0	%FSS	
Thermal Error of Offset		-2.0		+2.0	%FSS	
Temperature Hysteresis, Offset & Span		-0.65		+0.65	%FSS	4
Pressure Non Linearity		-0.50		+0.50	%FSS	2

Specification for 0.30 PSI Range

SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Performance Characteristic						
Thermal Error of Span		-0.75		+0.75	%FSS	
Thermal Error of Offset		-1.0		+1.0	%FSS	
Temperature Hysteresis, Offset & Span		-0.45		+0.45	%FSS	4
Pressure Non Linearity		-0.50		+0.50	%FSS	2

Specification for 0.80 & 1.5 PSI Range

SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Performance Characteristic						
Thermal Error of Span		-0.65		+0.65	%FSS	
Thermal Error of Offset		-1.0		+1.0	%FSS	
Temperature Hysteresis, Offset & Span		-0.30		+0.30	%FSS	4
Pressure Non Linearity		-0.30		+0.30	%FSS	2

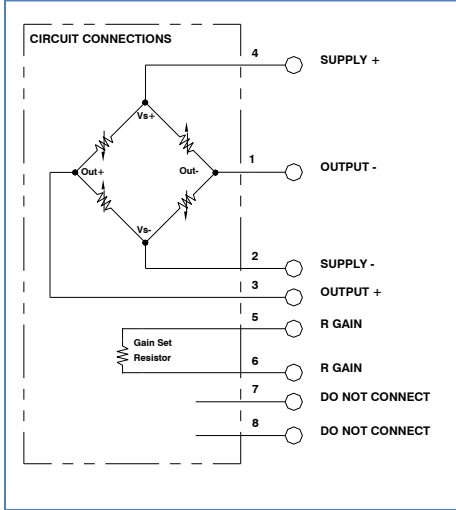
Specification All Ranges

SPECIFICATIONS	Symbol	Min	Typical	Max	Unit	Note
Absolute Maximum Conditions						6
Supply Voltage				15	Vdc	
Storage Temperature		-40		150	°C	
Overage Pressure				15x	Range	
Proof Pressure				3x	Range	
Media Compatibility		CDA, Non Ionic, Non Corrosive Gases				
Wetted Materials		Ceramic, Epoxy, RTV, Silicon, Gold, Aluminum, Palladium Silver				

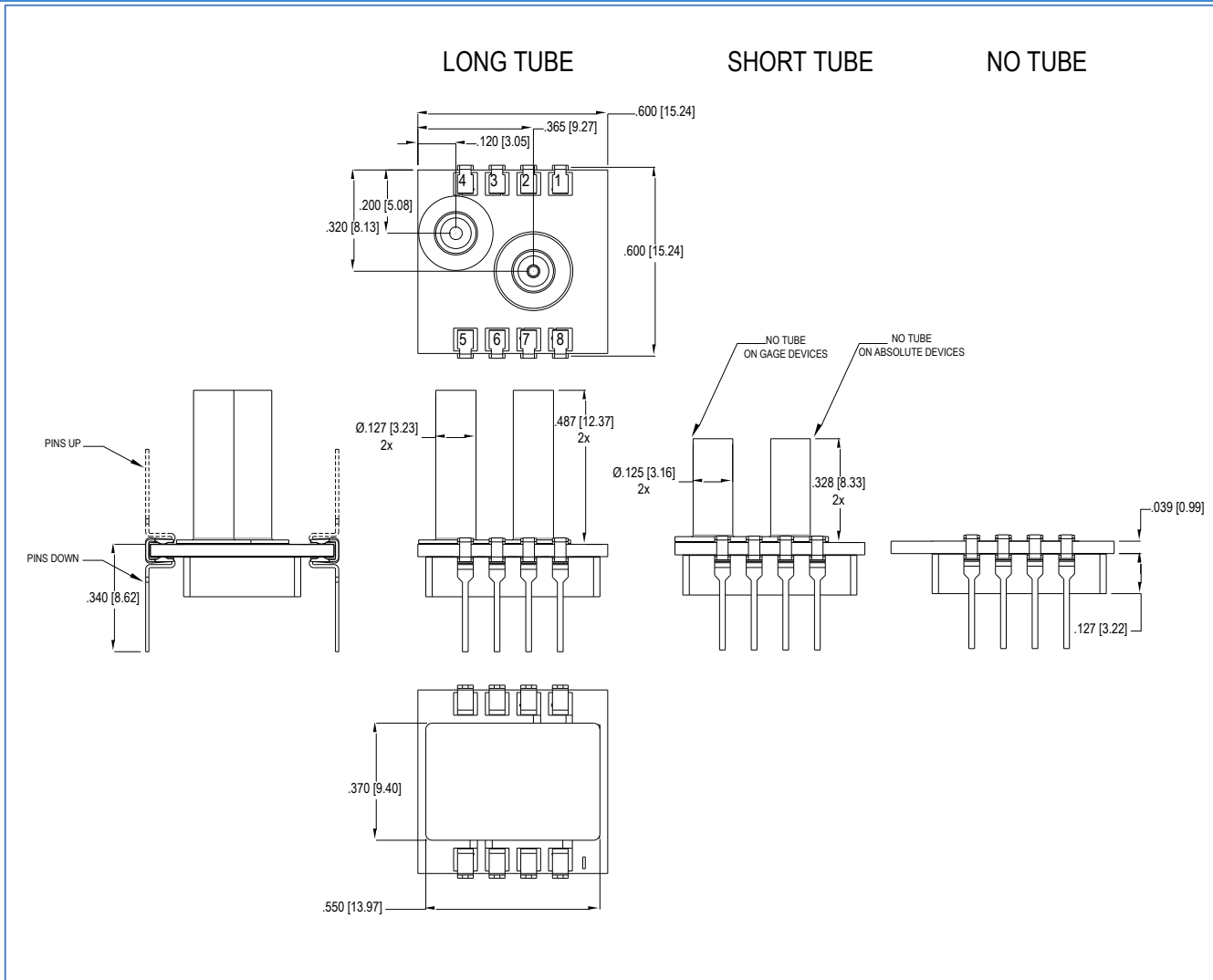
Reference Conditions: Vsupply: 10.0 Vdc, Ta=25 °C.

1. All specification at reference conditions unless otherwise noted. Output is ratio metric to supply voltage.
2. ½ Terminal Base Non Linearity (Measured at 0, 50% and 100% FS).
3. Full Scale Span output with sensor only. Field Interchangeability of 1% is guaranteed with use of Application Note.
4. Deviation between 60 °C and 0 °C expressed as percentage of reading at 25 °C.
5. Deviation after 1 year period measured at reference conditions.
6. Exceeding Absolute Maximum Specification may damage the device. Extended exposure beyond the operating conditions may affect device reliability.

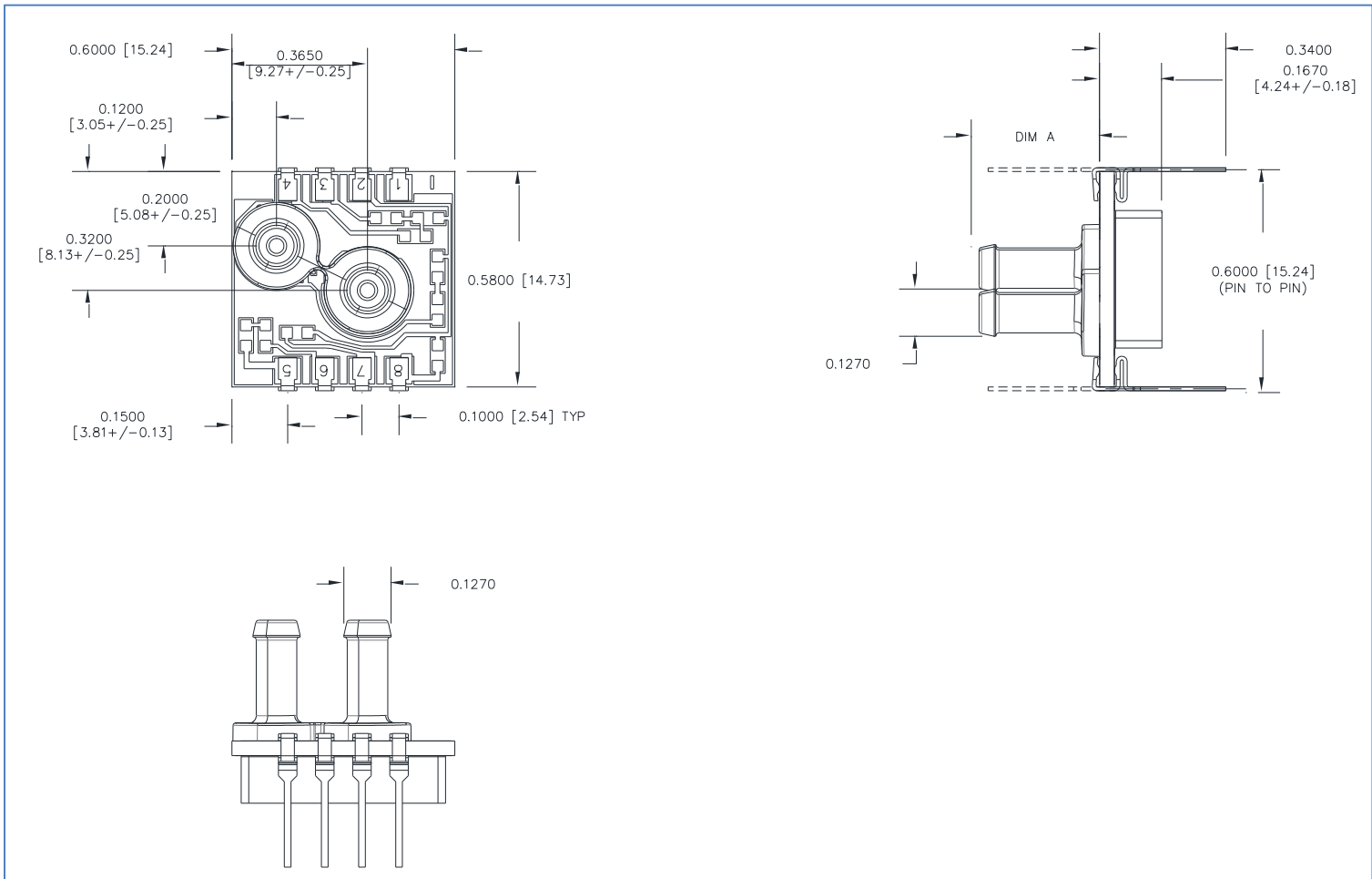
EQUIVALENT CIRCUIT



MECHANICAL DIMENSIONS in [mm]



TOP BARB



PART NUMBERING FOR ORDERS

Series	Pressure Range	Pressure Units	Pressure Type (Range Availability) [Package Availability]	Pin Orientation	Port Style
CHT-SM5652	0.15 0.30 0.80 1.50	P=PSI	D=Differential (All Ranges) [ST,LT]	3= Down 1= Up	ST=Short Tube LT=Long Tube TB=Top Barb

Part Number Example: CHT-SM5652 ST 015P D3**0- 0.15 PSI Pressure Range, Short Tube Pressure Ports, Down Thru Hole Pin****WARRANTY**

Pressure sensors have a limited one-year warranty to the original purchaser. AVSensors will repair or replace, at its option, without charge those items it finds defective. This is the buyers sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall AVSensors be liable for consequential, special, or indirect damages. This warranty does not apply to units that have been modified, misused, neglected or installed where the application exceeds published ratings. Specifications may change without notice. The information supplied is believed to be accurate and reliable as of this printing, however, we assume no responsibility for its use.