



## 1620

### SPECIFICATIONS

- ◆ **Disposable Blood Pressure Sensor**
- ◆ **AAMI Specifications**
- ◆ **Low Cost Disposable**
- ◆ **Dielectric Gel Barrier**
- ◆ **Fully Tested & Calibrated**

The 1620 is a fully piezo resistive silicon pressure sensor for use in invasive blood pressure monitoring. The sensor is designed to be used with automated assembly equipment and can be dropped directly into a customer's disposable blood pressure housing. The sensor is designed to meet the requirements as described in the Association for the Advancement of Medical Instrumentation (AAMI) specification for Blood Pressure Transducers.

The pressure sensor consists of a pressure sensing element mounted on a ceramic substrate. Thick film resistors on the ceramic substrate are laser trimmed for compensation and calibration. A plastic cap is attached to the ceramic substrate to provide an easy method of attachment to the customer's assembly and protection for the sensing element. A dielectric gel is placed over the sensor to provide electrical and fluid isolation.

The products are shipped on a tape and reel. Performance characteristics and packaging can be easily tailored on a special order basis to meet the requirements of specific customers.

## FEATURES

- ◆ Low Cost, Medical Applications
- ◆ Small Size and Reliable Performance
- ◆ Gel Isolation for Liquids
- ◆ Operates from 10°C to 40°C
- ◆ Compatible for Automated Assembly
- ◆ 1% Accuracy for Replacements
- ◆ 5.0 uV/V/mmHg Sensitivity
- ◆ Customization for OEM Applications

## APPLICATIONS

- ◆ Surgical Procedures
- ◆ Intensive Care Units
- ◆ Infusion Pumps
- ◆ Kidney Dialysis Machines
- ◆ Vacuum Assisted Birth
- ◆ Intrauterine Monitoring

## STANDARD RANGES

Range	mmHg
-50 to 300	◆

## PERFORMANCE SPECIFICATIONS

## Supply Voltage: 6.0 Vdc

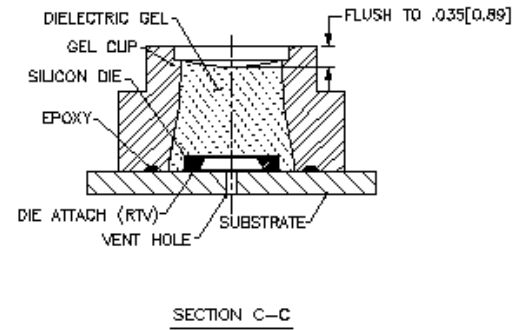
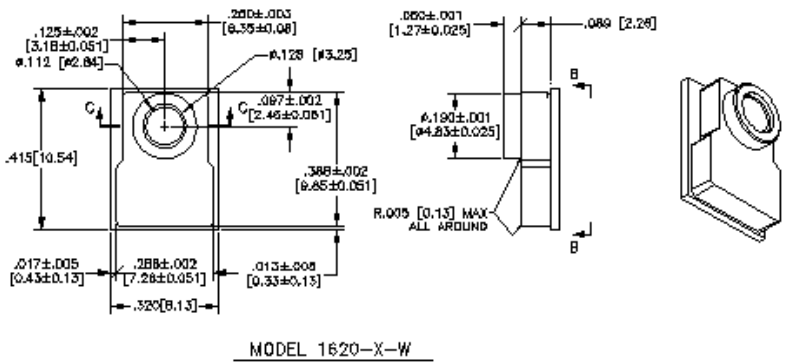
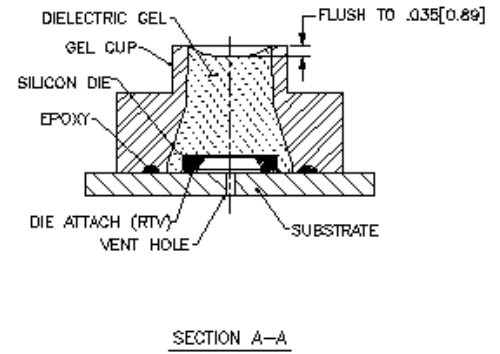
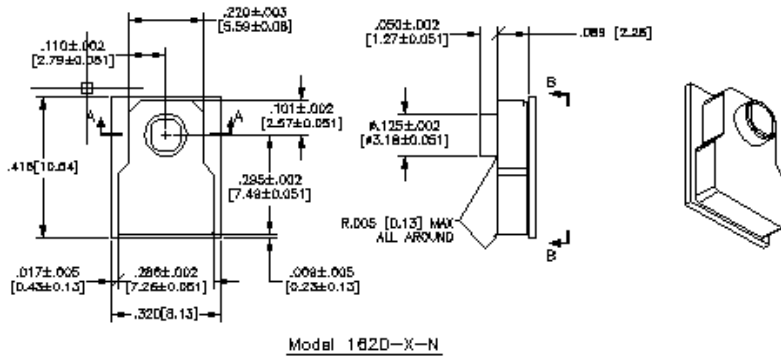
Ambient Temperature: 23°C (unless otherwise specified)

PARAMETERS	MIN	TYP	MAX	UNITS	NOTES
Operating Pressure Range	-50		300	mmHg	
Over Pressure	125			psi	
Zero Pressure Offset	-20		20	mmHg	
Sensitivity	4.95	5.00	5.05	uV/V/mmHg	
Calibration	97.5	100	102.5	mmHg	1
Linearity and Hysteresis (-30 to 100 mmHg)	-1		1	mmHg	2
Linearity and Hysteresis (100 to 200 mmHg)	-1		1	% Output	2
Linearity and Hysteresis (200 to 300 mmHg)	-1.5		1.5	% Output	2
Input Impedance					
1620-A	1200		3200	Ω	
1620-E	1200		3200	Ω	
1620-F	325		375	Ω	
Output Impedance	285		315	Ω	
Output Symmetry	0.95		1.05	Ratio	3
Supply Voltage	2	6	10	Vdc or Vac rms	
Risk Current (@ 120 Vac rms, 60Hz)			2	uA	
Warm-Up Time		5		Seconds	
Frequency Response		1200		Hz	
Offset Drift			2	mmHg	4
Thermal Span Shift	-0.1		0.1	%/°C	5
Thermal Offset Shift	-0.3		0.3	mmHg/°C	5
Phase Shift (@ 5KHz)			5	Degrees	
Light Sensitivity (3000 Foot Candle)		1		mmHg	
Defibrillator withstand (400 joules)	5			Discharges	6
Sterilization (ETO)	3			Cycles	7
Operating Temperature	10		40	→C	
Storage Temperature	-25		+70	→C	
Humidity (External)	10-90% (non-condensing)				
Operating Product Life	168 Hours				
Shelf Life	5 Years				
Dielectric Breakdown	10000Vdc				
Media Interface	Dielectric Gel				
Volume Displacement	4.5 x 10 <sup>-4</sup> mm <sup>3</sup>				
Weight	0.5 grams				

## Notes

- Output of sensor with no pressure applied and a 150K Ohms resistor placed across +SUPPLY to +OUTPUT.
- Best fit straight line.
- Defined as common mode symmetry between any output and supply terminal.
- Over an 8 hour time period after a 10 minute warm-up.
- Over operating temperature range 10-40°C with respect to 23°C.
- One discharge per minute performed by customer.
- Sterilization performed by customer.
- This model is not suitable for surface mount operation.

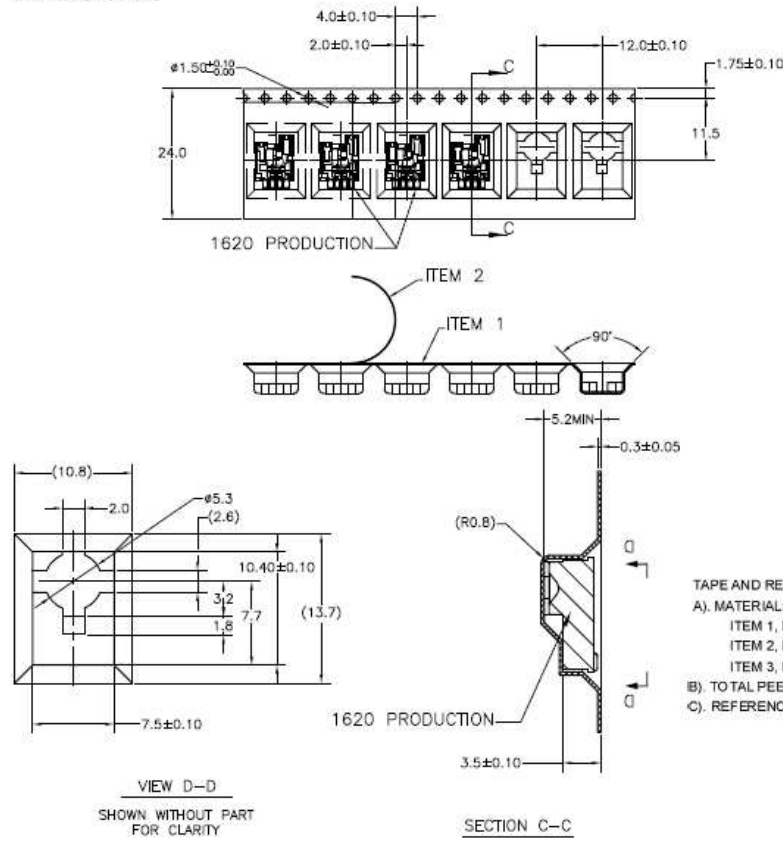
DIMENSIONS



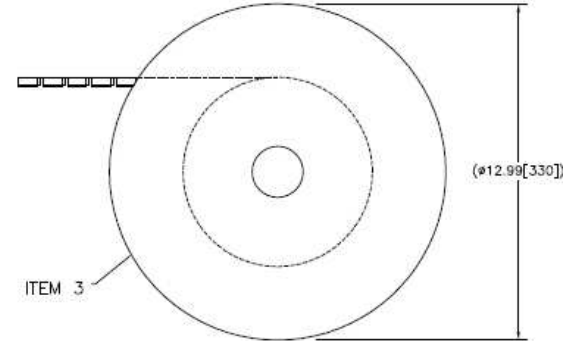
\*Dimensions indicated to not include flares.

SHIPPING INFORMATION

SHIPPING CONFIGURATION: TAPE AND REEL  
TAPE SPECIFICATIONS



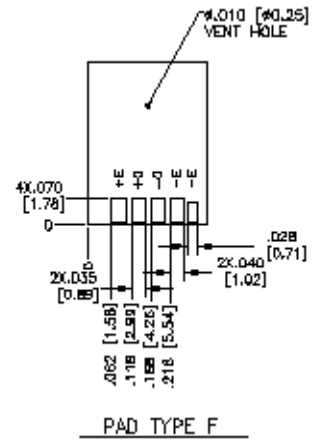
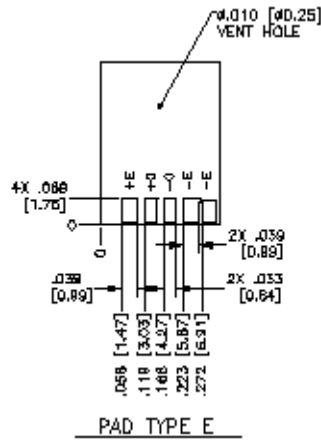
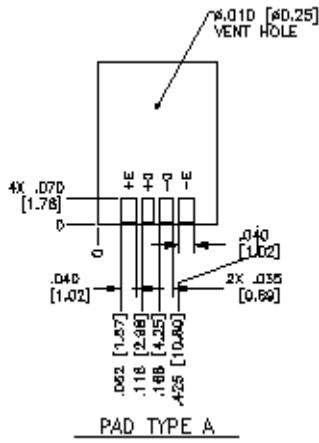
REEL SPECIFICATIONS



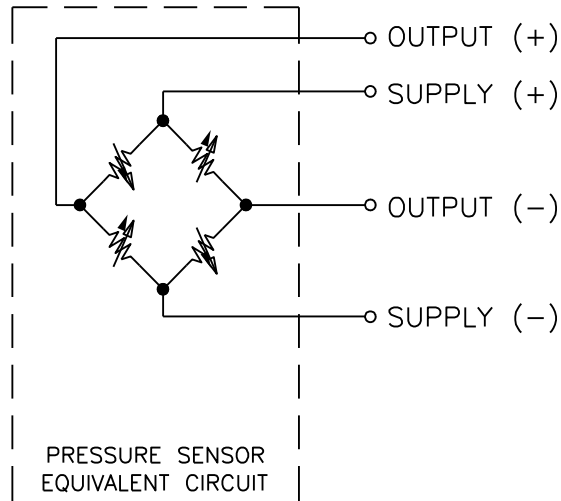
TAPE AND REEL INFO

- A). MATERIAL:
  - ITEM 1, P/N IC-MH00193-01, CARRIER TAPE, POLYCARBONATE (PE) TRANSLUCENT WHITE
  - ITEM 2, P/N IC-MH00193-02, COVER TAPE: POLYCARBONATE TEREPHTHALATE (PET),
  - ITEM 3, P/N IC-MH00193-03, PACKAGING TRAY: PS,BLUE.
- B). TOTAL PEEL STRENGTH SHOULD BE 10 TO 130 GRAMS.
- C). REFERENCE DOC: ANSI/EIA-481-D:

## STANDARD PAD CONFIGURATIONS



## CONNECTIONS



## ORDERING INFORMATION

1620	-	A	-	N	T
<b>Model</b>	-	<b>Pad Type</b>	-	<b>Pressure Port Type</b>	<b>Shipping</b>
<b>1620</b>	-	<b>A</b> = Pad Type "A" <b>E</b> = Pad Type "E" <b>F</b> = Pad Type "F"	-	<b>N</b> = Narrow Hole <b>W</b> = Wide Hole	<b>T</b> = Tape and Reel

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