MINIATURE RUGGEDIZED IS® PRESSURE TRANSDUCER XTL-AC-190 (M) SERIES

- Acceleration/Vibration Insensitive Design VIS^{2®}
- High Natural Frequency
- Easy Installation

The ruggedness of this sensor has not compromised its performance. It was designed for ease of installation and will operate properly in any medium compatible with 15-5 SS or SiO₂. The XTL-AC-190 incorporates the latest Kulite patented and patent pending technologies in pressure sensor development. One of these patented innovative technologies makes the XTL-AC-190 insensitive to acceleration forces.





	Pressure Range	3.5 50	7 100	17 250	35 500						
PUT	Operational Mode		Absolute, S	Sealed Gage							
	Over Pressure	2 Times Rated Pressure to a Maximum of 3000 PSI (210 BAR)									
	Burst Pressure	3 Times Rated Pressure to a Maximum of 5000 PSI (350 BAR)									
Ž	Pressure Media	Most Conductive Liquids or Gases - Please Consult Factory (All Media May Not Be Suitable With O-Ring Supplied)									
	Rated Electrical Excitation	10 VDC/AC									
	Maximum Electrical Excitation	12 VDC/AC									
	Input Impedance	1000 Ohms (Min.)									
	Output Impedance	1000 Ohms (Nom.)									
	Full Scale Output (FSO)	100 mV (Nom.)									
F	Residual Unbalance	± 5 mV (Typ.)									
.ndti	Combined Non-Linearity, Hysteresis and Repeatability	± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.)									
O	Resolution	Infinitesimal									
	Natural Frequency (KHz) (Typ.)	240	300	380	550						
	Acceleration Sensitivity % FS/g Perpendicular Transverse	N/A <<1x10 ⁻⁶									
	Insulation Resistance	100 Megohm Min. @ 50 VDC									
AL	Operating Temperature Range		-65°F to +350°F	(-55°C to +175°C)							
Ľ	Compensated Temperature Range	+80°F to +180	°F (+25°C to +80°C) Any 100°F	Range Within The Operating F	lange on Request						
M	Thermal Zero Shift		± 1% FS/1	00°F (Typ.)							
NON NON	Thermal Sensitivity Shift		± 1% /10	0°F (Typ.)							
Ν	Steady Acceleration		10,000	g. (Max.)							
ШN	Linear Vibration		10-2,000 Hz Sir	ne, 100g. (Max.)							
٩L	Electrical Connection		4 Conductor 30 AWG S	Shielded Cable 36" Long							
	Weight		4 Grams (Nom.)	Excluding Cable							
l≺S	Pressure Sensing Principle	Fully Active Four Arm V	Wheatstone Bridge Dielectrically I	Isolated Silicon on Silicon Pate	ented Leadless Technology						
Н	Mounting Torque		15 Inch-Po	unds (Max.)							

Note: Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. Continuous development and refinement of our products may result in specification changes (P) without notice. Copyright © 2018 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.

MINIATURE RUGGEDIZED PRESSURE TRANSDUCER

XTL-100-190 (M) SERIES

- Easy Installation
- Patented Leadless Technology VIS[®]
- High Natural Frequency

The ruggedness of this sensor has not compromised its performance. It was designed for ease of installation and will operate properly in any medium compatible with 15-5 SS or SiO_2 . Its Patented Leadless construction makes it possible for the sensing unit to be installed in such a way that will not compromise its high natural frequency. Part performance not guaranteed if used in water.

Kulite recommends the KSC Series of signal conditioners to maximize the measurement capability of the XTL-100-190 transducer.

	COMTRONIC CONNECTOR PIN 20-11019-001 OR EQUIVALENT (9,4)	.660 Nom. (16,8))	SILICONE 0 .176 I.D. x.0 (4.5 I.D. x 1,0	-T"	148 Nom. (3.8)	375 (9,5) HEX WITH AND ARE A" SCREEN STANDARI A" SCREEN OPTIONAL	D P/N 1905 190S(M) 190L 190L(M)	FUI + INPUT - OUTPUT - INPUT + OUTPUT 10-32 UNF-2A M5 x .8 10-32 UNF-2A M5 x .8	NCTION PIN 1 2 3 4 		
	Pressure Range	0.7 10	1.0 15	1.7 25	3.5 50	7 100	17 250	35 500	70 1000	140 BAR 2000 PSI		
	Operational Mode	Abso	Absolute Absolute, Sealed Gage									
	Over Pressure	2 Times Rated Pressure to 500 PSI (35 BAR), 1.5 Times Rated Pressure Above 500 PSI (35 BAR)										
PUT	Burst Pressure	3 Times Rated Pressure to a Maximum of 5000 PSI (350 BAR)										
Z	Pressure Media	Most Conductive Liquids and Gases - Please Consult Factory (All Media May Not Be Suitable With O-Ring Supplied)										
	Rated Electrical Excitation	10 VDC/AC										
	Maximum Electrical Excitation	12 VDC/AC										
	Input Impedance	1000 Ohms (Min.)										
	Output Impedance	1000 Ohms (Nom.)										
	Full Scale Output (FSO)	100 mV (Nom.)										
	Residual Unbalance	± 5 mV (Typ.)										
Ω	Combined Non-Linearity, Hysteresis and Repeatability	± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.)										
5	Resolution					Infinitesimal						
	Natural Frequency of Sensor Without Screen (KHz) (Typ.)	175	200	240	300	380	550	700	1000	1400		
	Acceleration Sensitivity % FS/g Perpendicular	1.0x10 ⁻³	6.5x10 ⁻⁴	5.0x10 ⁻⁴	3.0x10 ⁻⁴	1.5x10 ⁻⁴	1.0x10 ⁻⁴	6.0x10 ⁻⁵	4.5x10 ⁻⁵	2.0x10 ⁻⁵		
	Insulation Resistance			-	100 Me	gohm Min. @	50 VDC					
Ļ	Operating Temperature Range				-65°F to +3	350°F (-55°C	to +175°C)					
NTA	Compensated Temperature Range		+80°F to +	180°F (+25°C	to +80°C) Any 1	100°F Range	Within The Oper	ating Range	e on Request			
NME	Thermal Zero Shift				± 19	% FS/100°F (Гур.)					
IRO	Thermal Sensitivity Shift				±	1% /100°F (Ty	/p.)					
EN	Steady Acceleration				1	0,000g. (Max)					
	Linear Vibration				10-2,000	Hz Sine, 100)g. (Max.)					
AL			Comtronic Co	nnector P/N 20	0-11019-0001 c	or Equivalent	(Mating Connect	or Available	Upon Reques	.t)		
SIC	Weight				6	Grams (Norr	l.)					
PHY	Pressure Sensing Principle	Fully A	Active Four Ari	m Wheatstone	Bridge Dielecti	rically Isolated	d Silicon on Silico	on Patented	Leadless Tecl	nnology		
	Mounting lorque				15 Inch-F	ounds (Max.)) 1.7 Nm					

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (C) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2020 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.

WALLITE ULTRA MINIATURE 5 VDC OUTPUT DIGITALLY CORRECTED RUGGEDIZED AUTOMOTIVE PRESSURE TRANSDUCER

XTL-2DC-123BA6-190 (M) SERIES

- Automotive Testing Applications
- Patented Leadless Technology VIS[®]
- High Accuracy
- .15% T.E.B. Typical
- Compatible With Most Automotive Fluids



Part performance not guaranteed if used in water.



	Pressure Range	1.7 25	3.5 50	7 100	17 250	35 BAR 500 PSI					
	Operational Mode	Absolute, Sealed Gage									
F	Over Pressure	2 Times Rated Pressure to a Max. of 1000 PSI (70 BAR)									
NPL	Burst Pressure	3	3 Times Rated Pressure to a Max. of 1500 PSI (100 BAR)								
-	Pressure Media	All Nonconductive, Noncorros	ive Liquids or Gas	ses (Most Conductiv	ve Liquids and Gas	ses - Please Consult Factory)					
	Maximum Electrical Current	25 mA (Max.)									
	Rated Electrical Excitation	8 - 32 VDC									
	Output		0 to 5 V								
	Output Impedance	200 Ohms (Typ.)									
UT	Total Error Band	(End Point Settings, Con	± 0.3% (Max.) ± 0.15% (Typ.) (End Point Settings, Combined Non-Linearity, Hysteresis, Repeatability And All Thermal Effects Included)								
JTP	Resolution	Infinitesimal									
б	Bandwidth (KHz)	3.5 KHz									
	Acceleration Sensitivity % FS/g Perpendicular	5.0x10 ⁻⁴	3.0x10 ⁻⁴	1.5x10 ⁻⁴	1.0x10 ⁻⁴	6.0x10 ⁻⁵					
	Insulation Resistance		100	Megohm Min. @ 50	VDC						
ENTAL	Operating Temperature Range	-40°F to +390°F (-40°C to +200°C) (Viton O-Ring Rated 0°F to +450°F (-18°C to +232°C) Amplifier -40°F to +265°F (-40°C to +130°C)									
NME	Compensated Temperature Range		32°F t	o +250°F (0°C to +1	20°C)						
/IRO	Linear Vibration		20g F	Peak, Sine 10 to 200	00 Hz						
EN	Mechanical Shock		20g Half S	Sine Wave 11 msec	. Duration						
۲	Electrical Connection	4	Conductor 26 AV	G Shielded Viton C	able 1 Meter Long	9					
SIC/	Weight		25 Gran	ms (Nom.) Excludin	g Cable						
HΥS	Sensing Principle	Fully Active Four Arm Wheat	stone Bridge Diele	ectrically Isolated Si	licon on Silicon Pa	tented Leadless Technology					
٩	Mounting Torque		1	5 Inch-Pounds (Max	c.)						

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (V) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2014 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.

ULTRA MINIATURE 5 VDC OUTPUT DIGITALLY CORRECTED RUGGEDIZED AUTOMOTIVE PRESSURE TRANSDUCER

XTL-2DC-123GA6-190 (M) SERIES

- Automotive Testing Applications
- Patented Leadless Technology VIS[®]
- High Accuracy
- .15% T.E.B. Typical
- · Compatible With Most Automotive Fluids



Part performance not guaranteed if used in water.



	Pressure Range	1.0 15	1.7 25	3.5 50	7 100	17 250	35 500	70 1000	100 1500	210 BAR 3000 PSI			
	Operational Mode	Absolute, Gage, Differential	Absolute, Gage, Absolute, Sealed Gage, Gage, Differential Absolute, Sealed Gage										
5	Over Pressure	2 Times Rated Pressure to a Maximum of 4500 PSI (315 BAR)											
ž	Burst Pressure	3 Times Rated Pressure to a Maximum of 4500 PSI (315 BAR)											
	Pressure Media	All Nonconductive, Noncorrosive Liquids or Gases (Most Conductive Liquids and Gases - Please Consult Factory)											
	Maximum Electrical Current	25 mA (Max.)											
	Rated Electrical Excitation	8 - 32 VDC											
	Output		0 to 5 V										
	Output Impedance		200 Ohms (Typ.)										
5	Total Error Band	(1	± 0.3% (Max.) ± 0.15% (Typ.) (End Point Settings, Combined Non-Linearity, Hysteresis, Repeatability And All Thermal Effects Included)										
E	Resolution	Infinitesimal											
ō	Bandwidth (KHz)	3.5 KHz											
	Acceleration Sensitivity % FS/g Perpendicular	6.5x10 ⁻⁴	5.0x10 ⁻⁴	3.0x10 ⁻⁴	1.5x10 ⁻⁴	1.0x10 ⁻⁴	6.0x10 ⁻⁵	4.5x10 ⁻⁵	3.5x10 ^{-₅}	2.0x10 ⁻⁵			
	Insulation Resistance	100 Megohm Min. @ 50 VDC											
ITAL	Operating Temperature Range		-40°	F to +390°F (-4	0°C to +200°C	C) Amplifier -4	40°F to +250°F	-40°C to +12	1°C)				
IMEN	Compensated Temperature Range	32°F to +250°F (0°C to +120°C)											
IB0	Linear Vibration				20g Pea	ak, Sine 10 to 2	2000 Hz						
ENV	Mechanical Shock				20g Half Sin	e Wave 11 ms	ec. Duration						
Ļ	Electrical Connection			4 Conc	luctor 26 AWG	Shielded Vitor	n Cable 1 Mete	er Long					
ICA	Weight				25 Grams	(Nom.) Exclud	ling Cable						
HYS	Sensing Principle	Fully	Active Four Ar	m Wheatstone	Bridge Dielect	rically Isolated	Silicon on Sili	con Patented L	eadless Techr	nology			
₫	Mounting Torque				15 li	nch-Pounds (N	lax.)						

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (G) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2016 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.

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- · Easy Installation
- High Natural Frequency
- Patented Leadless Technology VIS[®]
- 10-32 UNF or M 5 x .8 Thread
- Wide Temperature Range
- Compatible With Most Automotive Fluids

Part performance not guaranteed if used in water.

Kulite recommends the KSC Series of signal conditioners to maximize the measurement capability of the XTL-123A-190 transducer.



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三協インタナショナル株式会社 03-3662-8100



EXAMPLE DIFFERENTIAL PRESSURE TRANSDUCER

XTL-3-375 (M) SERIES

- Robust Construction
- Automotive and Flight Test Applications
- Patented Leadless Technology VIS[®]

The XTL-3-375 series is a non-amplified differential transducer. The Kulite patented leadless sensing element is extremely accurate even at low pressures making the XTL-3-375 ideal for low pressure differential measurements in automotive and flight test applications. Part performance not guaranteed if used in water.

Kulite recommends the KSC Series of signal conditioners to maximize the measurement capability of the XTL-3-375 transducer.



	.540 (13 375 3/8-24 UNF-3A 375M M 10 × 1 WIRING COLOR DESIGNATION RED + INPUT BLACK - INPUT GREEN + OUTPUT WHITE - OUTPUT	.050 (1.2 .040 DIA. (1.02) DIA. 3.7) THRE/ SILICONE O- .301 ID X .0 (7.6 ID X 1.6 4 SI	→ 27 (6.86) 27) → ← P2 ← AD "T" – AD "T" – RING 64 CS – S2 CS) COND. #26 AW(C HIELDED CABLE S2 CS)			→ ← 7 250 (6.35) → (6.35) → (6.35) → (7.6 ID X 1.62 CS)	115 8.2) 	✓ ✓	→ 551 HEX (14) CREEN			
	Pressure Range	0.7 10	1.0 15	1.7 25	3.5 50	5 75	7 100	10 150	14 200	17 250	21 BAR 300 PSI	
	Operational Mode					Differ	ential					
	Over Pressure	2 Times Rated Pressure										
F	Burst Pressure	3 Times Rated Pressure										
NPU	Line Pressure				10	Times Rated	Pressure (M	ax.)				
-	Pressure Media	Most Conductive Liquids and Gases - Please Consult Factory (All Media May Not Be Suitable With O-Ring Supplied)										
	Rated Electrical Excitation	10 VDC/AC										
	Maximum Electrical Excitation	12 VDC/AC										
	Input Impedance	1000 Ohms (Min.)										
	Output Impedance	1000 Ohms (Nom.)										
	Full Scale Output (FSO)	100 mV (Nom.)										
	Residual Unbalance	± 5 mV (Typ.)										
ц	Combined Non-Linearity, Hysteresis and Repeatability	± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.)										
LTP	Resolution	Infinitesimal										
0	Natural Frequency of Sensor Without Screen (KHz) (Typ.)	175	200	240	300	340	380	440	500	550	575	
	Acceleration Sensitivity % FS/g Perpendicular	1.0x10 ⁻³	6.5x10 ⁻⁴	5.0x10 ⁻³	3.0x10 ⁻³	2.3x10 ⁻⁴	1.5x10 ⁻⁴	6.4x10 ⁻⁴	1.1x10 ⁻⁴	1.0x10 ⁻⁴	4.0x10 ⁻⁵	
	Insulation Resistance		-		1	00 Megohm N	/lin. @ 50 VE	C				
F	Operating Temperature Range		-65°F to +3	350°F (-55°C	to +175°C) I	ligher Tempe	rature Range	es Available -	Please Con	sult Factory		
NT/	Compensated Temperature Range				-40°	F to +350°F (-40°C to +17	(5°C)				
ME	Thermal Zero Shift					± 1% FS/10	00°F (Typ.)					
RO	Thermal Sensitivity Shift					± 1% /100	0°F (Typ.)					
N	Linear Vibration				10	-2,000 Hz Sir	ne, 100g. (Ma	ax.)				
ш	Mechanical Shock				20g h	alf Sine Wave	e 11 μ sec. Di	uration				
AL	Electrical Connection				4 Conduct	or 26 AWG S	hielded Cabl	e 36" Long				
SIC	Weight				20 (Grams (Max.)	Excluding C	able				
РНΥ	Pressure Sensing Principle	Fully	Active Four	Arm Wheatst	tone Bridge [Dielectrically I	solated Silico	on on Silicon	Patented Le	adless Techn	ology	
-	Mounting Torque				8	0 Inch-Pound	s (Max.) 9 N	lm				

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (N) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2014 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.

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XTL-123B-190 (M) SERIES

Easy Installation

- High Natural Frequency
- 10-32 UNF or M 5 x .8 Thread
- Wide Temperature Range
- Compatible With Most Automotive Fluids
- Patented Leadless Technology VIS[®]

Part performance not guaranteed if used in water.

Kulite recommends the KSC Series of signal conditioners to maximize the measurement capability of the XTL-123B-190 transducer.

845 (21.5) ·.15 (3.8) .312 HEX. (7.9) REFERENCE TUBE GAGE AND DIFFERENTIAL ONLY .375 (9.5) 14 (3.5) .15 (3.8) .016 DIA. (.41) ▲ 148 DIA. (3.8) .312 DIA. (7.9) ″Т^ "M" SCREEN (STANDARD) # 26 AWG 4 COND. –/ SHIELDED VITON CABLE "B" SCREEN (OPTIONAL) 60" (1524) LONG COLOR RED BLACK DESIGNATION O - RING .189 (4.8)I.D. x .039 (.99) C.S. P/N "T" MATERIAL: VITON 10-32 UNE-2A 190 GREEN + OUTPUT WHITE - OUTPUT 190M M 5 x .8 1.0 1.7 3.5 7 17 35 70 100 210 BAR Pressure Range 25 100 250 1000 3000 PSI 500 1500 15 50 Absolute, Operational Mode Absolute, Sealed Gage, Gage, Differential Absolute, Sealed Gage Gage, Differential **Over Pressure** 2 Times Rated Pressure to 500 PSI (35 BAR), 1.5 Times Rated Pressure Above 500 PSI (35 BAR) INPUT 3 Times Rated Pressure to a Maximum of 4500 PSI (315 BAR) **Burst Pressure** All Nonconductive, Noncorrosive Liquids or Gases (Most Conductive Liquids and Gases - Please Consult Factory) Pressure Media Rated Electrical Excitation 10 VDC Maximum Electrical Excitation 12 VDC Input Impedance 1000 Ohms (Min.), 5000 Ohms (Max.) 2000 Ohms (Max.) **Output Impedance** 100 mV ± 10 mV Full Scale Output (FSO) **Residual Unbalance** ± 5mV (Typ.) Combined Non-Linearity, Hysteresis ±0.1% FSO BFSL (Typ.), ±0.5% FSO (Max.) and Repeatability OUTPUT Resolution Infinitesimal Natural Frequency of Sensor Greater Than 175 KHz Without Screen (KHz) (Typ.) Acceleration Sensitivity % FS/g 2.0x10⁻⁵ 6.5x10⁻⁴ 5.0x10⁻⁴ 3.0x10⁻⁴ 1.5x10⁻⁴ 1.0x10⁻⁴ 6.0x10⁻⁵ 4.5x10⁻⁵ 3.5x10⁻⁵ Perpendicular Insulation Resistance 100 Megohm Min. @ 50 VDC **Operating Temperature Range** -40°F to +390°F (-40°C to +200°C) **ENVIRONMENTAL** Compensated Temperature Range -40°F to +350°F (-40°C to +175°C) Thermal Zero Shift ± 1% FS/100°F (Typ.) Thermal Sensitivity Shift ± 1% /100°F (Typ.) Linear Vibration 20g Peak, Sine 10 to 2000 Hz Mechanical Shock 20g Half Sine Wave 11 msec. Duration Electrical Connection 4 Conductor 26 AWG Shielded Viton Cable 60" Long **PHYSICAL** Weight 5 Grams (Nom.) Excluding Cable Pressure Sensing Principle Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon Patented Leadless Technology Mounting Torque 15 Inch-Pounds

Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (CC) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2014 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production programs, please consult the factory.



RUGGEDIZED AUTOMOTIVE PRESSURE TRANSDUCERS

XTL-HA-123B-190 (M) SERIES

- Easy Installation
- High Natural Frequency
- 10-32 UNF or M 5 x .8 Thread
- Wide Temperature Range
- Compatible With Most Automotive Fluids
- High Accuracy
- Patented Leadless Technology VIS[®]

Part performance not guaranteed if used in water.



Kulite recommends the KSC Series of signal conditioners to maximize the measurement capability of the XTL-HA-123B-190 transducer.

	COLOR DESIGNATION RED + INPUT SLACK - INPUT SLACK - OUTPUT WHITE - OUTPUT	x. .375 (9.5) .14 (3.5) REFERENCE TUBE GAGE AND DIFFERENTIAL ONLY .15 (3.8) .14 (3.5) .14 (3.5) .15 (3.8) .15 (3.8) .15 (3.8) .14 (3.5) .16 (1.8) (4.8) (1.5 x .039 (1.9) C.5. .17 (1.15 (1	"T" 2 UNF-2A 5 x .8						
	Pressure Range	1.0 1.7 3.5 7 17 35 70 210 15 25 50 100 250 500 1000 300	0 BAR 00 PSI						
	Operational Mode	Absolute, Gage, Absolute, Sealed Gage, Gage, Differential Absolute, Sealed Gage							
⊢	Over Pressure	2 Times Rated Pressure to 500 PSI (35 BAR), 1.5 Times Rated Pressure Above 500 PSI (35 BAR)							
ΝN	Burst Pressure	3 Times Rated Pressure to a Maximum of 4500 PSI (315 BAR)							
=	Pressure Media	All Nonconductive, Noncorrosive Liquids or Gases (Most Conductive Liquids and Gases - Please Consult Factory)							
	Rated Electrical Excitation	10 VDC							
	Maximum Electrical Excitation	12 VDC							
	Input Impedance	1000 Ohms (Min.), 5000 Ohms (Max.)							
	Output Impedance	2000 Ohms (Max.)							
	Full Scale Output (FSO)	100 mV ± 10 mV							
	Residual Unbalance	± 5 mV (Typ.)							
PUT	Combined Non-Linearity, Hysteresis and Repeatability	± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.)							
E S	Resolution	Infinitesimal							
0	Natural Frequency of Sensor Without Screen (KHz) (Typ.)	Greater Than 175 KHz							
	Acceleration Sensitivity % FS/g Perpendicular	6.5x10 ⁻⁴ 5.0x10 ⁻⁴ 3.0x10 ⁻⁴ 1.5x10 ⁻⁴ 1.0x10 ⁻⁴ 6.0x10 ⁻⁵ 4.5x10 ⁻⁵ 2.0	0x10⁻⁵						
	Insulation Resistance	100 Megohm Min. @ 50 VDC							
Γ	Operating Temperature Range	-40°F to +350°F (-40°C to +175°C)							
ĒN	Compensated Temperature Range	-40°F to +350°F (-40°C to +175°C)							
NNO	Total Error Band Over Compensated Temperature Range	± 2% FS BFSL, Includes Thermal Sensitivity Shift, Thermal Zero Shift And Static Error Band Over Compensate Temperature Range (Typ.)	d						
₹NF	Linear Vibration	100g Peak, Sine Up to 5000 Hz							
Ш	Mechanical Shock	100g half Sine Wave 11 msec. Duration							
Ļ	Electrical Connection	4 Conductor 26 AWG Shielded Viton Cable 60" Long							
SIC	Weight	5 Grams (Nom.) Excluding Cable							
λH	Pressure Sensing Principle	Fully Active Four Arm Wheatstone Bridge Dielectrically Isolated Silicon on Silicon Patented Leadless Technolog	IV.						
Δ.	Mounting Torque	15 Inch-Pounds							

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ski ilite DIZED AUTOMOTIVE PRESSURE TRANSDUCERS

XTL-123G-190 (M) SERIES

Easy Installation

- **High Natural Frequency**
- 10-32 UNF or M 5 x .8-6g Thread
- Wide Temperature Range
- Compatible With Most Automotive Fluids
- Patented Leadless Technology VIS[®]

Part performance not guaranteed if used in water.

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RUGGEDIZED AUTOMOTIVE PRESSURE TRANSDUCERS

XTL-HA-123G-190 (M) SERIES

- Easy Installation
- High Natural Frequency
- 10-32 UNF or M 5 x .8 Thread
- Wide Temperature Range
- Compatible With Most Automotive Fluids
- High Accuracy
- Patented Leadless Technology VIS[®]
- Part performance not guaranteed if used in water.



HIGH ACCURACY



Note: Custom pressure ranges, accuracies and mechanical configurations available. Dimensions are in inches. Dimensions in parenthesis are in millimeters. All dimensions nominal. (G) Continuous development and refinement of our products may result in specification changes without notice. Copyright © 2016 Kulite Semiconductor Products, Inc. All Rights Reserved. Kulite miniature pressure transducers are intended for use in test and research and development programs and are not necessarily designed to be used in production applications. For products designed to be used in production programs, please consult the factory.

SUBMINIATURE PRESSURE TRANSDUCER

XTL-140 (M) SERIES

- Easy Installation
- Smallest Threaded Device Available
- Patented Leadless Technology VIS[®]
- High Natural Frequency
- Suitable For Use in Most Conductive Liquids and Gases



The XTL-140 Series utilizes Kulite's Patented Leadless Technology to obtain extremely high natural frequencies in the smallest thread mount available. Part performance not guaranteed if used in water.

Kulite recommends the KSC Series of signal conditioners to maximize the measurement capability of the XTL-140 transducer.



	Pressure Range	0.7 10	1.0 15	1.7 25	3.5 50	7 100	17 250	35 BAR 500 PSI				
	Operational Mode	Absolute, Gage, Differential Absolute, Gage, Sealed Gage, Differential Absolute, Sealed Gage										
	Over Pressure	2 Times Rated Pressure										
1 L	Burst Pressure		3 Times Rated Pressure									
Ľ	Pressure Media	Most Condu	Most Conductive Liquids and Gases - Please Consult Factory (All Media May Not Be Suitable With O-Ring Supplied)									
	Rated Electrical Excitation				10 VDC/AC							
	Maximum Electrical Excitation				12 VDC/AC							
	Input Impedance		1000 Ohms (Min.)									
	Output Impedance		1000 Ohms (Nom.)									
	Full Scale Output (FSO)	100 mV (Nom.)										
	Residual Unbalance	± 5 mV (Typ.)										
5	Combined Non-Linearity, Hysteresis and Repeatability	± 0.1% FSO BFSL (Typ.), ± 0.5% FSO (Max.)										
UTP	Resolution	Infinitesimal										
0	Natural Frequency of Sensor Without Screen (KHz) (Typ.)	175	200	240	300	380	550	700				
	Acceleration Sensitivity % FS/g Perpendicular	1.0x10⁻³	6.5x10 ⁻⁴	5.0x10 ⁻⁴	3.0x10 ⁻⁴	1.5x10 ⁻⁴	1.0x10 ⁻⁴	6.0x10 ⁻⁵				
	Insulation Resistance	100 Megohm Min. @ 50 VDC										
	Operating Temperature Range		-65°F to +350°F (-55°C to +175°C)									
VTA	Compensated Temperature Range	+	80°F to +180°F (+	25°C to +80°C) A	ny 100°F Range Wi	thin The Operating	g Range on Reque	est				
IME	Thermal Zero Shift	± 1% FS/100°F (Typ.)										
R0 N	Thermal Sensitivity Shift				± 1% /100°F (Typ.)	1						
N	Steady Acceleration				10,000 g. (Max.)							
ш	Linear Vibration			10-2,0	000 Hz Sine, 100g.	(Max.)						
	Electrical Connection	Absolute (4 Conductor 32 AV	VG Cable 36" Lon	g) Differential ar	d Gage (4 Conduc	ctor 36 AWG Cable	e 36" Long)				
SICA	Weight			3 Gran	ns (Nom.) Excluding	g Cable						
HYS	Pressure Sensing Principle	Fully Activ	e Four Arm Whea	tstone Bridge Diel	ectrically Isolated S	ilicon on Silicon Pa	atented Leadless 7	Technology				
•	Mounting Torque			15 Inc	ch-Pounds (Max.) 1	.7 Nm						

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RUGGEDIZED AUTOMOTIVE PRESSURE TRANSDUCERS

XTL-HA-142B-190 (M) SERIES

- · Easy Installation With Integral Connector
- High Natural Frequency
- 10-32 UNF or M 5 x .8 Thread
- Wide Temperature Range
- · Compatible With Most Automotive Fluids
- High Accuracy
- Patented Leadless Technology VIS[®]

Part performance not guaranteed if used in water.

Kulite recommends the KSC Series of signal conditioners to maximize the measurement capability of the XTL-HA-142B-190 transducer.



HIGH ACCURACY

	Pressure Range	1.0 15	1.7 25	3.5 50	7 100	17 250	35 500	70 1000	140 2000	210 BAR 3000 PSI			
	Operational Mode	Absolute				Absolute, S	ealed Gage						
	Over Pressure		2 Times Rated Pressure to a Maximum of 4500 PSI (315 BAR)										
LT	Burst Pressure		3 Times Rated Pressure to a Maximum of 4500 PSI (315 BAR)										
INP	Pressure Media	All No	All Nonconductive, Noncorrosive Liquids or Gases (Most Conductive Liquids and Gases - Please Consult Factory)										
	Rated Electrical Excitation					10 VDC							
	Maximum Electrical Excitation	12 VDC											
	Input Impedance		2000 Ohms (Min.), 5000 Ohms (Max.)										
	Output Impedance		2000 Ohms (Max.)										
	Full Scale Output (FSO)	100 mV (Min.)											
	Residual Unbalance	± 5 mV (Typ.)											
ŮT	Combined Non-Linearity, Hysteresis and Repeatability	± 0.1% FSO BFSL (Typ.), ± 0.3% FSO (Max.)											
UTF	Resolution					Infinitesimal							
0	Natural Frequency of Sensor Without Screen (KHz) (Typ.)	Greater Than 175 KHz											
	Acceleration Sensitivity % FS/g Perpendicular	6.5x10 ⁻⁴	5.0x10 ⁻⁴	3.0x10 ⁻⁴	1.5x10 ⁻⁴	1.0x10 ⁻⁴	6.0x10 ⁻⁵	4.5x10 ⁻⁵	2.0x10 ⁻⁵	2.0x10 ⁻⁵			
	Insulation Resistance	100 Megohm Min. @ 50 VDC											
AL	Operating Temperature Range	-65°F to +390°F (-55°C to +200°C)											
ENJ	Compensated Temperature Range				-40°F to +	350°F (-40°C	to +175°C)						
NNO	Total Error Band Over Compensated Temperature Range, BFSL	±	2% FS, Include	es Thermal Sei	nsitivity Shift, T Temp	Thermal Zero S erature Range	Shift And Static (Typ.)	Error Band Ov	ver Compensa	ted			
IVIR	Linear Vibration				20g Pe	ak, Sine 10 to	2000 Hz						
EN	Mechanical Shock				20g Half Sir	ne Wave 11 ms	ec. Duration						
٦L	Electrical Connection		Comtronic Co	nnector P/N 20	0-11019-0001	or Equivalent (Mating Connec	tor Available U	Jpon Request)				
SICA	Weight				Ę	5 Grams (Nom	.)						
SγH	Pressure Sensing Principle	Fully	Active Four Ar	m Wheatstone	Bridge Dielect	rically Isolated	Silicon on Sili	con Patented L	_eadless Techi	nology			
٩	Mounting Torque					15 Inch-Pound	S						

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