

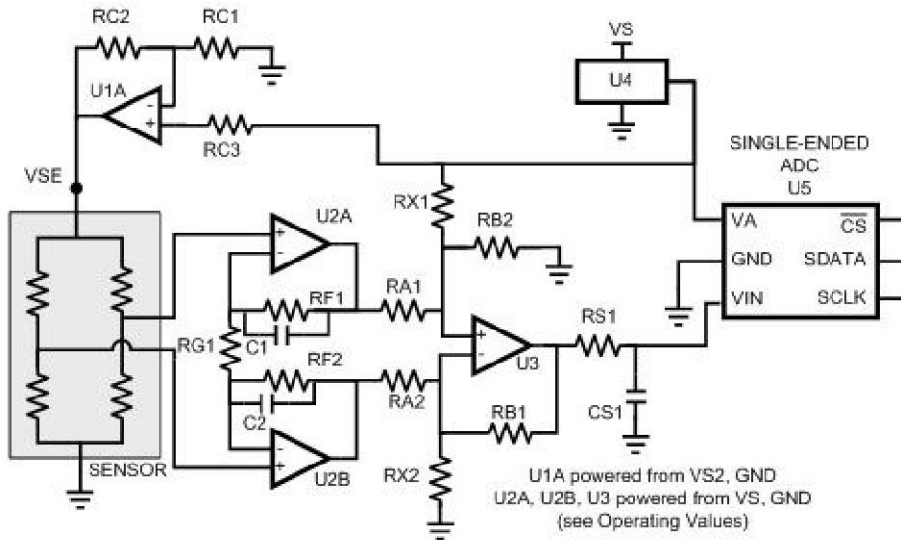


# TEXAS INSTRUMENTS WEBENCH® Sensor Designer

## Pressure Sensor Amplifier/ADC Design

### Schematic and BOM

#### Instrumentation Amp with Single-Ended ADC, Voltage-supplied Sensor



Component	Value	Part #	Mfr	Description
Board	Inst Amp single En	SP1202S01RB-PC1	Texas Instruments	Differential Sensor Board
C1	39 pF	C1608C0G1H390J	TDK	C0G/NP0 Capacitor, 0603 package
C2	39 pF	C1608C0G1H390J	TDK	C0G/NP0 Capacitor, 0603 package
CS1	330 pF	C1005C0G1H331J	TDK	C0G/NP0 Capacitor, 0402 package
RA1	10000 ohms	RG1608P-103-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RA2	10000 ohms	RG1608P-103-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RB1	20000 ohms	RG1608P-203-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RB2	20000 ohms	RG1608P-203-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RC1	1000 ohms	RG1608P-102-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RC2	1400 ohms	RG1608P-1401-B-T	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RC3	560 ohms	RG1608P-561-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RF1	82000 ohms	RG1608P-823-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RF2	82000 ohms	RG1608P-823-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RG1	10000 ohms	RG1608P-103-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RS1	10.0 ohms	RG1608P-470-B-T5	Susumu Co Ltd	Resistor, 0.1% tol., 0603 package
RX1	332000 ohms	CMF50332K00FHEI	Vishay-Dale	Resistor, 1% tol., axial package
RX2	332000 ohms	CMF50332K00FHEI	Vishay-Dale	Resistor, 1% tol., axial package
S1		13C1000PA4K	Honeywell Sensing and	Range = 0 to 1000 psi
U1A	Vos=0.75mV, GBW	OPA703	Texas Instruments	CMOS, Rail-to-Rail, I/O Operational Amplifier
U2A, U2B	Vos=0.005mV, GBW	LMP2022MM	Texas Instruments	Zero Drift, Low Noise, EMI Hardened Amplifier
U3	Vos=0.005mV, GBW	LMP2021MF	Texas Instruments	Zero Drift, Low Noise, EMI Hardened Amplifier
U4	4.096V	LM4120IM5-4.1	Texas Instruments	Series Voltage Reference, 0.5%, 50ppm/C
U5	10 bits, INL=0.2LSE	ADC101S101CIMF	Texas Instruments	1MSPS, 10-Bit A/D Converter in SOT-23