Bill Of Materials for Sample And/Or Hold

Design Title Sample And/Or Hold **Author** Dustin Stroh (J3RK) **Document Number**

Revision 1.4

Wednesday, June 7, 2023 **Design Created** Design Last Modified Wednesday, June 7, 2023

Total Parts In Design 52

7 Integrated Circuits Quantity References Value PCB Package Notes 2 U1,U7 OPA132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA132 or similar.) 1 U2 DG418 SOIC127P600X175-8 DG418LDY Recommended 1 U3 OPA2132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA2132 or similar.) 1 U4 LM8261M5 SOT95P284X122-5 Specifically to drive capacitive load. LM8261M5 required. 1 U5 40106 SO14 CD40106 Hex Schmitt inverter 1 U6 78L05 TO92 TO-92 Type								
Sub-totals:								
Notes			<u>Value</u>	PCB Package	<u>Notes</u>			
1	6 Capa	citors						
C3					Timing Capacitor - Polypropylene / Polystyrene / C0G/NP0			
1	2	C2,C4	10nF	CAP10	COG/NP0 MLCC/ Ceramic / Film			
1	1	C3	330nF	CAP10	COG/NP0 MLCC/ Ceramic / Film			
Sub-totals:	1	C5	100nF	CAP10	COG/NP0 MLCC / Ceramic / Film			
12 Resistors Notes Not	1	C6	10uF	CAP10	X7R or Audio Grade Electrolytic for AC Coupling			
Quantity References Value PCB Package Notes 1 R1 4.7k RES40 1% (100PPM / 50PPM Recommended) 1 R2 4.7R RES30 1% (100PPM / 50PPM Recommended) 3 R3-R4,R7 100K RES40 1% (100PPM / 50PPM Recommended) 1 R5 100R RES40 1% (100PPM / 50PPM Recommended) 1 R6 330R RES40 1% (100PPM / 50PPM Recommended) 1 R28 499K RES40 1% (100PPM / 50PPM Recommended) 1 R29 91K RES40 1% (100PPM / 50PPM Recommended) 1 R29 91K RES40 1% (100PPM / 50PPM Recommended) 1 R30 5.6K RES40 1% (100PPM / 50PPM Recommended) 1 R29 91K RES40 1% (100PPM / 50PPM Recommended) 1 R20 20K RES40 1% (100PPM / 50PPM Recommended) 1 R32 20K RES40 1% (100PPM / 50PPM Recommended) Lous Distancion Low Dift,	Sub-totals	:						
R1	12 Resi	stors						
1	Quantity							
3 R3-R4,R7 100K RES40 1% (100PPM / 50PPM Recommended) 1 R5 100R RES40 1% (100PPM / 50PPM Recommended) 1 R6 330R RES40 1% (100PPM / 50PPM Recommended) 1 R27 10K RES40 1% (100PPM / 50PPM Recommended) 1 R28 499K RES40 1% (100PPM / 50PPM Recommended) 1 R29 91K RES40 1% (100PPM / 50PPM Recommended) 1 R30 5.6K RES40 1% (100PPM / 50PPM Recommended) 1 R32 20K RES40 1% (100PPM / 50PPM Recommended) 1 R32 20K RES40 1% (100PPM / 50PPM Recommended) 1 R32 20K RES40 1% (100PPM / 50PPM Recommended) 1 Value Value PCB Package Notes 1 U2 DG418 SOIC127P600X175-8 DG418LDY Recommended 1 U3 U4 LM8261M5 SOS6 Low Drift, Low Bias, Low Offset, High Slew (OPA2132 or similar.) <					,			
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1	3	R3-R4,R7	100K		,			
1 R27 10K RES40 1% (100PPM / 50PPM Recommended) 1 R28 499K RES40 1% (100PPM / 50PPM Recommended) 1 R29 91K RES40 1% (100PPM / 50PPM Recommended) 1 R30 5.6K RES40 1% (100PPM / 50PPM Recommended) 1 R32 20K RES40 1% (100PPM / 50PPM Recommended) 1 R32 20K RES40 1% (100PPM / 50PPM Recommended) Sub-totals: 7 Integrated Circuits Quantity References Value PCB Package Notes 2 U1,U7 OPA132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA132 or similar.) 1 U2 DG418 SOIC127P600X175-8 DG418LDY Recommended 1 U3 OPA2132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA2132 or similar.) 1 U4 LM8261M5 SOT95P284X122-5 Specifically to drive capacitive load. LM8261M5 required. 1 U5 40106 SO14 CD40106 Hex Schmitt inverter 1 U6 78L05 TO92 TO-92 Type Sub-totals: 1 Transistors Quantity References Value PCB Package Notes Quantity References Value PCB Package Notes 2 D1-D2 BA146 DIODE30 Schottky Diodes (most BAT series are fine) 1 D3 11N4148 DIODE30 Standard Small Signal Diode (1N4148 or Equivalent) 1 D4 LED CONN-SIL2 2 Lead LED	1	R5	100R	RES40	1% (100PPM / 50PPM Recommended)			
1 R28 499K RES40 1% (100PPM / 50PPM Recommended) 1 R29 91K RES40 1% (100PPM / 50PPM Recommended) 1 R30 5.6K RES40 1% (100PPM / 50PPM Recommended) Sub-totals: 7 Integrated Circuits Quantity References Value PCB Package Notes 2 U1,U7 OPA132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA132 or similar.) 1 U2 DC418 SOIC127P600X175-8 DG418LDY Recommended 1 U3 OPA2132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA132 or similar.) 1 U3 OPA2132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA2132 or similar.) 1 U4 LM8261M5 SOT95P284X122-5 Specifically to drive capacitive load. LM8261M5 required. 1 U5 40106 SO14 CD40106 Hex Schmitt inverter 1 Transistors Quantity References Value <td rowsp<="" td=""><td>1</td><td>R6</td><td>330R</td><td>RES40</td><td>1% (100PPM / 50PPM Recommended)</td></td>	<td>1</td> <td>R6</td> <td>330R</td> <td>RES40</td> <td>1% (100PPM / 50PPM Recommended)</td>	1	R6	330R	RES40	1% (100PPM / 50PPM Recommended)		
R29	1	R27	10K	RES40	1% (100PPM / 50PPM Recommended)			
1 R30 5.6K RES40 1% (100PPM / 50PPM Recommended) 1 R32 20K RES40 1% (100PPM / 50PPM Recommended) Sub-totals: 7 Integrated Circuits Quantity References Value PCB Package Notes 2 U1,U7 OPA132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA132 or similar.) 1 U3 OPA2132U SO8 Low Drift, Low Bias, Low Offset, High Slew (OPA2132 or similar.) 1 U4 LM8261M5 SOT95P284X122-5 Specifically to drive capacitive load. LM8261M5 required. 1 U5 40106 SO14 CD40106 Hex Schmitt inverter 1 U6 78L05 TO92 TO-92 Type Sub-totals: 1 Transistors Quantity References Value PCB Package Notes 2 D1-D2 BAT46 DIODE30 Schottky Diodes (most BAT series are fine)<	1	R28	499K	RES40	1% (100PPM / 50PPM Recommended)			
R32	1	R29	91K	RES40	1% (100PPM / 50PPM Recommended)			
Sub-totals: 7 Integrated Circuits 7 Integrated	1	R30	5.6K	RES40	1% (100PPM / 50PPM Recommended)			
Timestated Circuits References Value PCB Package Notes	1	R32	20K	RES40	1% (100PPM / 50PPM Recommended)			
QuantityReferencesValuePCB PackageNotes2U1,U7OPA132USO8Low Drift, Low Bias, Low Offset, High Slew (OPA132 or similar.)1U2DG418SOIC127P600X175-8DG418LDY Recommended1U3OPA2132USO8Low Drift, Low Bias, Low Offset, High Slew (OPA2132 or similar.)1U4LM8261M5SOT95P284X122-5Specifically to drive capacitive load. LM8261M5 required.1U540106SO14CD40106 Hex Schmitt inverter1U678L05TO92TO-92 TypeSub-totals:1 TransistorsQuantityReferencesValuePCB PackageNotes1Q32N3904TO92Any standard TO-92 NPN Transistor (EBC Pinout on board.)Sub-totals:5 DiodesQuantityReferencesValuePCB PackageNotes2D1-D2BAT46DIODE30Schottky Diodes (most BAT series are fine)1D31N4148DIODE30Standard Small Signal Diode (1N4148 or Equivalent)1D4LED-YELLOWCONN-SIL22 Lead LED	Sub-totals:							
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1 D4 LED- CONN-SIL2 2 Lead LED YELLOW					,			
YELLOW					, , ,			
1 D5 1N4738A DO41 Zener Diode between 8.2V and 10V.			YELLOW					
	1	D5	1N4738A	DO41	Zener Diode between 8.2V and 10V.			

Sub-totals:								
21 Miscellaneous								
Quantity	<u>References</u>	<u>Value</u>	PCB Package	<u>Notes</u>				
12	BP1-BP12	100nF	0805	Decoupling / Bypass SMT0805 Capacitors. COG/NP0 Preferred				
3	CLOCK, OUT, SIGIN	CONN-SIL1	CONN-SIL1	On PCB Solder Pads. (no component needed)				
2	FB1-FB2	0R	RES30	Ferrite Beads Recommended				
1	J1	SIL-156-04	SIL-156-04	MTA-156 Friction Lock Power Header				
1	NZ	CONN-SIL1	CONN-SIL1	On PCB Solder Pads. (no component needed)				
2	PF1-PF2	10uF	ELEC-RAD13	Power Filtering Electrolytic Capacitors				
Sub-totals:								

Totals:

Wednesday, June 7, 2023 11:37:53 AM