Category	Vendor	Item Number	Item Description	Quantity Per Package	Cost Per Package	Number of Packages	Item Total Cost	Link	Comments	Designation on Mouse 5.0 PCB		
	Amazon	B07PN8WVGT	Hosim [New Vers	s 1	\$11.85	1	\$11.85	https://www.ama	- 7.4V Lithium Polymer battery, 800mAh, 38g, 25C - rechargeable, has XH3P JST and some other connector contacting customer service for second connector type hopefully lasts long enough for testing and multiple runs	7.4V		
	Amazon	B073WSDCZM	HTRC LiPo Char	1	\$11.97	1	\$11.97	https://www.ama	- 7.4V LiPo battery charger - Connects to source via wall outlet - Charges LiPo via JST connector	xx		
	Amazon	B01MCZE2HM	GeeBat 460pcs 2	460	\$10.99	1	\$10.99	https://www.ama	- JST XH connector pack, TH - use for 7.4V LiPo battery to PCB	J1		
	Digikey	296-LMR34215S	IC POWER MAN	1 1	\$2.87	1	\$2.87	https://www.digik	- 5V, 1.5A switching regulator - used to power two motors and motor driver IC	U1		
	Digikey	1276-2910-1-ND	CAP CER 22UF	1	\$0.18	2	\$0.36	https://www.digik	<ul> <li>- 22uF ceramic cap needed for 5V 1.5A switching regulator</li> <li>- from Vout to GND (pg 20 pdf of datasheet)- C6, C7</li> <li>- 0805 package</li> </ul>	C6, C7, C9, C11		
	Digikey	1276-6478-1-ND	CAP CER 0.22U	1 1	\$0.10	1	\$0.10	https://www.digik	<ul> <li>- 220nF ceramic caps needed for 5V 1.5A switching regulator</li> <li>- from Vin to GND (pg 20 of datasheet)- C2, C3</li> <li>- 0805 package</li> </ul>	C2		
	Digikey	1276-1006-1-ND	0.1 μF ±10% 25\	. 1	\$0.10	1	\$0.10	https://www.digik	- 0.1uF ceramic cap needed for 5V 1.5A switching regulator     - from Boot to SW (pg 20 pdf of datasheet)     - smaller 0603 package	C4, C12, C18, C19, C2	0, C21, C22, C25, C26, C27, C28	
	Digikey	1276-1102-1-ND	1 μF ±10% 25V 0	( 1	\$0.10	1	\$0.10	https://www.digik	- 1uF ceramic cap needed for 5V 1.5A switching regulator - from VCC to GND (pg 20 of datasheet) - smaller 0603 package	C5		
	Digikey	1276-1044-1-ND	4.7 μF ±10% 10\	v 1	\$0.10	1	\$0.10	https://www.digik	<ul> <li>- 4.7uF ceramic cap needed for 5V 1.5A switching regulator</li> <li>- from Vin to GND (pg 20 of datasheet)</li> <li>- smaller 0603 package</li> </ul>	C1		
Power	Digikey	1276-1111-1-ND	CAP CER 0.22U	1	\$0.10	1	\$0.10	https://www.digik	- 220nF ceramic caps needed for 5V 1.5A switching regulator - from Vin to GND (pg 20 of datasheet)- C3 - smaller 0603 package	СЗ		
	Digikey	732-2613-1-ND	FIXED IND 2.2UI	1 1	\$1.64	1	\$1.64	https://www.digik	- 2.2uH inductor needed for 5V 1.5A switching regulator     - from SW to Vout (pg 20 of datasheet)	L1, L2, L3		
	Digikey	296-39450-1-ND	IC REG BUCK 5	1	\$1.36	1	\$1.36	https://www.digik	- 5V, 500mA switching regulator - used to power MCU and Sharp sensors	U2		
	Digikey	296-39449-1-ND	IC REG BUCK 3.	. 1	\$1.36	1	\$1.36	https://www.digik	- 3.3V, 500mA switching regulator - used to power IMU	U3		
	Digikey	1276-1096-1-ND	CAP CER 10UF	1	\$0.10	2		https://www.digik	- 10uF ceramic cap needed for 5V and 3.3V switching regulator - between VIN and PGND (pg 21 pdf of datasheet)	C8, C10		
	Digikey	1276-2910-1-ND	CAP CER 22UF	1	\$0.18	2	\$0.36	https://www.digik	- 22uF ceramic cap needed for 5V and 3.3V switching regulator - between SW and FB (pg 21 pdf of datasheet)	(C6, C7, C9, C11)		
	Digikey	RHM100KDCT-N	RES SMD 100K	1	\$0.13	2	\$0.26	https://www.digik	- 100k Ohm resistor needed for 5V and 3.3V switching regulator - between SW/VOS and PG (pg 21 pdf of datasheet) - smaller 0603 package	R1, R2		
	Digikey	732-2613-1-ND	FIXED IND 2.2UI	1 1	\$1.64	2	\$3.28	https://www.digik	<ul> <li>- 2.2uH inductor needed for 5V and 3.3V switching regulator</li> <li>- between SW and 100k Ohm resistor (pg 21 pdf of datasheet)</li> </ul>	(L1, L2, L3)		
	Digikey	VS-2ENH01-M3/	DIODE GEN PUR	f 1	\$0.38	3	\$1.14	https://www.digik	<ul> <li>- standard rectifier diode to prevent current in reverse direction through reg</li> <li>- prevents up to 100V and allows 2A to pass</li> <li>- one for each regulator, so 3 total</li> </ul>	D1, D2, D3		
	Digikey	CKC5107-ND	SWITCH SLIDE	1	\$2.36	1	\$2.36	https://www.digik	- switch for on/off of entire mouse - needed since lipo batteries don't have on/off switches - rated for 4A, greater than needed 2.5A	SW3		
	Digikey	FNGC8ELCT-ND	IC MOTOR DRIV	1	\$1.58	1	\$1.58	https://www.digik	- H Bridge motor driver IC, 2.7V min supply, 1A output max, SSOP - tiny IC, should be able to drive DC motors w/ PWM - (mouse 4.4 used L293 which output 600mA max)	U5		
	Digikey	1276-1006-1-ND	0.1 µF ±10% 25\	v 1	\$0.10	1			-0.1uF ceramic capacitor, SMD 0603     -needed for supply and vcc pins for H bridge IC     -to be placed as close as possible to IC (pg 8 of TB6552 datasheet)	(C4, C12, C18, C19, C	20, C21, C22, C25, C26, C27, C28)	
									- 47uF polymer capacitor, SMD - needed for supply pin for H bridge IC			
Motor Related	Digikey		CAP ALUM POL		\$0.50	1			- to be placed as close as possible to IC (pg 8 of TB6552 datasheet) - Gear motors, 900rpm w/ encoders - works well, mouse speed just right w/ adjustment - loose gears, prone to shifting around	C13		
	Servocity	638103	Gear Motor with	1	\$19.99	2	\$39.98	https://www.serv	- used for mouse 4.4	Motor 1, Motor 2		
	Pololu	1087	Black plastic whe	2	\$4.95	1	\$4.95	https://www.polo	- works well, relatively small	Wheels		
	Digikey	455-1685-1-ND	CONN HEADER	1	\$0.77	2	\$1.54	https://www.digik	- 3D models available: HERE	J6, J7		
	Pololu	1087	Black plastic whe	2	\$4.95	1	\$4.95	https://www.polo	- Wheels, 32mm diameter, 3mm D output shaft - works well, relatively small - JST ZH 6 position male (receptacle) SMD connector	Wheels		

Category	Vendor	Item Number	Item Description	Quantity Per Package	Cost Per Package	Number of Packages	Item Total Cost	Link	Comments	Designation on Mouse 5.0 PCB	
all Caster, uts, screws	Amazon	B0BTYDZVM8	1 Oz (23 Grams)	1	\$6.99	1	\$6.99	https://www.amaz	- superglue to attach 3D printed mounts to PCB	xx	
	Polulu	2450	Sharp GP2Y0A5	1	\$11.95	4	\$47.80	https://www.polol	- Sharp IR distance sensor 2-15cm - shortest range sharp IR sensor available - connects w/ JST connector - only external component needed is 10uF cap - JST ZH female connector set w/ precrimped 150mm wires	IR1, IR2, IR3, IR4	
	Amazon		Keszoox ZH 1.5N		\$25.99	1			- missing receptacle connectors	xx	
	Amazon	B01IZABHGM	LATTECH JST Z	1	\$12.99	1	\$12.99		- JST ZH male (receptacle) connector set	J1	
	Digikey	1276-1119-1-ND	CAP CER 10UF	1	\$0.19	4	\$0.76	https://www.digik	- 10uF ceramic capacitor, SMD 0603 - needed for Sharp IR sensors	C14, C15, C16, C17, C23	
R Sensing	Digikey	MMPQ3904FSC	TRANS 4NPN 40	1	\$2.10	1	\$2.10	https://www.digik	- NPN BJT transistor array IC to turn on/off IR sensors w/ MCU pins - contains 4 BJT transistors	U4	
	Digikey	RHM180DCT-NE	RES SMD 180 O	1	\$0.14	4	\$0.56	https://www.digik	- resistor to limit current to base of BJT transistors - 180 Ohms calculated w/ BJT parameters	R11, R12, R13, R14	
	Digikey	RHM330DCT-NE	RES SMD 330 O	1	\$0.13	4	\$0.52	https://www.digik	- R1 resistor to drop 2.5V max from IR sensor output to 1.8V - 330 Ohms chosen arbitrarily	R3, R5, R7, R9, R16, R17, R18	
	Digikey	RHM750DCT-NE	RES SMD 750 O	1	\$0.13	4	\$0.52	https://www.digik		R4, R6, R8, R10	
	Digikey	455-3272-1-ND	CONN HEADER	1	\$0.80	4	\$3.20	https://www.digik	- JST ZH 3 position male (receptacle) connector, SMD - 3D models available: <u>HERE</u>	J2, J3, J4, J5	
	Disilian	407   014000	INEMO OD ACCO		27.01		67.01	https://www.ab.ab	- IMU w/ less noise relative to OPS IMU - communicates via SPI and I2C, SPI preferred for speed	III.	
IMU	Digikey	497-LSM6DSV16		1	\$7.21	1			- has sparkfun devboard w/ pinout and necessary external parts - 0.1uF ceramic caps needed for IMU (pg 47 on datasheet)	U6	
	Digikey	1276-1006-1-ND	0.1 µF ±10% 25\	1	\$0.10	2	\$0.20	https://www.digik	- smaller 0603 package	(C4, C12, C18, C19, C20, C21, C	C22, C25, C26, C27, C28)
	Digikey	CKN12314-1-ND	TACT 6.0 X 3.5, !	1	\$0.14	1	\$0.14	https://www.digik	- AT32UC3L0256 AVR MCU to replace Arduino	SW1	
	Digikey	AT32UC3L0256-	IC MCU 32BIT 2	1	\$10.19	1	\$10.19	https://www.digik	- 50MHz, faster than controller above, operates on 3.3V - 12b ADC, PWM, programmed via JTAG and aWire - schematic checlist: HERE	U7	
	Digikey	1276-1119-1-ND	CAP CER 10UF	1	\$0.19	1	\$0.19	https://www.digik	- 10uF capacitor for AT32UC3L0256 VDDin - page 4 of schematic checklist - small 0603 package	(C8, C10, C14, C15, C16, C17, C	223)
	Digikey		0.1 µF ±10% 25\	1	\$0.10	3			- 0.1uf ceramic cap for AT32UC3L0256 VDDin, VDDio, and VDDcore     - page 4 of schematic checklist     - small 0603 package	(C4, C12, C18, C19, C20, C21, C	
	Digitoy	1270 1000 1 112	0.1 pl 21070 201		<b>\$0.10</b>		ψ0.00	ricpos/www.digiis	- 2.2uF ceramic cap for AT32UC3L0256 VDDio, and VDDcore     - page 4 of schematic checklist	(01, 012, 010, 010, 020, 021, 0	,22, 020, 021, 020,
	Digikey	CAP CER 2.2UF	1276-1085-1-ND	1	\$0.10	1	\$0.10	https://www.digik	- small 0603 package	C24	
MCU	Digikey	1276-1006-1-ND	0.1 µF ±10% 25\	1	\$0.10	3	\$ \$0.30	https://www.digik	O.1uF ceramic cap for AT32UC3L0256 VDDana and ADVREF     page 5 of schematic checklist     small 0603 package	(C4, C12, C18, C19, C20, C21, C	C22, C25, C26, C27, C28)
	Digikey	490-5216-1-ND		1	\$0.19	1			<ul> <li>- ferrite bead for for AT32UC3L0256 VDDana and ADVREF</li> <li>- page 5 of schematic checklist, and page 15 on xplained dev board schematics.</li> <li>- small 0603 package</li> </ul>		
	Digikey	RHM10KDCT-NE	RES SMD 10K C	1	\$0.13	1	\$0.13		- 10k resistor for reset switch on AT32UC3L0256 - small 0603 package	R15	
	Digikey	1276-1006-1-ND	0.1 μF ±10% 25\	1	\$0.10	1			- 0.1uF ceramic cap for reset switch on AT32UC3L0256	(C4, C12, C18, C19, C20, C21, C	C22, C25, C26, C27, C28)
	Digikey		0.1 µF ±10% 25\		\$0.10	1			- 0.1uF ceramic cap for JTAG on AT32UC3L0256 - small 0603 package	(C4, C12, C18, C19, C20, C21, C	
	Digikey		CONN HEADER	1	\$0.48	1			- 2x5 SMD pin header for JTAG programming AT32UCL0256	J8	, , , , , , , , , , , , , , , , , , , ,
	Digikey	2223-DS04-254-	DIP SWITCH, SF	1	\$0.79		\$0.79	https://www.digik	- DIP 3 SMD switch for mode change and debugging	SW2	
	Digikey		LED ORANGE C		\$0.10	1			- orange SMD LED 0603 package for debug	LED2	
	Digikey		LED RED CLEAF		\$0.10		\$0.10			LED1	

	Vendor	Item Number	Item Description	Quantity Per Package	Cost Per Package	Number of Packages	Item Total Cost	Link	Comments	Designation on Mouse 5.0 PCB			
isc	Digikey	3147-B1911NG-	LED GREEN CL	1	\$0.10	1	\$0.10	https://www.digik	- green SMD LED 0603 package for debug	LED3			
	Digikey	1292-WR06X33	RES 330 OHM 1	1	\$0.10	3	\$0.30	https://www.digik	- 330 Ohm SMD 0603 resistor for LEDs	(R16, R17, R18)			
	Digikey			1	\$0.38	11	\$4.18	https://www.digik	- TH testpoint to probe mouse	TP1, TP2, TP3, TP4, T	P5, TP6, TP7, TI	P8, TP9, TP10, TP	11, TP12
:В									- solid and cheap PCB vendor				
	JLC PCB	n/a	PCB prototype:Y	5	\$2.00	1	\$2.00	https://jlcpcb.com	- no issues so far, purple nice and deep purple r - used in mouse 4.4				
						total cost:	\$226.18						
	resistors:	https://www.digik	sev.com/en/produc	ts/filter/chin-resis	stor-surface-moun	t/52?s=N4IgiCBcr	oExaBiKAzAhaGw	M4FMA0IR7KAh	  XADYBWAFqGYQBdfABwBcoQBIFqJwEsA7AOYqAvviBl4IJJDRY8hEiBoB	OGiBUNmbS.lx4DhYkDA	AMADanS7cnPi	KRSYEwala1gHk	AFgFtM
	headers:								GwJxVAYygMwlYBsDOBTANCAPZQDalALGGABxwDslAuoQA4AuUlAyuw				
	ceramic caps:		-						GYBOcgJkpAF0CAHAFyhAGVWAnASwB2AcxABfAgFoaCEMki8ArviKkQAV				
	motor drivers:	ps: https://www.digikey.com/en/products/filter/aluminum-electrolytic-capacitors/58?s=N4lgjCBcoGwJxVAYygMwlYBsDOBTANCAPZQDalALGGABxwDslAuoQA4AuUlAyuwE4BLAHYBzEAF9CAWgBMiECkj8ArgWJkQAVmaSQUmPMUq1JSOQDMO6QmgKoxwqflQm43XLML0											
		rs: https://www.digikey.com/en/products/filter/voltage-regulators-linear/699?s=N4lgiCBcpgTAnFUBjKAzhhgGwM4FMAaEAeygG1wA2AdgFZ4AWEI2ABjHqZdmrHlmYhYDatVaUQAXSIAHAC5QQAZTkAnAJYA7AOYgAvkVrUAzEhCplmXIRLkh8Wh2qDjrWilAcg6g0e1BHqJgXlks: https://www.digikey.com/en/products/filter/thermal/heat-sinks/to-220/219?s=N4lgiCBcoMwKwHYqqMZQGYEMA2BnApqDQqBuAdlAC4BOArkSAPZQDaIALGDGAAwBMIALrEADpSqqAviQCWZAOYgAvsQC0A6CDSQa9Ys0hs4QISFUA2ZFqp0GBtiBNqAnFe267rcCdOXN											
			-		-			-					
	to-220 heatsink	s https://www.digil	key.com/en/produc	ts/filter/thermal/h	eat-sinks/to-220/2	19?s=N4lgjCBco	MwKwHYqgMZQ0	SYEMA2BnApgD0	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAOY				
	to-220 heatsink screws:	https://www.digile	key.com/en/produc key.com/en/produc	ts/filter/thermal/h	eat-sinks/to-220/2 olts/572?s=N4IgjC	19?s=N4lgjCBco BcoLQExVAYygF	MwKwHYqgMZQG wE4FcCmAaEA9	SYEMA2BnApgD0 IANogCslAugL74	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO\ wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA				
	to-220 heatsink screws: nuts:	https://www.digik https://www.digik https://www.digik	key.com/en/produc key.com/en/produc key.com/en/produc	ts/filter/thermal/h ts/filter/screws-buts/filter/nuts/5733	eat-sinks/to-220/2 olts/572?s=N4IgjC Ps=N4IgjCBcoLQE	19?s=N4lgjCBco BcoLQExVAYygF xVAYygFwE4Fc0	MwKwHYqgMZQG wE4FcCmAaEA9 CmAaEA9IANogCs	SYEMA2BnApgD0 IANogCslAugL74 slAugL74wBsilKk	QgBuAdIAC4BOArkSAPZQDaIALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsiIKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA	/gAvsQC0A6CDSQa9Ys0	hs4QISFUA2ZF	qp0GBtjBNqAnFe	267rcCd0
	to-220 heatsink screws: nuts: MCUs:	s: https://www.digik https://www.digik https://www.digik https://www.digik	key.com/en/produc key.com/en/produc key.com/en/produc key.com/en/produc	ts/filter/thermal/h ts/filter/screws-bits/filter/nuts/5733 ts/filter/microcon	eat-sinks/to-220/2 olts/572?s=N4IgjC ?s=N4IgjCBcoLQE trollers/685?s=N4	19?s=N4lgjCBco BcoLQExVAYygF xVAYygFwE4Fc0 lgjCBcoGwJxVAY	MwKwHYqgMZQQ FwE4FcCmAaEA9 CmAaEA9IANogCs YgMwIYBsDOBTA	GYEMA2BnApgD0 IANogCsIAugL74 SIAugL74wBsiIKk NCAPZQDaIALA	QgBuAdIAC4BOArkSAPZQDaIALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsiIKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA vAxwDMdIh1cFtVIAuoQA4AuUIAMq8ATgEsAdgHMQAX0JhWiECkgYcBYm	/gAvsQC0A6CDSQa9Ys(	hs4QISFUA2ZF	qp0GBtjBNqAnFe;	267rcCd0
	to-220 heatsink screws: nuts: MCUs: more MCUs:	s: https://www.digik https://www.digik https://www.digik https://www.digik	xey.com/en/productey.co	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/573? ts/filter/microcon ts/filter/microcon	eat-sinks/to-220/2 olts/572?s=N4lgjC Ps=N4lgjCBcoLQE trollers/685?s=N4 trollers/685?s=N4	19?s=N4lgjCBco BcoLQExVAYygF xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL	MwKwHYqgMZQC FwE4FcCmAaEA9 CmAaEA9IANogCs YgMwIYBsDOBTA JBmBDANgZwKYB	GYEMA2BnApgD0 IANogCslAugL74 slAugL74wBsilKk NCAPZQDalALA BoQB7KAbRACZ	QgBuAdIAC4BOArkSAPZQDaIALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsiIKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA vAxwDMdIh1cFtVIAuoQA4AuUIAMq8ATgEsAdgHMQAX0JhWiECkgYcBYm yBWATjAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKIAC6BAA4AXKCADKS	rgAvsQC0A6CDSQa9Ys( nXABWCgA4qEBTv36Djc igE4BLAHYBzEAF8CsGg	hs4QISFUA2ZF IcPGr%2BnfUtga hDJI6bPiKkQAF	qp0GBtjBNqAnFe; IVWgHZ2hAEyL9l m4BmGi7mKVkd\	267rcCd0 Ly15eOn /r2GTcEo
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs:	s. https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	sey.com/en/productey.co	tts/filter/thermal/h tts/filter/screws-b tts/filter/nuts/5737 tts/filter/microcon tts/filter/microcon tts/filter/imus-iner	eat-sinks/to-220/2 eat-sinks/to-220/2 plts/572?s=N4IgiC es=N4IgiCBcoLQE trollers/685?s=N4 trollers/685?s=N4 tial-measurement	19?s=N4lgjCBco BcoLQExVAYygF xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL units/567?s=N4lg	MwKwHYqgMZQQ FwE4FcCmAaEA9 CmAaEA9IANogCs ygMwIYBsDOBTA JBmBDANgZwKYB giCBcoLQExVAYy	GYEMA2BnApgDG IANogCsIAugL74 SIAugL74wBsilKk NCAPZQDaIALA BOQB7KAbRACZ GFWE4FcCmAaE	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilKkGO%2BRkpAzFbSDACTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdih1cFtVlAucQA4AuUIAMq8ATgEsAdgHMQAX0JhWiECkgYcBYn yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKIAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQA	/gAvsQC0A6CDSQa9Ys( nXABWCgA4qEBTv36Djc igE4BLAHYBzEAF8CsGg SQCyAVSr4K0EAAcoYfFi	hs4QISFUA2ZF lcPGr%2BnfUtga hDJI6bPiKkQAF b2QwABmP9Gm	qp0GBtjBNqAnFe; IVWgHZ2hAEyL9l m4BmGi7mKVkd\ gJYATKAJMR9qC	267rcCd0 Ly15eOn /r2GTcEc
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes:	s. https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	key.com/en/productey.co	ts/filter/thermal/h tts/filter/screws-bi tts/filter/nuts/5733 tts/filter/microcon tts/filter/imus-iner tts/filter/single-dic	eat-sinks/to-220/2 olts/572?s=N4lgiC 2°s=N4lgiCBcoLQE trollers/685?s=N4 trollers/685?s=N4 tial-measurement ides/280?s=N4lgi	19?s=N4lgjCBco BcoLQExVAYygF xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL units/567?s=N4lg CBcpgnAHLKODO	MwKwHYqgMZQC wE4FcCmAaEA9 CmAaEA9IANogCs ygMwIYBsDOBTA JBmBDANgZwKYf giCBcoLQExVAYyr GUBmBDANgZwK	SYEMA2BnApgDt IANogCslAugL74 SlAugL74WBsilKk NCAPZQDalALA BOQB7KAbRACZ: gFwE4FcCmAaE, YAOIA9IANOgAMI	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsiiKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GG%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdIh1cFiVIAuoQA4AuUJAMg8ATgEsAdgHMQAX0JhWiECkgYcBYm yBWATJAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCslAugt.74wBsiiKkG0%2BrkpAzFbSDACcTFmzyES4PvwRcQAS lAugL7EC0ATMiGpAC4BOArkVIUQAVjgMQTAGztOvAcTKRKAZnHMk0Dli	/gAvsQC0A6CDSQa9Ys( nXABWCgA4qEBTv36Djc igE4BLAHYBzEAF8CsGg SQCyAVSr4K0EAAcoYfFj HmCllCA2ZitnLHj3C2xFgl	hs4QISFUA2ZF lcPGr%2BnfUtga hDJI6bPiKkQAF b2QwABmP9Gm	qp0GBtjBNqAnFe; IVWgHZ2hAEyL9l m4BmGi7mKVkd\ gJYATKAJMR9qC	267rcCd0 Ly15eOn /r2GTcEc
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors:	s: https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	sey.com/en/productey.co	ts/filter/thermal/h tts/filter/screws-bi tts/filter/nuts/5733 tts/filter/microcon tts/filter/microcon tts/filter/imus-iner tts/filter/single-dic tts/filter/fixed-indu	eat-sinks/to-220/z olts/572?s=N4lgjC Ps=N4lgjCBcoLQE trollers/685?s=N4 trollers/685?s=N4 tial-measurement ides/280?s=N4lgj ictors/71?s=N4lgj	19?s=N4lgjCBco BcoLQExVAYygf xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL units/567?s=N4lg CBcpgnAHLKoDC CBcoLQExVAYyg	MwKwHYqgMZQC FWE4FcCmAaEA9 CmAaEA9IANogCs (ygMwIYBsDOBTA JBmBDANgZwKYII GUBmBDANgZwK GUBmBDANgZwK FWE4FcCmAaEA!	SYEMA2BnApgD0 IANogCslAugL74 SlAugL74wBsilKki NCAPZQDaIALA BoQB7KAbRACZ gFwE4FcCmAaE YA0IA9IANogAMI 9IANogCslAugL7	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GG%2BRkpAzFbSDACcTFmzyES4PtWpA vAxwDMdlh1cFtVIAuoQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYm yBWATjAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCslAugl T4wBsilKkG0%2BRkpAzFbSDACcTFmzyES4PvwRcQAS lAugl.TEC0ATMiGpAC4BOArkVIUQAVjgMQTAGzIOvAcTKRKAZnHMk0Dli 4wBsilKkG0%2BRkpAzFbSDACcTFmzyES4PvwRcQAS	/gAvsQC0A6CDSQa9Ys0 nxABWCgA4qEBTv36Djc igE4BLAHYBZEAF8CsGg SQCyAVSr4K0EAAcoYfFj ImCllCA2ZitnLHj3C2xFg8 A	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors:	s: https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	sey.com/en/productey.co	ts/filter/thermal/h tts/filter/screws-bi tts/filter/nuts/5733 tts/filter/microcon tts/filter/microcon tts/filter/imus-iner tts/filter/single-dic tts/filter/fixed-indu	eat-sinks/to-220/z olts/572?s=N4lgjC Ps=N4lgjCBcoLQE trollers/685?s=N4 trollers/685?s=N4 tial-measurement ides/280?s=N4lgj ictors/71?s=N4lgj	19?s=N4lgjCBco BcoLQExVAYygf xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL units/567?s=N4lg CBcpgnAHLKoDC CBcoLQExVAYyg	MwKwHYqgMZQC FWE4FcCmAaEA9 CmAaEA9IANogCs (ygMwIYBsDOBTA JBmBDANgZwKYII GUBmBDANgZwK GUBmBDANgZwK FWE4FcCmAaEA!	SYEMA2BnApgD0 IANogCslAugL74 SlAugL74wBsilKki NCAPZQDaIALA BoQB7KAbRACZ gFwE4FcCmAaE YA0IA9IANogAMI 9IANogCslAugL7	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsiiKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GG%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdIh1cFiVIAuoQA4AuUJAMg8ATgEsAdgHMQAX0JhWiECkgYcBYm yBWATJAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCslAugt.74wBsiiKkG0%2BrkpAzFbSDACcTFmzyES4PvwRcQAS lAugL7EC0ATMiGpAC4BOArkVIUQAVjgMQTAGztOvAcTKRKAZnHMk0Dli	/gAvsQC0A6CDSQa9Ys0 nxABWCgA4qEBTv36Djc igE4BLAHYBZEAF8CsGg SQCyAVSr4K0EAAcoYfFj ImCllCA2ZitnLHj3C2xFg8 A	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	267rcCd0 Ly15eOn /r2GTcEc lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors:	s: https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	sey.com/en/productey.co	ts/filter/thermal/h tts/filter/screws-bi tts/filter/nuts/5733 tts/filter/microcon tts/filter/microcon tts/filter/imus-iner tts/filter/single-dic tts/filter/fixed-indu	eat-sinks/to-220/z olts/572?s=N4lgjC Ps=N4lgjCBcoLQE trollers/685?s=N4 trollers/685?s=N4 tial-measurement ides/280?s=N4lgj ictors/71?s=N4lgj	19?s=N4lgjCBco BcoLQExVAYygf xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL units/567?s=N4lg CBcpgnAHLKoDC CBcoLQExVAYyg	MwKwHYqgMZQC FWE4FcCmAaEA9 CmAaEA9IANogCs (ygMwIYBsDOBTA JBmBDANgZwKYII GUBmBDANgZwK GUBmBDANgZwK FWE4FcCmAaEA!	SYEMA2BnApgDO IANogCslAugL74 SlAugL74wBsilKk NCAPZQDaIALA BoQB7KAbRACZ gFwE4FcCmAaE YAOIA9IANogAMI 9IANogCslAugL7	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GG%2BRkpAzFbSDACcTFmzyES4PtWpA vAxwDMdlh1cFtVIAuoQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYm yBWATjAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCslAugl T4wBsilKkG0%2BRkpAzFbSDACcTFmzyES4PvwRcQAS lAugl.TEC0ATMiGpAC4BOArkVIUQAVjgMQTAGzIOvAcTKRKAZnHMk0Dli 4wBsilKkG0%2BRkpAzFbSDACcTFmzyES4PvwRcQAS	/gAvsQC0A6CDSQa9Ys0 nxABWCgA4qEBTv36Djc igE4BLAHYBZEAF8CsGg SQCyAVSr4K0EAAcoYfFj ImCllCA2ZitnLHj3C2xFg8 A	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	267rcCd Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors:	s: https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	sey.com/en/productey.co	ts/filter/thermal/h tts/filter/screws-bi tts/filter/nuts/5733 tts/filter/microcon tts/filter/microcon tts/filter/imus-iner tts/filter/single-dic tts/filter/fixed-indu	eat-sinks/to-220/z olts/572?s=N4lgjC Ps=N4lgjCBcoLQE trollers/685?s=N4 trollers/685?s=N4 tial-measurement ides/280?s=N4lgj ictors/71?s=N4lgj	19?s=N4lgjCBco BcoLQExVAYygf xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL units/567?s=N4lg CBcpgnAHLKoDC CBcoLQExVAYyg	MwKwHYqgMZQC FWE4FcCmAaEA9 CmAaEA9IANogCs (ygMwIYBsDOBTA JBmBDANgZwKYII GUBmBDANgZwK GUBmBDANgZwK FWE4FcCmAaEA!	SYEMA2BnApgDO IANogCslAugL74 SlAugL74wBsilKk NCAPZQDaIALA BoQB7KAbRACZ gFwE4FcCmAaE YAOIA9IANogAMI 9IANogCslAugL7	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA G0%2BRkpAzFbSDACcTFmzyES4PtWpA vAxwDMdlh1cFtVIAuoQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYm yBWATJAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCslAugl.74wBsilKkG0%2BRkpAzFbSDACcTFmzyES4PvwRcQAS Augl.7EC0ATMiGpAC4BOArkVIUQAVjgMQTAGztOvAcTKRKAZnHMk0Dli 4wBsilKkG0%2BRkpAzFbSDACcTFmzyES4PvwRcQASwB2AE0xJUBdHy 3mBDANgZwKYA0IA9IANogAMIAugl.7EC0ATMiGpAC4BOArkVIUQAVjqMX - 15pin header for Arduino	/gAvsQC0A6CDSQa9Ys0 nxABWCgA4qEBTv36Djc igE4BLAHYBZEAF8CsGg SQCyAVSr4K0EAAcoYfFj ImCllCA2ZitnLHj3C2xFg8 A	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors:	s: https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	sey.com/en/productey.co	ts/filter/thermal/h tts/filter/screws-bi tts/filter/nuts/5733 tts/filter/microcon tts/filter/microcon tts/filter/imus-iner tts/filter/single-dic tts/filter/fixed-indu	eat-sinks/to-220/z olts/572?s=N4lgjC Ps=N4lgjCBcoLQE trollers/685?s=N4 trollers/685?s=N4 tial-measurement ides/280?s=N4lgj ictors/71?s=N4lgj	19?s=N4lgjCBco BcoLQExVAYygf xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL units/567?s=N4lg CBcpgnAHLKoDC CBcoLQExVAYyg	MwKwHYqgMZQC FWE4FcCmAaEA9 CmAaEA9IANogCs (ygMwIYBsDOBTA JBmBDANgZwKYII GUBmBDANgZwK GUBmBDANgZwK FWE4FcCmAaEA!	SYEMA2BnApgDO IANogCslAugL74 SlAugL74wBsilKk NCAPZQDaIALA BoQB7KAbRACZ gFwE4FcCmAaE YAOIA9IANogAMI 9IANogCslAugL7	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilkkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdIh1cFtVIAucQA4AuUIAMg8ATgEsAdgHMQAXQJhWiECkgYcBYn yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS IAugL7ECQATMiGpAC4BOArkVIUQAVjqMQTAGZtQVACTKRKAZhHMk0Dlk 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASWBZAEOxJUBdHy 8mBDANgZwKYA0IA9IANogAMIAugL7ECQATMiGpAC4BOArkVIUQAVjqMC  - 15pin header for Arduino - works well, very tall	/gAvsQC0A6CDSQa9Ys0 nxABWCgA4qEBTv36Djc igE4BLAHYBZEAF8CsGg SQCyAVSr4K0EAAcoYfFj ImCllCA2ZitnLHj3C2xFg8 A	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors:	s: https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	sey.com/en/productey.co	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/673* ts/filter/microcon ts/filter/microcon ts/filter/microcon ts/filter/mic-ine ts/filter/single-dic ts/filter/single-dic ts/filter/single-dic ts/filter/voltage-re	eat-sinks/to-220/z olts/572?s=N4lgjC Ps=N4lgjCBcoLQE trollers/685?s=N4 trollers/685?s=N4 tial-measurement ides/280?s=N4lgj ictors/71?s=N4lgj	19?s=N4lgjCBco BcoLQExVAYygf xVAYygFwE4Fc0 lgjCBcoGwJxVAY lgjCBcpgbFoDGL units/567?s=N4lg CBcpgnAHLKoDC CBcoLQExVAYyg	MwKwHYqgMZQC we4FcCmAaEA9 mAaEA9IANogCs ygMwIYBsDOBTA BBmBDANgZwKYI jjCBcol.QExVAYys SUBmBDANgZwK FwE4FcCmAaEA! k7397s=N4lgjCBc	SYEMA2BnApgoli IANogCsIAugL74 IAUgL74wBsilkk INUAL74wBsilkk INUAL74wBsilkk BOQB7KAbRACZ JFwE4FcCMABE. YAOIA9IANogAMI BIANogCsIAugL7- pgnAHLKoDGUE	agBuadiAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsliKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdIh1cFtVIAucQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYm yBWATiAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS IAugL7EC0ATMiGpAC4BOArkVIUQAVjqMQTAGztQvAcTKRKAZnHMk0Dli 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASWBZAEOxJUBdHy 8mBDANgZwKYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjqMf - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino - used in mouse 4.4 - 1.8V linear requiator to supply VDDana, VDDcore, (page 36 on datashee	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors: switching regula	s https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil	sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/673* ts/filter/microcon ts/filter/microcon ts/filter/microcon ts/filter/mic-ine ts/filter/single-dic ts/filter/single-dic ts/filter/single-dic ts/filter/voltage-re	eat-sinks/to-220/2 olts/572?s=N41giC rs=N41giCBcoLQE trollers/685?s=N4 tial-measurement des/280?s=N41gi ctors/71?s=N41gi agulators-dc-dc-sv \$0.98	197s=N4lgiCBco BcoLQExVAYygl ExVAYygFwE4Fcf IgiCBcoGwJxVAY IgiCBcpgbFoDGL units/5677s=N4lc CBcpgnAHLKoDC CBcoLQExVAYyg vitching-regulator	MwKwHYqgMZQC we4FcCmAaEA9 mAaEA9IANogCs ygMwIYBsDOBTA BBmBDANgZwKYI jiCBcol.QExVAYys SUBmBDANgZwK FwE4FcCmAaEA! \$/7397s=N4lgiCBc	SYEMA2BnApg00 IANogCsIAugL74 IAugL74wBsillkk IAugL74wBsillkk IAugL74wBsillkk BoQB7KAbRACZ JFwE4FcCmAaE. YA0IA9IANogAMI BIANogCsIAugL7- pgnAHLKoDGUE	agBuAdIAC4BOArkSAPZQDaIALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AvxwDMdIh1cFtVIAuoQA4AuUIAMg8ATgEsAdgHMQAX0JhWiEckgYcBYm yBWATJAAYQDLYGJnz76aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANggCsIAugI 74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS A9IANggCsIAugI 74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS ABURTECOATMIGPAC4BOArkVIUQAVjgMQTAGztOvAcTKRKAZnHMkODIH 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASw82AE0xJUBdHy mBDANgZwKYA0IA9IANogAMIAugL7ECOATMIGPAC4BOArkVIUQAVjgMK  - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino - used in mouse 4.4 - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datasher - also for ADVREF (page 5 of schematic checklist)	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	267rcCd0 Ly15eOn /r2GTcEc lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors: switching regula	s https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil	key.com/en/produc key.com/en/produc key.com/en/produc key.com/en/produc key.com/en/produc key.com/en/produc key.com/en/produc key.com/en/produc key.com/en/produc	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/673* ts/filter/microcon ts/filter/microcon ts/filter/microcon ts/filter/mic-ine ts/filter/single-dic ts/filter/single-dic ts/filter/single-dic ts/filter/voltage-re	eat-sinks/to-220/2 olts/572?s=N4lgiC rs=N4lgiCBcoLQE trollers/685?s=N4 tial-measurement des/280?s=N4lgi ctors/71?s=N4lgi agulators-dc-dc-sv	197s=N4lgiCBco BcoLQExVAYygl ExVAYygFwE4Fcf IgiCBcoGwJxVAY IgiCBcpgbFoDGL units/5677s=N4lc CBcpgnAHLKoDC CBcoLQExVAYyg vitching-regulator	MwKwHYqgMZQC we4FcCmAaEA9 mAaEA9IANogCs ygMwIYBsDOBTA BBmBDANgZwKYI jiCBcol.QExVAYys SUBmBDANgZwK FwE4FcCmAaEA! \$/7397s=N4lgiCBc	SYEMA2BnApgoli IANogCsIAugL74 IAUgL74wBsilkk INUAL74wBsilkk INUAL74wBsilkk BOQB7KAbRACZ JFwE4FcCMABE. YAOIA9IANogAMI BIANogCsIAugL7- pgnAHLKoDGUE	QgBuAdIAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilkkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdIh1cFtVIAuoQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYn yBWATIAAYQDLYGJnzZ6aAOJzmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS AugL7EC0ATMiGpAC4BOArkVIUQAVjaMQTAGztOvAcTKRKAZnHMkODIH 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASwB2AE0xJUBdHy BmBDANgZwKYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjqMX  - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino 4 used in mouse 4.4 - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datashee- also for ADVREF (page 5 of schematic checklist) 5 - SOT23-5	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	267rcCd0 Ly15eOn /r2GTcEc lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors: switching regula  Digikey  Digikey	s https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik st https://www.digik	cey.com/en/produc	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/573* ts/filter/nuts/573* ts/filter/microcon ts/filter/imus-iner ts/filter/single-dic ts/filter/fixed-indt ts/filter/voltage-re	eat-sinks/to-220/2 olts/572?s=N4lgiC olts/572?s=N4lgiC s=N4lgiCBcoLOE trollers/685?s=N4 trollers/685?s=N4 trollers/685?s=N4lgi ctors/71?s=N4lgi egulators-dc-dc-sv \$0.98 \$0.98	197s=N4lgiCBco BooLOExVAYygl ExVAYygFwE4Fcf IgiCBcoGwJxVAYy IgiCBcogbFoDG units/5677s=N4lg CBcpgnAHLKoDC CBcoLOExVAYyg vitching-regulator	MwKwHYqgMZQC we4FcCmAaEA9 CmAaEA9lANqqgC ygMwlYBsDOBTA lBmBDANgZwKYl jiCBcoLQExVAYyr SUBmBDANgZwK FwE4FcCmAaEA1 s;7397s=N4lgiCBc \$1.96	SYEMA2BnApg001 IANogCsIAugL74 IAugL74wBsilkk INCAPZQDaIALA 30QB7KAbRACZ gFwE4FcCMAeE YAQIA9IANogAMI JIANogCsIAugL7- pgnAHLKoDGUE  https://www.digik	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilkkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdlh1cFtVIAucQA4AuUIAMg8ATgEsAdgHMQAXQJhWiECkgYcBYn yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS IAugL7ECQATMiGpAC4BOArkVIUQAVjgMQTAGZtOvAcTKRKAZnHMk0Dlf 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASWBZAEOxJUBdHy BmBDANgZwKYA0IA9IANogAMIAugL7ECQATMiGpAC4BOArkVIUQAVjgMC  - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino - used in mouse 4.4  - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datasher - also for ADVREF (page 5 of schematic checklist) - SOT23-5 - Arduino Nano - works well, comes w/ oxidized pins- required cleaning w/ alcohol - rather large, to be replaced w/ different controller	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors: switching regula	s https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik st https://www.digik	sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc sey.com/en/produc	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/573* ts/filter/nuts/573* ts/filter/microcon ts/filter/imus-iner ts/filter/single-dic ts/filter/fixed-indt ts/filter/voltage-re	eat-sinks/to-220/2 olts/572?s=N4lgiC olts/572?s=N4lgiC s=N4lgiCBcoLOE trollers/685?s=N4 trollers/685?s=N4 trollers/685?s=N4lgi ctors/71?s=N4lgi egulators-dc-dc-sv \$0.98 \$0.98	197s=N4lgiCBco BooLOExVAYygl ExVAYygFwE4Fcf IgiCBcoGwJxVAYy IgiCBcogbFoDG units/5677s=N4lg CBcpgnAHLKoDC CBcoLOExVAYyg vitching-regulator	MwKwHYqgMZQC we4FcCmAaEA9 CmAaEA9lANqqgC ygMwlYBsDOBTA lBmBDANgZwKYl jiCBcoLQExVAYyr SUBmBDANgZwK FwE4FcCmAaEA1 s;7397s=N4lgiCBc \$1.96	SYEMA2BnApg001 IANogCsIAugL74 IAugL74wBsilkk INCAPZQDaIALA 30QB7KAbRACZ gFwE4FcCMAeE YAQIA9IANogAMI JIANogCsIAugL7- pgnAHLKoDGUE  https://www.digik	QgBuAdIAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilkKGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdIh1cFtVIAucQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYn yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKIAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS AugL7EC0ATMiGpAC4BOArkVIUQAVjgMQTAGzIOyAcTKRKAZnHMkODIH 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASwB2AE0xJUBdHy BmBDANgZwKYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjqMK  - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino - used in mouse 4.4 - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datashee- also for ADVREF (page 5 of schematic checklist) - SOT23-5 - Arduino Nano - works well, comes w/ oxidized pins- required cleaning w/ alcohol - rather large, to be replaced w/ different controller - used in mouse 4.4 - AVR MCU to replace Arduino	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: nuts: more MCUs: more MCUs: IMUs: rectifier diodes: inductors: switching regula  Digikey  Digikey  Amazon	s https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil s7013-ND	cey.com/en/produc tey.com/en/produc	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/5/37 ts/filter/nuts/5/37 ts/filter/microcon ts/filter/microcon ts/filter/microcon ts/filter/filter/single-dic ts/filter/single-dic ts/filter/sin	eat-sinks/to-220/2 olts/5727s=N4lgiCBco_Uef sreaters/files/f	19?s=N4lgiCBco BooL DEXVAYygf ExVAYygFwE4FcC ExVAYygFwE4FcC Units/567?s=N4lg CBcogbAHAVAYyg Units/567?s=N4lg CBcogAHAHAVOD CBcoLQExVAYyg Utching-regulator	MwKwHYqgMZQC we4FcCmAaEA9 mAaEA9IANqoC, ygMwIYBsDOBTA JBmBDANgZwKYI giCBcoLQExVAYyy sUBmBDANgZwK FWE4FcCmAaEA1 \$739?s=N4lgiCBc \$1.96 \$1.96 \$12.99 \$3.01	SYEMA2BnApg00 IANogCsIAugL74 IANugL74wBsillkk NCAPZQDaIALA BOQBTKAbRACZ gFwE4FcCmAaE, YAQIA9IANogAM IBIANogCsIAugL7; cpgnAHLKoDGUE  https://www.digilk https://www.digilk https://www.digilk	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsliKkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GG%2BRkpAzFbSDACcTFmzyES4PtWpA GG%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdlh1cFtVlAucQA4AuUIAMg8ATgEsAdgHMQAX0JhWiEckgYcBYm yBWATJAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS IAugL7EC0ATMiGpAC4BOArkVIUQAVjqMQTAGztQvAcTKRKAZnHMkODIH 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASWB2AE0xJUBdHy 3mBDANgZwKYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjqMC - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino - used in mouse 4.4 - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datashee - also for ADVREF (page 5 of schematic checklist) - SOT23-5 - Arduino Nano - works well, comes w/ oxidized pins- required cleaning w/ alcohol - rather large, to be replaced w/ different controller - used in mouse 4.4 - AVR MCU to replace Arduino - faster than ATmega4809 and Arduino, operates on 5V - programmed via UPDI	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	267rcCd0 Ly15eOn /r2GTcEc lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: nuts: more MCUs: IMUs: rectifier diodes: inductors: switching regula  Digikey  Digikey  Amazon  Digikey  Digikey  Digikey	s https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil bttps://www.digil bttps://www.digil https://www.digil https://www.digil bttps://www.digil bttps://www.digil s7013-ND	cey.com/en/produc eey.com/en/produc eey.com/en/p	ts/filter/thermal/h ts/filter/screws-b ts/filter/inuts/5/32 ts/filter/microcon ts/filter/microcon ts/filter/microcon ts/filter/imus-iner ts/filter/single-dic ts/filter/single-di	eat-sinks/to-220/2 olts/5727s=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgiLBco_Ug Ps=N4lgi Ltors/172s=N4lgi Ltors/172s=N4lgi Ltors/172s=N4lgi Ltors/172s=N4lgi Ps=N4lgi P	19?s=N4lgiCBco BooL DEXVAYygf ExVAYygFwE4Fcf ExVAYygFwE4Fcf Units/567?s=N4lg BCBcpgbFoDGL Units/567?s=N4lg BCBcpgAHLKODC CBcoL QEXVAYyg vitching-regulator	MwKwHYqgMZQC wE4FCCMABEA9 CmABEA9IANogCi ygMwIYBSDOBTA IBmBDANgZwKYYB jiCBcoLQExVAYyı jiCBcoLQExVAYyı sUBmBDANgZwK FwE4FCCMABEA \$77397s=N4IgiCBc \$1.96 \$1.96 \$1.99 \$3.01 \$0.10	EYEMA2BnApgDti IANogCsIAugL74 SIAugL74WBslikk NICAPZODaIALA 30QB7KAbRACZ: gFwE4FcCMAaEr YAOIA9IANogAMI BIANogCsIAugL7- ppnAHLKoDGUE https://www.digik https://www.digik https://www.digik	QgBuAdIAC4BOArkSAPZODalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilkK6O%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdIh1cFtVIAuvQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYn yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKIAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS AugL7EC0ATMiGpAC4BOArkVIUQAVjgMQTAGzfoVAcTKRKAZnHMk0DiH 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASwB2AE0xJUBdHy BmBDANgZwKYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjqMX  - 1.5pin header for Arduino - works well, very tall - allows for components to be placed under arduino - used in mouse 4.4 - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datashee - also for ADVREF (page 5 of schematic checklist) - SOT23-5 - Arduino Nano - works well, comes w/ oxidized pins- required cleaning w/ alcohol - rather large, to be replaced w/ different controller to used in mouse 4.4 - AVR MCU to replace Arduino - faster than ATmega4809 and Arduino, operates on 5V - programmed via UPDI - 1-UF ceramic cap needed for AVR128DA64	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	267rcCd0 Ly15eOn /r2GTcEc lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: nuts: muts: more MCUs: IMUs: rectifier diodes: inductors: switching regular Digikey  Digikey  Digikey  Digikey  Digikey  Digikey  Digikey  Digikey	s: https://www.digil- https://ww	cey.com/en/produc cey.com/en/p	ts/filter/thermal/h ts/filter/screws-b ts/filter/inuts/5/32 ts/filter/microcon ts/filter/microcon ts/filter/microcon ts/filter/f	eat-sinks/to-220/2 olts/5727s=N4lgiCBcoLog/ es=N4lgiCBcoLog/ es=N4lgiCBcoLog/ es=N4lgiCBcoLog/ es=N4lgiCBcoLog/ trollers/6857s=N4 trollers/6857s=N4lgi ctors/717s=N4lgi egulators-dc-dc-sv  \$0.98 \$0.16 \$12.99 \$3.01 \$0.10 \$0.10	19?s=N4lgiCBco Bocl DExVAYygf ExVAYygFwE4Fcf giCBcogMxVAYy	MwKwHYqgMZQC wE4FcCmAaEA9 CmAaEA9IANogC; ygMwIYBsDOBTA IBmBDANgZwKYI giCBcoLQExVAYy; sUBmBDANgZwK FwE4FcCmAaEA; x7397s=N4IgiCBc \$11.96 \$12.99 \$3.01 \$0.10	EYEMA2BnApgDti IANogCsIAugL74 ISIAUgL74WSBIIKW INCAPZQDaIALA 30QB7KAbRACZ: gFwE4FcCMAEL YAOIA9IANogAMI 9IANogCsIAugL7: pgnAHLKoDGUE https://www.digik https://www.digik https://www.digik https://www.digik	agBuadiAC4BOArkSAPZODalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilkKGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdlh1cFtVIAucQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYn yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKIAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS AugL7EC0ATMiGpAC4BOArkVIUQAVjgMQTAGztOvAcTKRKAZnHMk0Dir 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASwB2AE0xJUBdHy BradayakyYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjgMK  - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino 4 used in mouse 4.4 - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datashee - also for ADVREF (page 5 of schematic checklist) 4 SOT23-5 - Arduino Nano - works well, comes w/ oxidized pins- required cleaning w/ alcohol - rather large, to be replaced w/ different controller trained in mouse 4.4 - AVR MCU to replace Arduino - faster than ATmega4809 and Arduino, operates on 5V 4 or programmed via UPDI 4 - IUF ceramic cap needed for AVR128DA64 - 10nF (or 10000pF) ceramic cap needed for AVR128DA64	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors: switching regular Digikey  Digikey	s: https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- 150-AVR128DA4 1276-1066-1-NL 1276-1015-1-NL	cey.com/en/produc cey.com/en/p	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/f/33 ts/filter/microcon ts/filter/microcon ts/filter/imus-iner ts/filter/oltage-re	eat-sinks/to-220/2 olts/5727s=N4lgiCBcoLGE trollers/6857s=N4 trollers/6857s=N4 tial-measurement des/2807s=N4lgi ctors/717s=N4lgi egulators-dc-dc-sv \$0.98 \$0.16 \$12.99 \$3.01 \$0.10 \$0.10	19?s=N4lgiCBco BooLOExVAYygl ExVAYygFwE4Fcf gigCBcogMxVAYy gigCBcogBr6DGL units/567?s=N4lc BccpgnAHLKoDC BcoLOExVAYyg vitching-regulator	MwKwHYqgMZQC we4FcCmaaEA9 CmaaEA9IANgqCs ygMwIYBsDOBTA IBmBDANgzwKYI giCBcoLQExVAYyı giCBcoLQE	EYEMA2BnApg0ti IANogCsIAugL74 SIAugL74wSsilfk NICAPZQDalALA 30QB7KAbRACZ gFwE4FcCMAEL YA0IA9IANogAMI JIANogCsIAugL7- pgnAHLKoDGUE https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilkKGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdlh1cFtVIAucQA4AuUIAMg8ATgEsAdgHMQAXQJhWiEckgYcBYm yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS AGIANogCslAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS lAugL7EC0ATMiGpAC4BOArkVIUQAVjgMQTAGztQvAcTKRKAZnHMk0Dli dwBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS BDBANgZwKYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjgMG  - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino c used in mouse 4.4  - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datasher - also for ADVREF (page 5 of schematic checklist) c SOT23-5  - Arduino Nano - works well, comes w/ oxidized pins- required cleaning w/ alcohol - rather large, to be replaced w/ different controller - used in mouse 4.4  - 4.VR MCU to replace Arduino - faster than ATmega4809 and Arduino, operates on 5V - programmed via UPDI - 1UF ceramic cap needed for AVR128DA64 - 10nF (or 10000pF) ceramic cap needed for AVR128DA64 - 10nF (or 10000pF) ceramic cap needed for AVR128DA64 - 10nF (or 10000pF) ceramic cap needed for AVR128DA64	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: nuts: muts: more MCUs: IMUs: rectifier diodes: inductors: switching regular Digikey  Digikey  Digikey  Digikey  Digikey  Digikey  Digikey  Digikey	s: https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- https://www.digil- 150-AVR128DA4 1276-1066-1-NL 1276-1015-1-NL	cey.com/en/produc cey.com/en/p	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/f/33 ts/filter/microcon ts/filter/microcon ts/filter/imus-iner ts/filter/oltage-re	eat-sinks/to-220/2 olts/5727s=N4lgiCBcoLog/ c?s=N4lgiCBcoLog/ c?s=N4lgiCBcoLog/ crollers/6857s=N4 trollers/6857s=N4 trollers/6857s=N4lgi ctors/717s=N4lgi egulators-dc-dc-sv  \$0.98 \$0.16 \$12.99 \$3.01 \$0.10 \$0.10	19?s=N4lgiCBco BooLOExVAYygl ExVAYygFwE4Fcf gigCBcogMxVAYy gigCBcogBr6DGL units/567?s=N4lc BccpgnAHLKoDC BcoLOExVAYyg vitching-regulator	MwKwHYqgMZQC we4FcCmaaEA9 CmaaEA9IANgqCs ygMwIYBsDOBTA IBmBDANgzwKYI giCBcoLQExVAYyı giCBcoLQE	EYEMA2BnApg0ti IANogCsIAugL74 SIAugL74wSsilfk NICAPZQDalALA 30QB7KAbRACZ gFwE4FcCMAEL YA0IA9IANogAMI JIANogCsIAugL7- pgnAHLKoDGUE https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBslikkGO%2BRkpAzFbSDACcTFmzyES4PtWpA GQ%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdlh1cFtVIAuoQA4AuUIAMg8ATgEsAdgHMQAX0JhWiECkgYcBYm yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS A9IANogCsIAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS IAugL7EC0ATMiGpAC4BOArkVIUQAVjqMQTAGztQvAcTKRKAZnHMk0Dli 4wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQASwB2AE0xJUBdHy 8mBDANgZwKYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjqMC - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino - used in mouse 4.4 - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datashed - also for ADVREF (page 5 of schematic checklist) - Arduino Nano - works well, comes w/ oxidized pins- required cleaning w/ alcohol - rather large, to be replaced w/ different controller to used in mouse 4.4 - AVR MCU to replace Arduino - faster than ATmega4809 and Arduino, operates on 5V - programmed via UPDI - to eramic cap needed for AVR128DA64 - 10nF (or 10000pF) ceramic cap needed for AVR128DA64 - 0.1uF ceramic cap needed for IMU	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3
	to-220 heatsink screws: nuts: nuts: MCUs: more MCUs: IMUs: rectifier diodes: inductors: switching regular Digikey  Digikey	s https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil https://www.digil bttps://www.digil thtps://www.digil https://www.digil thtps://www.digil thtps://www.digil to	cey.com/en/produc cey.com/en/p	ts/filter/thermal/h ts/filter/screws-b ts/filter/nuts/f/33 ts/filter/microcon ts/filter/microcon ts/filter/imus-iner ts/filter/oltage-re	eat-sinks/to-220/2 olts/5727s=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgiCBco_Ug Ps=N4lgi Ltors/5657s=N4 Ltial-measurement Ltdes/2807s=N4lgi Ltors/717s=N4lgi Ps=N4lgi P	19?s=N4lgiCBco Bocl LOExVAYygf ExVAYygFwE4Fcf giGBcogMyVAYy giGGCogMyVAyy giGGCogMyVAyy giGGCogMyVAyy giGGCogMyVAy	MwKwHYqgMZQC wE4FcCmAaEA9 CmAaEA9IANogC; ygMwIYBsDOBTA IBmBDANgZwKYI giCBcoLQExVAYyı giCBcoLQExVAYyı suBmBDANgZwK FwE4FcCmAaEA \$7397s=N4IgiCBc \$1.96 \$0.16 \$12.99 \$3.01 \$0.10 \$0.10 \$0.20	EYEMA2BnApgDti IANogCsIAugL74 SIAUgL74WBsilkK NICAPZQDaIALA 30QB7KAbRACZ: gFWE4FcCMAeE; YAOIA9IANogAMI BIANogCsIAugL7- ppnAHLKoDGUE https://www.digik https://www.digik https://www.digik https://www.digik https://www.digik	QgBuAdlAC4BOArkSAPZQDalALGDGAAwBMIALrEADpSggAyjQCWZAO) wBsilkKGO%2BRkpAzFbSDACcTFmzyES4PtWpA GO%2BRkpAzFbSDACcTFmzyES4PtWpA AxwDMdlh1cFtVIAucQA4AuUIAMg8ATgEsAdgHMQAXQJhWiEckgYcBYm yBWATIAAYQDLYGJnzZ6aAOJizmDj8WQgOwjBPKiAC6BAA4AXKCADKS AGIANogCslAugL74wBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS lAugL7EC0ATMiGpAC4BOArkVIUQAVjgMQTAGztQvAcTKRKAZnHMk0Dli dwBsilKkGO%2BRkpAzFbSDACcTFmzyES4PvwRcQAS BDBANgZwKYA0IA9IANogAMIAugL7EC0ATMiGpAC4BOArkVIUQAVjgMG  - 15pin header for Arduino - works well, very tall - allows for components to be placed under arduino c used in mouse 4.4  - 1.8V linear regulator to supply VDDana, VDDcore, (page 36 on datasher - also for ADVREF (page 5 of schematic checklist) c SOT23-5  - Arduino Nano - works well, comes w/ oxidized pins- required cleaning w/ alcohol - rather large, to be replaced w/ different controller - used in mouse 4.4  - 4.VR MCU to replace Arduino - faster than ATmega4809 and Arduino, operates on 5V - programmed via UPDI - 1UF ceramic cap needed for AVR128DA64 - 10nF (or 10000pF) ceramic cap needed for AVR128DA64 - 10nF (or 10000pF) ceramic cap needed for AVR128DA64 - 10nF (or 10000pF) ceramic cap needed for AVR128DA64	rgAvsQC0A6CDSQa9Yst	lcPGr%2BnfUtgahDJl6bPiKkQAF b2QwABmP9Gm 8Y1xMAHYQxG	qp0GBtjBNqAnFe.  VWgHZ2hAEyL9l  m4BmGi7mKVkd\ gJYATKAJMR9qC  2wltllHvhRcAS3Q/	Ly15eOn /r2GTcEo lyHyoAnl A-B46N3

Category	Vendor	Item Number	Item Description	Quantity Per Package	Cost Per Package	Number of Packages	Item Total Cost	Link	Comments	Designation on Mouse 5.0 PCB	
	Servocity	632276	M1.6 x 4mm with	6	\$2.99		\$5.98	https://www.servo	- M1.6 screws, brackets to motors, 4mm - just right size for ServoCity motors - used for mouse 4.4		
	Pololu	950	Ball Caster Plast	1	\$2.49		\$2.49	https://www.polol	- metal ballcaster 3/8" - came w/ rusted ball, otherwise works well - used for mouse 4.4		
	McMaster-Carr	95610A310	M2.0 Plastic Was	100	\$4.73		\$4.73	https://www.mcm	- M1.6 washers - needed to prevent screwhead contact w/ PCB traces - unused		
Other parts that were	Amazon	B09SWZ2XSF	M1.6 x .35 Hex N	100	\$9.48		\$9.48	https://www.amaz	- Nuts for M1.6 screws - works well, just right size - used for mouse 4.4		
considered	Servocity	638102	Premium N20 Ge	1	\$19.99	2	\$39.98	https://www.serve	- Gear motors, 460rpm w/ encoders - hopefully sturdier than 900rpm motors		
	Digikey	1276-1003-1-ND	CAP CER 0.1UF	1	\$0.10		\$0.10		- 0.1uF ceramic capacitor, SMD 0805     - needed for supply and vcc pins for H bridge IC     - to be placed as close as possible to IC (pg 8 of TB6552 datasheet)		
								https://www.polol	- Potential small 20mm x 30mm stepper motor		
	Digikey	2019-RK73H2AT	RES 100K OHM	1	\$0.10	2	\$0.20	https://www.digik	- 100k Ohm resistor needed for 5V and 3.3V switching regulator - between SW/VOS and PG (pg 21 pdf of datasheet)		
	Digikey	1276-1003-1-ND	CAP CER 0.1UF	1	\$0.10		\$0.10	https://www.digik	- 0.1uF ceramic cap needed for 5V 1.5A switching regulator - from Boot to SW (pg 20 pdf of datasheet)		
	Digikey	1276-1066-1-ND	CAP CER 1UF 2	1	\$0.10		\$0.10		- 1uF ceramic cap needed for 5V 1.5A switching regulator - from VCC to GND (pg 20 of datasheet)		
	Digikey	1276-1244-1-ND	CAP CER 4.7UF	1	\$0.10		\$0.10	https://www.digik	- 4.7uF ceramic cap needed for 5V 1.5A switching regulator - from Vin to GND (pg 20 of datasheet)		
	Digikey	2129-NJM7806F	IC REG LINEAR	1	\$0.88		\$0.88	https://www.digik	- 6V voltage regulator, 1.5A output max, TH -needed to regulate 7.4V down to 6V -will supply steady 6V to MCU and motor driver IC - pins that needs 5V (IR sensors, motor encoders) will get it from MCU		
	Digikey	1276-1123-1-ND	CAP CER 0.33UI	1	\$0.10		\$0.10	https://www.digik	- 0.33uF ceramic capacitor, SMD 0805 - needed for 6V voltage regulator input		
	Digikey	1276-1003-1-ND	CAP CER 0.1UF	1	\$0.10		\$0.10	https://www.digik	- 0.1uF ceramic capacitor, SMD 0805 - needed for 6V voltage regulator output		
	Digikey	HS105-ND	HEAT SINK TO-2	1	\$0.33		\$0.33	https://www.digik	- TO-220 heatsink for 6V voltage regulator - screws on to regulator		
	Digikey	335-1148-ND	MACH SCREW F	1	\$0.71		\$0.71	https://www.digik	- TO-220 10mm M3 screw for 6V voltage regulator & heatsink		
	Digikey	RPC3082-ND	HEX NUT 0.220"	1	\$0.28		\$0.28	https://www.diaik	- TO-220 M3 nut for 6V regulator & heatsink		
	Amazon		10 Pairs HobbyP	1	\$8.98				- XT30 male connector (receptacle for LiPo battery plug) - connects battery to PCB - pcb files: HERE		
	Amazon	B09QJ1612N	TU Pairs HobbyP	1	\$8.98		\$8.98	nttps://www.ama	- pcd files: HEKE		