

# Bill of Materials

TI DESIGNS

TIDEP0050

RevCode = 1.3A

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	Vendor
1	1	A1	OV2659	Module Camera Module 2Mp OV2659 CMOS	SunnyOptics	P212A	4P0040	TI
2	14	C1 C51 C67 C88 C96 C97 C99 C121 C122 C253 C270 C326 C327 C337	0.1uF	Capacitor 0.1uF 50V 10% 0402 X7R	TDK	C1005X7R1H104K	1C0105	Digikey
3	29	C2 C21 C22 C28 C31 C43 C104 C105 C113 C117 C123 C134 C136 C161 C167 C168 C172 C182 C189 C214 C229 C244 C257 C266 C276 C280 C335 C341 C342	10uF	Capacitor 10uF 16V 10% Ceramic 0805	AVX	0805YD106KAT2A	1C0085	Digikey
4	8	C3 C4 C5 C6 C7 C8 C9 C10	0.022uF	Capacitor 0.022uF 35V 10% X7R Ceramic 0402	TDK	C1005X7R1V223K050BB	1C0154	Digikey
5	5	C11 C46 C72 C75 C82	2200pF	Capacitor 2200pF 50V 10% 0402 X7R	Kemet	C0402C222K5RACTU	1C0107	Digikey
6	7	C12 C45 C70 C74 C81 C95 C339	10uF	Capacitor 10uF 35V 10% Ceramic 0805	TDK	C2012JB1V106K085AC	1C0149	Digikey
7	158	C13 C14 C15 C16 C17 C18 C20 C24 C25 C29 C30 C32 C33 C34 C37 C39 C40 C41 C44 C47 C48 C52 C53 C58 C59 C60 C61 C62 C63 C64 C66 C69 C73 C76 C77 C79 C89 C90 C92 C94 C101 C114 C119 C126 C127 C139 C140 C141 C145 C146 C152 C156 C158 C159 C160 C166 C169 C170 C173 C178 C179 C180 C181 C183 C184 C185 C187 C190 C192 C193 C195 C196 C197 C198 C199 C200 C201 C202 C203 C204 C205 C206 C207 C209 C210 C211 C213 C216 C217 C219 C220 C221 C223 C224 C225 C226 C227 C230 C231 C233 C234 C235 C236 C238 C239 C240 C241 C242 C246 C247 C249 C250 C252 C256 C259 C260 C263 C264 C265 C267 C274 C275 C277 C278 C279 C281 C282 C283 C284 C285 C288 C289 C290 C291 C292 C294 C295 C296 C297 C299 C301 C302 C304 C314 C315 C316 C318 C319 C320 C323 C324 C328 C329 C336 C343 C344 C345 C346	0.01uF	Capacitor 0.01uF 16V 10% 0402	Kemet	C0402C103K4RACTU	1C0012	Digikey
8	8	C19 C71 C151 C186 C191 C212 C218 C287	1uF	Capacitor 1uF 10V Ceramic 10% 0402	AVX	0402ZD105KAT2A	1C0084	Digikey

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	Vendor
9	2	C23 C303	10uF	Capacitor 10uF 50V 10% Ceramic 1206	TDK	C3216X5R1H106K	1C0113	Digikey
10	39	C26 C38 C55 C57 C65 C78 C103 C106 C107 C112 C116 C125 C142 C143 C147 C148 C149 C150 C153 C155 C157 C162 C163 C164 C174 C194 C208 C215 C222 C232 C237 C306 C307 C311 C312 C313 C317 C330 C338	0.1uF	Capacitor 0.1uF 16V 10% 0402 X7R	Kemet	C0402C104K4RACT	1C0089	Digikey
11	3	C27 C131 C271	220uF	Capacitor 220uF 16V 10% Tantalum	Kemet	T491D227K016AT	1C0144	CapacitorsPlus
12	2	C35 C36	24pF	Capacitor 24pF 50V 5% 0402	TDK	C1005C0G1H240J	1C0128	Digikey
13	2	C49 C50	47uF	Capacitor 47uF 16V Ceramic X5R 1206	TDK	C3216X5R1C476M	1C0101	Digikey
14	13	C54 C56 C109 C110 C111 C154 C300 C308 C321 C332 C347 C351 C352	0.001uF	Capacitor 0.001uF 50V 5% 0402	AVX	04025C102JAT2A	1C0093	Digikey
15	4	C68 C348 C349 C350	47nF	Capacitor 47nF 25V 10% Ceramic 0402	TDK	C1005X7R1E473K050BC	1C0148	Digikey
16	7	C80 C102 C124 C175 C254 C269 C272	22uF	Capacitor 22uF 16V Ceramic 10% 0805	TDK	C2012X5R1C226K125AC	1C0094	Digikey
17	7	C83 C84 C286 C309 C325 C333 C334	180pF	Capacitor 180pF 50V 5% Ceramic 0402	Murata	GRM1555C1H181JA01D	1C0139	Digikey
18	10	C85 C86 C91 C93 C176 C177 C298 C305 C310 C331	100pF25V10%	Capacitor 100pF 25V 10% 0402	Kemet	C0402C101K3GACTU	1C0010	Digikey
19	3	C87 C100 C293	0.47uF	Capacitor 0.47uF 16V 10% 0402 X7R	Murata	GRM155F51C474ZA01D	1C0102	Digikey
20	6	C98 C118 C171 C262 C268 C273	1uF	Capacitor 1uF 50V 10% Ceramic 0603	Taiyo Yuden	UMK107BJ105KA-T	1C0114	Digikey
21	1	C108	10pF	Capacitor 10pF 50V 1% Ceramic 0402	AVX	04025U100FAT2A	1C0115	Digikey
22	5	C115 C120 C245 C251 C258	4.7uF	Capacitor Ceramic 4.7uF 16V 10% 0603	Taiyo Yuden	EMK107ABJ475KA-T	1C0103	Digikey
23	3	C128 C138 C228	2.2uF	Capacitor 2.2uF 16V 10% 0805	Kemet	C0805C225K4RACTU	1C0097	Digikey
24	4	C129 C130 C255 C261	18pF	Capacitor Ceramic 18pF 50V 10% 0402	TDK	CGA2B2C0G1H180J	1C0098	Mouser
25	2	C132 C133	2.2uF	Capacitor 2.2uF 6.3V Ceramic 10% 0603	Kemet	C0603C225K9PACTU	1C0088	Digikey
26	3	C135 C243 C248	15pF	Capacitor Ceramic 15pF 50V 10% 0402	Kemet	C0402C150J5GACTU	1C0087	Digikey
27	2	C137 C188	4700pF	Capacitor 4700pF 50V 10% 0402 X7R	Kemet	C0402C472K5RACTU	1C0111	Digikey
28	2	C144 C165	10uF	Capacitor 10uF 6.3V 20% Ceramic X5R 0603	Murata	GRM188R60J106ME47D	1C0124	Digikey
29	2	C322 C340	100uF	Capacitor 100uF 35V Polymer 20% smd can	United Chemicon	EMVA350ADA101MF80G	1C0150	Digikey
30	5	D1 D11 D13 D14 D16	MBR0530T1	Diode 500mA 30V 0.3V Forward Drop	On Semiconductor	MBR0530T1	1E0005	Newark
31	10	D2 D3 D4 D5 D6 D7 D8 D9 D10 D12	Green LED	LED Green SMD 20mA 3.2V 0805	Dialight	598-8170-107F	1F0008	Digikey
32	1	D15	Red LED	LED Red SMD 20mA 2V 0805	Dialight	598-8110-107F	1F0009	Digikey
33	3	D17 D19 D22	MBRS140T	Diode 1A 40V 600mV Forward Drop	On Semiconductor	MBRS140T3G	1E0017	Digikey
34	2	D18 D21	SMCJ26CA	Voltage Suppressor 26.0V	LittleFuse	SMCJ26CA	1E0021	Digikey
35	1	D20	MMSD103T1	Diode 200mA 250V 1.25V Forward Drop	On Semiconductor	MMSD103T1G	1E0013	Digikey
36	1	F1	Fuse 4A	Fuse Block with 4A Fuse	Littelfuse	0154004.DRT	1P0004	Digikey
37	10	FB1 FB6 FB7 FB8 FB9 FB10 FB11 FB12 FB14 FB17	150OHM800mA	Ferrite Bead 150 Ohm 800mA	Laird-Signal Integrity Products	LI0805H151R-10	1L0010	Digikey
38	4	FB2 FB3 FB4 FB5	600mAFB10ohm	Ferrite Bead 600mA 10ohm	TDK	HF70ACB201209	1L0028	Digikey
39	3	FB13 FB15 FB16	220OHM2A	Ferrite Bead 220 Ohm 2A	TDK	MPZ1608S221A	1L0034	Digikey
40	1	J1	Header 20x2 Female	Header 20x2 0.1in pitch female throughhole	FCI	66953-020LF	2H0068	Digikey
41	1	J2	HEADER 3	Single Line Header 3pin Tin 0.1in pitch	Sullins	PEC03SAAN	2H0001	Digikey
42	1	J3	HEADER 5x2	Dual Line Header 5x2pin Tin	Sullins	PEC05DAAN	2H0012	Digikey
43	1	J4	RJ-45 Gigabit	Connector RJ-45 Jack w/mag and LED Gigabit	Link	LPJG16314A4NL	2J0019	Link
44	1	J5	AXK7L24223G	FPC Type Connector 24pin 0.4mm pitch socket	Panasonic	AXK7L24223G	2C0113	Digikey
45	2	J6 J9	RJ-45 10_100Mb	Connector MagRJ-45 Jack w/LED 10_100Mb - Auto MDIX	Link	LPJ16183A28NL	2J0022	Link
46	1	J7	CTI JTAG	Dual Line Header 10x2pin Tin	Samtec	FTR-110-03-G-D-06	2H0039	Samtec
47	2	J8 J11	HEADER 2	Single Line Header 2pin Tin 0.1in pitch	OnShoreTechnology	PH1-230/120-021	2H0000	Digikey
48	1	J10	43-01028	M12 Connector EnDAT 8pin female	Conec	43-01028	2C0125	Conec

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	Vendor
49	1	J12	Power Jack RAPC722X	Jack Power Right Angle 2conductor 2.1mm center	Switchcraft	RAPC722X	2J0021	Digikey
50	0	J13	DNI	DNI	DNI	DNI	DNI	DNI
51	1	J14	Connector_Screwdown	Connector 2pin screw down 15A 300VAC blue	OnShore Technology	OSTTC022162	2C0094	Digikey
52	1	J15	HEADER 6	Single Line Header 6pin Tin	Sullins	PEC06SAAN	2H0017	Digikey
53	1	J16	Header_30x2_Female	Header Socket 30x2 2mm pitch Female	Sullins	NPPN302AFCN	2H0078	Digikey
54	1	J17	Connector_Screwdown	Connector 3pin screw down 15A 300VAC blue	OnShore Technology	OSTTC032162	2C0124	Digikey
55	1	J18	USB_MicroAB	Connector Micro USB AB RA	Hirose	ZX62-AB-5PA(11)	2C0088	Digikey
56	1	J19	SCHA5B0200	Connector compact low-profile Push Type Micro SD	ALPS	SCHA5B0200	2C0102	Mouser
57	3	L1 L2 L3	4.7uH	Inductor 4.7uH 30% smt 3.1A	TDK	SLF7055T-4R7N3R1-3PF	1L0033	Digikey
58	1	L4	47uH	Inductor 47uH 20% 1.6A SMD	Coilcraft	MSS1038-473MLC	1L0057	Coilcraft
59	1	L5	1uH	Inductor 1uH 20% 4.5A SMD	Coilcraft	XFL4020-102ME_1.0	1L0043	Coilcraft
60	1	L6	100uH	Inductor 100uH 20% 450mA SMD	Coilcraft	MSS6132-104MLC	1L0058	Coilcraft
61	1	L7	100uH	Inductor 100uH 20% smt 1.02A	Coilcraft	MSS1038-104MLB	1L0062	Coilcraft
62	1	L8	82uH	Inductor 82uH 20% 370mA SMD	Coilcraft	MSS6122-823MLC	1L0060	Coilcraft
63	1	L9	47uH	Inductor 47uH 20% 720mA SMD	Coilcraft	MSS6132-473MLC	1L0059	Coilcraft
64	8	M1 M2 M3 M4 M5 M6 M7 M8	Screw4-40 1/4in	Screw #4-40 1/4in long zinc phillips	BF Fastener	PMS 440 0025 PH	2M0025	Digikey
65	4	M9 M10 M11 M12	Standoff4-40 round 5/8inlong	Standoff alum female/female 4-40 1/4 rd 5/8inlong	Keystone	1839	2M0042	Digikey
66	4	M13 M14 M15 M16	Rubber Feet	Rubber Feet #4 screw hole size	Keystone	720	2M0043	Digikey
67	1	M17	Shunt0.1in	Shunt 0.1in pitch	TE Connectivity	382811-8	2H0027	Digikey
68	1	PCB1	AM437x Industrial EVM Bare PCB	AM437x Industrial EVM Bare PCB	TI	3K0008	3K0008	TI
69	8	Q1 Q2 Q3 Q4 Q5 Q6 Q7 Q8	BSS138	MOSFET Nchan 50V 200mA	Diodes Inc.	BSS138-7-F	1Q0019	Digikey
70	1	Q9	FDT434P	MOSFET Pchan -20V 6A	Fairchild	FDT434P	1Q0024	Digikey
71	1	Q10	BSS84	MOSFET Pchan -50V 130mA	Diodes Inc.	BSS84-7-F	1Q0021	Digikey
72	12	R1 R7 R9 R11 R23 R30 R37 R233 R274 R276 R278 R361	100K	Resistor 100Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT100K	1R0181	Digikey
73	55	R2 R3 R54 R69 R75 R81 R135 R169 R172 R178 R224 R226 R228 R231 R234 R236 R237 R244 R266 R267 R297 R305 R315 R316 R317 R318 R319 R320 R328 R329 R330 R331 R332 R334 R335 R340 R341 R342 R347 R392 R393 R395 R396 R412 R426 R458 R472 R479 R519 R542 R549 R550 R551 R556 R557	10K	Resistor 10Kohm 1/16W 5% 0402	Rohm	MCR01MZPJ103	1R0168	Digikey
74	14	R4 R5 R6 R268 R271 R272 R280 R281 R282 R283 R284 R285 R286 R287	150	Resistor 150ohm 1/16W 5% 0402	Stackpole Electronics	RMCF0402JT150R	1R0179	Digikey

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	Vendor
75	196	R8 R10 R12 R21 R22 R33 R34 R52 R59 R60 R61 R62 R63 R65 R67 R70 R71 R72 R73 R74 R76 R78 R79 R80 R83 R84 R85 R86 R87 R88 R89 R90 R91 R92 R97 R98 R99 R105 R109 R110 R111 R112 R113 R114 R115 R116 R117 R118 R119 R120 R126 R128 R132 R133 R134 R136 R137 R138 R140 R141 R143 R144 R146 R147 R148 R150 R151 R152 R153 R155 R157 R158 R161 R163 R167 R170 R174 R177 R179 R186 R187 R232 R238 R239 R240 R241 R242 R243 R245 R247 R249 R250 R251 R252 R253 R254 R255 R256 R258 R259 R260 R261 R262 R263 R264 R265 R275 R277 R279 R296 R304 R308 R309 R310 R324 R325 R337 R339 R344 R348 R349 R350 R352 R354 R355 R356 R357 R359 R363 R364 R374 R375 R376 R377 R378 R380 R381 R382 R383 R384 R385 R388 R390 R391 R404 R405 R406 R407 R408 R410 R411 R413 R416 R417 R419 R420 R421 R425 R429 R430 R431 R432 R434 R437 R438 R441 R443 R445 R447 R449 R453	0	Resistor Zero ohm Jumper 0402	Panasonic	ERJ-2GE0R00X	1R0098	Digikey
76	32	R13 R17 R139 R142 R149 R190 R215 R273 R299 R303 R313 R326 R327 R346 R358 R379 R401 R423 R428 R446 R448 R451 R456 R463 R483 R486 R488 R493 R513 R514 R526 R540	0	Resistor Zero ohm Jumper 0603	Panasonic	ERJ-3GEY0R00V	1R0096	Digikey
77	1	R14	34K	Resistor 34Kohm 1/10W 1% 0402	Panasonic	ERJ-2RKF3402X	1R0283	Digikey
78	12	R15 R16 R160 R168 R353 R402 R403 R433 R544 R545 R546 R547	4.7K	Resistor 4.7Kohm 1/16W 5% 0402	Stackpole Electronics	RMCF0402JT4K70	1R0183	Digikey
79	5	R18 R94 R156 R175 R182	51K	Resistor 51Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT51K0	1R0172	Digikey
80	1	R19	4.75K, 1%	Resistor 4.75KOHM 1/10W 1% 0402 SMD	Panasonic-ECG	ERJ-2RKF4751X	1R0250	Digikey
81	11	R20 R201 R204 R223 R311 R312 R323 R386 R387 R500 R505	33	Resistor 33ohm 1/16W 5% 0402	Panasonic	ERJ-2GEJ330X	1R0008	Digikey
82	0	R24 R25 R26 R27 R28 R29 R35 R36 R38 R39 R40 R41 R42 R47 R48 R49	DNI	DNI	DNI	DNI	DNI	DNI
83	16	R31 R43 R50 R56 R101 R106 R125 R131 R162 R164 R302 R415 R480 R492 R507 R508	49.9	Resistor 49.9ohm 1/16W 1% 0402	Panasonic	ERA-2AEB49R9X	1R0171	Digikey
84	1	R32	12.1K, 1%	Resistor 12.1K OHM 1/16W 1% 0402 SMD	Yageo	RC0402FR-0712K1L	1R0247	Digikey

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	Vendor
85	18	R44 R46 R51 R55 R57 R77 R96 R100 R108 R122 R127 R130 R145 R180 R418 R424 R455 R462	2.2K	Resistor 2.2Kohm 1/16W 5% 0402	VishayDale	CRCW04022K20JNED	1R0169	Digikey
86	12	R45 R53 R193 R195 R197 R200 R203 R209 R211 R222 R372 R398	1K	Resistor 1Kohm 1/16W 5% 0402	Panasonic	ERJ-2GEJ102X	1R0027	Digikey
87	3	R58 R64 R68	4.02K	Resistor 4.02Kohm 1/16W 1% 0402	Yageo	RC0402FR-074K02L	1R0313	Digikey
88	1	R66	1.5K	Resistor 1.5Kohm 1/16W 5% 0402	Stackpole Electronics	RMCF0402JT1K50C	1R0188	Digikey
89	2	R82 R307	1M	Resistor 1Mohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT1M00	1R0182	Digikey
90	1	R93	8.06K	Resistor 8.06Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT8K06	1R0294	Digikey
91	2	R95 R235	60.4K	Resistor 60.4Kohm 1/16W 1% 0402	Vishay Dale	CRCW040260K4FKED	1R0291	Digikey
92	12	R102 R107 R121 R123 R365 R367 R368 R370 R371 R373 R439 R442	22	Resistor 22 ohm 1/16W 1% 0402	ROHM	MCR01MZPF22R0	1R0175	Digikey
93	0	R103 R104 R124 R129 R202 R246 R248 R257 R351 R360 R435 R436 R440 R444 R450 R473	DNI	DNI	DNI	DNI	DNI	DNI
94	4	R154 R559 R562 R564	95.3K	Resistor 95.3Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT95K3	1R0224	Digikey
95	6	R159 R173 R191 R192 R212 R511	49.9K	Resistor 49.9Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT49K9	1R0227	Digikey
96	1	R165	16K	Resistor 16Kohm 1/16W 1% 0402	Yageo	RC0402FR-0716KL	1R0301	Digikey
97	1	R166	3.01K	Resistor 3.01Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT3K01	1R0302	Digikey
98	4	R171 R183 R269 R270	220	Resistor 220ohm 1/10W 1% 0402	Panasonic	ERJ-2RKF2200X	1R0176	Digikey
99	1	R176	20.5K	Resistor 20.5Kohm 1/16W 1% 0402	Panasonic	ERJ-2RKF2052X	1R0293	Digikey
100	1	R181	40.2K	Resistor 40.2Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT40K2	1R0292	Digikey
101	12	R184 R185 R188 R189 R207 R497 R501 R509 R518 R523 R524 R539	22K	Resistor 22Kohm 1/16W 1% 0402	VishayDale	CRCW040222K0FKED	1R0234	Digikey
102	4	R194 R196 R208 R210	28.7K	Resistor 28.7Kohm 1/16W 1% 0402	Vishay Dale	CRCW040228K7FKED	1R0305	Digikey
103	2	R198 R504	240	Resistor 240 ohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT240R	1R0219	Digikey
104	24	R199 R205 R206 R216 R217 R218 R219 R220 R221 R503 R516 R517 R520 R521 R522 R527 R528 R529 R530 R531 R532 R533 R534 R535	47	Resistor 47ohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT47R0	1R0252	Digikey
105	10	R213 R476 R495 R496 R552 R553 R554 R555 R560 R565	4.99K	Resistor 4.99Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT4K99	1R0222	Digikey
106	1	R214	402K	Resistor 402Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT402K	1R0274	Digikey
107	1	R225	10	Resistor 10ohm 1/16W 5% 0402	Stackpole Electronics	RMCF0402JT10R0	1R0251	Digikey
108	2	R227 R230	14K	Resistor 14Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT14K0	1R0212	Digikey
109	1	R229	24K, 1%	Resistor 24Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402JT24K0	1R0253	Digikey
110	8	R288 R289 R290 R291 R292 R293 R294 R295	1.2K, MELF	Resistor 1.2Kohm 1/3W 1% MELF0102	Vishay	MMU01020C1201FB300	1R0265	Digikey
111	2	R298 R491	15K,1%	Resistor 15Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT15K0	1R0201	Digikey

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	Vendor
112	0	R300 R314 R321 R333 R336 R343 R345 R399 R400	DNI	DNI	DNI	DNI	DNI	DNI
113	1	R301	30.1K	Resistor 30.1Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT30K1	1R0173	Digikey
114	1	R306	39K	Resistor 39Kohm 1/16W 5% 0402	Stackpole	RMCF0402JT39K0	1R0279	Digikey
115	1	R322	25K	Resistor 25Kohm 1/10W 0.1% 0603	Vishay	PNM0603E2502BST5	1R0223	Digikey
116	1	R338	49.9	MELF Resistor 49.9ohm 1/3W 1% MELF0102	Vishay	MMU01020C4999FB300	1R0243	Digikey
117	2	R362 R464	4.87K	Resistor 4.87Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT4K87	1R0275	Digikey
118	0	R366 R369 R394 R397	DNI	DNI	DNI	DNI	DNI	DNI
119	4	R389 R414 R498 R499	100	Resistor 100ohm 1/16W 5% 0402	Stackpole Electronics	RMCF0402JT100R	1R0236	Digikey
120	1	R409	10K, 1%	Resistor 10Kohm 1/10W 1% 0402	Panasonic-ECG	ERJ-2RKF1002X	1R0254	Digikey
121	0	R422 R427 R485	DNI	DNI	DNI	DNI	DNI	DNI
122	0	R452	DNI	DNI	DNI	DNI	DNI	DNI
123	1	R460	12K, 1%	Resistor 12Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402JT12K0	1R0245	Digikey
124	2	R470 R474	2.2K, 1/8W	Resistor 2.2Kohm 1/8W 5% 0402	Vishay/Dale	CRCW04022K20JNEDHP	1R0248	Digikey
125	1	R481	18K	Resistor 18Kohm 1/10W 1% 0402	Panasonic	ERJ-2RKF1802X	1R0284	Digikey
126	4	R502 R506 R510 R525	19.1K	Resistor 19.1Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT19K1	1R0306	Digikey
127	1	R512	120	Resistor 120ohm 1/16W 1% 0402	Vishay Dale	CRCW0402120RFKED	1R0244	Digikey
128	3	R536 R537 R538	0.02	Resistor 0.02ohm 1W 1% 1206	VishayDale	WSLP1206R0200FEA	1R0307	Digikey
129	1	R543	0	Resistor Zero ohm Jumper 1210	Vishay Dale	CRCW12100000Z0EA	1R0288	Digikey
130	1	R548	470K	Resistor 470Kohm 1/16W 1% 0402	Stackpole Electronics	RMCF0402FT470K	1R0190	Digikey
131	0	SCKT1	DNI	DNI	DNI	DNI	DNI	DNI
132	2	SW1 SW2	B3SL	Switch Push Button tactile NO	Omron	B3SL-1022P	2W0018	Digikey
133	10	TP1 TP2 TP7 TP9 TP11 TP12 TP13 TP14 TP15 TP16	TP	Testpoint Miniature Through Hole	Keystone Electronics	5002	2H0026	Digikey
134	11	TP3 TP4 TP5 TP6 TP8 TP10 TP17 TP18 TP19 TP20 TP21	TP1mm	Testpoint SMD 1mm circle pad	N/A	N/A	2H0046	N/A
135	2	U1 U2	Red_Green_Yellow_L ED	LED RedGreenYellow Tricolor 20mA 1.9/2.1V 1210 smd	Bivar	SM1210RGY	1F0012	Digikey
136	1	U11	AM437X_ZDN	Cortex A9 SOC AM437x	TI	AM437XZDN	1A0392	TI
137	5	U3 U10 U14 U15 U17	TPS5402D	Step down power regulator w/FET 1.7A	TI	TPS5402D	1A0381	Digikey
138	1	U4	SN65HVS882	Industrial 8digit Input Serializer	TI	SN65HVS882PWP	1A0234	Digikey
139	1	U5	TPIC2810	8bit LED Driver with I2C Interface	TI	TPIC2810D	1A0282	Digikey
140	2	U6 U58	SN74LVC8T245	8bit dual supply bus transceiver	TI	SN74LVC8T245PWR	1A0285	Digikey
141	2	U7 U12	TLK105L	Industrial Ethernet 10/100 Mb/s PHY Transceiver	TI	TLK105LRHB	1A0393	Digikey
142	1	U8	SN74LVC1G04	Inverter	TI	SN74LVC1G04DCK	1A0288	Digikey
143	2	U9 U39	SN74LV244A	Octal Line Buffer	TI	SN74LV244APWRG3	1A0368	Digikey
144	1	U13	FT2232HL	USBHS Dual UART/FIFO	FTDI	FT2232HL-REEL	1A0294	Digikey
145	1	U16	93LC56B	E2PROM 2Kbit 3Mhz Memory	Microchip	93LC56B-I/SN	1A0293	Digikey
146	4	U18 U19 U22 U24	OPA365	Opamp	TI	OPA365AIDBV	1A0263	Arrow
147	2	U20 U21	MT41K256M16HA	DDR3 SDRAM 4Gb (256Mx16) 1.35V	Micron	MT41K256M16HA-125	1A0363	Arrow
148	1	U23	DRV8313	Triple Half H-Bridge Driver	TI	DRV8313PWP	1A0350	Digikey
149	1	U25	TPS51200	DDR Termination Regulator SinkSource	TI	TPS51200DRC	1A0297	Digikey
150	1	U26	TPS386000	Quad Supply Voltage Supervisor	TI	TPS386000RGP	1A0384	Digikey
151	1	U27	TPD6E001	ESD Protection Array 6Chan +-15kV	TI	TPD6E001RSE	1A0248	Digikey
152	1	U28	LM4132	Precision 1.8V Low Dropout voltage Reference	TI	LM4132CMF-1.8/NOPB	1A0402	Digikey
153	4	U29 U40 U52 U53	TPS22922B	Load Switch Ultra Low Ron	TI	TPS22922BYZP	1A0385	Digikey
154	1	U30	TPS79301	LDO Regulator 200mA High PSRR	TI	TPS79301DBV	1A0230	Digikey
155	1	U31	TXS0102	Bidirectional 2bit Voltage Translator Open Drain	TI	TXS0102DCT	1A0260	Digikey
156	1	U32	CAT24C256W	EEPROM 256Kb I2C SOIC8	On Semiconductor	CAT24C256WI-G	1A0225	Digikey
157	1	U33	CDCE913	Programmable 1-PLL VCXO Clock Synthesizer	TI	CDCE913PWR	1A0326	Digikey
158	1	U34	SN74AVC1T45	Dual Voltage Translator	TI	SN74AVC1T45DCK	1A0144	Digikey
159	1	U35	TPS62362	Regulator Switching 3A with Dig Voltage Scaling	TI	TPS62362YZH	1A0318	Digikey

Item	Qty	Reference	Value	Part Description	Manufacturer	Manufacturer Part Number	Alternate Part	Vendor
160	5	U36 U42 U48 U51 U54	SN74LVC1G07	Driver Open Drain output	TI	SN74LVC1G07DCK	1A0269	Digikey
161	1	U37	KSZ9031RN	Gb Ethernet Transceiver PHY	Micrel	KSZ9031RNX	1A0344	Digikey
162	2	U38 U45	SN74AVC4T245	Bus Transceiver 4bit Voltage Translator	TI	SN74AVC4T245PW	1A0245	Digikey
163	2	U41 U49	SN74AVC2T244	2bit Undirectional Voltage Translator	TI	SN74AVC2T244DQM	1A0388	Digikey
164	2	U43 U44	SN74LVC1G08	Single logic AND Gate	TI	SN74LVC1G08DCK	1A0257	Digikey
165	1	U46	MX66L51235FMI	Quad Serial NOR Flash Memory 512Mb 3.3V	Macronix	MX66L51235FMI-10G	1A0389	Macronix
166	2	U47 U59	TPD2E001	ESD Protection Array 2Chan +-15kV	TI	TPD2E001DRL	1A0247	Digikey
167	1	U50	SN74LVC1G00DCK	Single Two input positive NAND	TI	SN74LVC1G00DCK	1A0300	Digikey
168	2	U55 U57	SN65HVD78D	RS-485 Transceiver with ESD protection	TI	SN65HVD78D	1A0383	Digikey
169	1	U56	REF3025	CMOS Voltage Reference 2.5V	TI	REF3025AIDBZ	1A0399	Digikey
170	1	Y1	24MHz	Crystal 24MHz	Suntsu	SCM18B-24.000MHz TR	1Y0044	Suntsu Inc
171	1	Y2	25MHz	Crystal 25MHz	Abracon	ABM3-25.000MHz-B2-T	1Y0030	Digikey
172	1	Y3	32.768KHz MC-306	Crystal 32.768KHz	Epson	MC-30632.7680k-A	1Y0029	Digikey
173	1	Y4	12MHz	Crystal 12MHz 30ppm load cap 18pF	Abracon	ABM3-12.000MHz-D2Y-T	1Y0036	Digikey

## IMPORTANT NOTICE FOR TI REFERENCE DESIGNS

Texas Instruments Incorporated ("TI") reference designs are solely intended to assist designers ("Buyers") who are developing systems that incorporate TI semiconductor products (also referred to herein as "components"). Buyer understands and agrees that Buyer remains responsible for using its independent analysis, evaluation and judgment in designing Buyer's systems and products.

TI reference designs have been created using standard laboratory conditions and engineering practices. **TI has not conducted any testing other than that specifically described in the published documentation for a particular reference design.** TI may make corrections, enhancements, improvements and other changes to its reference designs.

Buyers are authorized to use TI reference designs with the TI component(s) identified in each particular reference design and to modify the reference design in the development of their end products. HOWEVER, NO OTHER LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE TO ANY OTHER TI INTELLECTUAL PROPERTY RIGHT, AND NO LICENSE TO ANY THIRD PARTY TECHNOLOGY OR INTELLECTUAL PROPERTY RIGHT, IS GRANTED HEREIN, including but not limited to any patent right, copyright, mask work right, or other intellectual property right relating to any combination, machine, or process in which TI components or services are used. Information published by TI regarding third-party products or services does not constitute a license to use such products or services, or a warranty or endorsement thereof. Use of such information may require a license from a third party under the patents or other intellectual property of the third party, or a license from TI under the patents or other intellectual property of TI.

TI REFERENCE DESIGNS ARE PROVIDED "AS IS". TI MAKES NO WARRANTIES OR REPRESENTATIONS WITH REGARD TO THE REFERENCE DESIGNS OR USE OF THE REFERENCE DESIGNS, EXPRESS, IMPLIED OR STATUTORY, INCLUDING ACCURACY OR COMPLETENESS. TI DISCLAIMS ANY WARRANTY OF TITLE AND ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, QUIET ENJOYMENT, QUIET POSSESSION, AND NON-INFRINGEMENT OF ANY THIRD PARTY INTELLECTUAL PROPERTY RIGHTS WITH REGARD TO TI REFERENCE DESIGNS OR USE THEREOF. TI SHALL NOT BE LIABLE FOR AND SHALL NOT DEFEND OR INDEMNIFY BUYERS AGAINST ANY THIRD PARTY INFRINGEMENT CLAIM THAT RELATES TO OR IS BASED ON A COMBINATION OF COMPONENTS PROVIDED IN A TI REFERENCE DESIGN. IN NO EVENT SHALL TI BE LIABLE FOR ANY ACTUAL, SPECIAL, INCIDENTAL, CONSEQUENTIAL OR INDIRECT DAMAGES, HOWEVER CAUSED, ON ANY THEORY OF LIABILITY AND WHETHER OR NOT TI HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, ARISING IN ANY WAY OUT OF TI REFERENCE DESIGNS OR BUYER'S USE OF TI REFERENCE DESIGNS.

TI reserves the right to make corrections, enhancements, improvements and other changes to its semiconductor products and services per JESD46, latest issue, and to discontinue any product or service per JESD48, latest issue. Buyers should obtain the latest relevant information before placing orders and should verify that such information is current and complete. All semiconductor products are sold subject to TI's terms and conditions of sale supplied at the time of order acknowledgment.

TI warrants performance of its components to the specifications applicable at the time of sale, in accordance with the warranty in TI's terms and conditions of sale of semiconductor products. Testing and other quality control techniques for TI components are used to the extent TI deems necessary to support this warranty. Except where mandated by applicable law, testing of all parameters of each component is not necessarily performed.

TI assumes no liability for applications assistance or the design of Buyers' products. Buyers are responsible for their products and applications using TI components. To minimize the risks associated with Buyers' products and applications, Buyers should provide adequate design and operating safeguards.

Reproduction of significant portions of TI information in TI data books, data sheets or reference designs is permissible only if reproduction is without alteration and is accompanied by all associated warranties, conditions, limitations, and notices. TI is not responsible or liable for such altered documentation. Information of third parties may be subject to additional restrictions.

Buyer acknowledges and agrees that it is solely responsible for compliance with all legal, regulatory and safety-related requirements concerning its products, and any use of TI components in its applications, notwithstanding any applications-related information or support that may be provided by TI. Buyer represents and agrees that it has all the necessary expertise to create and implement safeguards that anticipate dangerous failures, monitor failures and their consequences, lessen the likelihood of dangerous failures and take appropriate remedial actions. Buyer will fully indemnify TI and its representatives against any damages arising out of the use of any TI components in Buyer's safety-critical applications.

In some cases, TI components may be promoted specifically to facilitate safety-related applications. With such components, TI's goal is to help enable customers to design and create their own end-product solutions that meet applicable functional safety standards and requirements. Nonetheless, such components are subject to these terms.

No TI components are authorized for use in FDA Class III (or similar life-critical medical equipment) unless authorized officers of the parties have executed an agreement specifically governing such use.

Only those TI components that TI has specifically designated as military grade or "enhanced plastic" are designed and intended for use in military/aerospace applications or environments. Buyer acknowledges and agrees that any military or aerospace use of TI components that have **not** been so designated is solely at Buyer's risk, and Buyer is solely responsible for compliance with all legal and regulatory requirements in connection with such use.

TI has specifically designated certain components as meeting ISO/TS16949 requirements, mainly for automotive use. In any case of use of non-designated products, TI will not be responsible for any failure to meet ISO/TS16949.