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Touchscreen LCD

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
IPC81	1		Printed Circuit Board		SAT0059	Any	-	-
C1	1	22uF	CAP, CERM, 22uF, 16V, +/-20%, X7R, 1210	1210	C3225X7R1C226M	TDK		
C2, C7, C8	3	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603	C1608X7R1H104K	TDK		
C3, C80	2	0.1uF	CAP, CERM, 0.1uF, 250V, +/-10%, X7R, 1206	1206	GRM31CR72E104KW03L	MuRata		
C4, C5, C16, C17, C68, C69, C78, C79	8	0.047uF	CAP, CERM, 0.047uF, 16V, +/-10%, X7R, 0402	0402	C1005X7R1C473K	TDK		
C6, C9, C27, C33, C36, C38, C39, C43, C56, C75, C77	11	0.1uF	CAP, CERM, 0.1uF, 16V, +/-5%, X7R, 0603	0603	0603YC104JAT2A	AVX		
C10, C20, C21, C47, C48	5	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603	GCM188R71H104KA57B	MuRata		
C11, C44	2	4.7uF	CAP, CERM, 4.7uF, 16V, +/-10%, X5R, 0805	0805	EMK212BJ475KG-T	Taiyo Yuden		
C12, C15, C24, C29, C32, C34, C37, C40	8	4.7uF	CAP, CERM, 4.7uF, 10V, +/-10%, X7R, 0805	0805	GRM21BR71A475KA73L	MuRata		
C18	1	10uF	CAP, CERM, 10uF, 50V, +/-20%, X7R, 2220	2220	C5750X7R1H106M	TDK		
C19, C22, C71, C73	4	0.1uF	CAP, CERM, 0.1uF, 16V, +/-10%, X5R, 0402	0402	GRM155R61C104KA88D	MuRata		
C23, C26, C28, C58, C64, C66	6	0.1uF	CAP, CERM, 0.1uF, 100V, +/-10%, X7R, 1206	1206	12061C104KAT2A	AVX		
C25, C60	2	2.2uF	CAP, CERM, 2.2uF, 16V, +/-10%, X7R, 0805	0805	C0805C225K4RACTU	Kemet		
C35, C45, C54, C57	4	10uF	CAP, CERM, 10uF, 100V, +/-20%, X7S, 2220	2220	C5750X7S2A106M	TDK		
C42, C74	2	47uF	CAP, AL, 47uF, 63V, +/-20%, 0.7 ohm, SMD	HA0	EMZA630ADA470MHA0G	Nippon Chemi-Con		
C46	1	220pF	CAP, CERM, 220pF, 50V, +/-5%, C0G/NP0, 0603	0603	06035A221JAT2A	AVX		
C50, C55	2	2200pF	CAP CER 2200PF 50V 10% X7R 0402	0402 (1005 Metric)	UMK105B7222KV-F	Taiyo Yuden		
C52, C65, C70	3	10uF	CAP, CERM, 10uF, 10V, +/-10%, X7R, 0805	0805	GRM21BR71A106KE51L	MuRata		
C53, C59, C61	3	0.1uF	CAP, CERM, 0.1uF, 10V, +/-10%, X5R, 0402	0402	C1005X5R1A104K	TDK		
C62	1	47pF	CAP, CERM, 47pF, 100V, +/-5%, C0G/NP0, 0603	0603	GRM1885C2A470JA01D	MuRata		
C63	1	10uF	CAP, CERM, 10uF, 16V, +/-10%, X5R, 0805	0805	GRM21BR61C106KE15L	MuRata		
C67	1	1000pF	CAP, CERM, 1000pF, 100V, +/-10%, X7R, 0603	0603	GRM188R72A102KA01D	MuRata		
C72, C76	2	1uF	CAP, CERM, 1uF, 25V, +/-10%, X7R, 0603	0603	GRM188R71E105KA12D	MuRata		
C81, C82, C83, C84	4	2200pF	CAP, CERM, 2200pF, 100V, +/-5%, X7R, 0603	0603	06031C222JAT2A	AVX		
C85	1	4700pF	CAP, CERM, 4700pF, 25V, +/-5%, C0G/NP0, 0603	0603	C1608C0G1E472J	TDK		
C86	1	0.039uF	CAP, CERM, 0.039uF, 16V, +/-10%, X7R, 0603	0603	GRM188R71C393KA01D	MuRata		
D1	1	40V	Diode, Schottky, 40V, 1A, SOD-123	SOD-123	1N5819HW-7-F	Diodes Inc.		
D2	1	60V	Diode, Schottky, 60V, 2A, SMB	SMB	MBRS260T3G	ON Semiconductor		
D3	1	SS5P10-M3xx	Diode, High Current, Schottky Barrier, 5A, 100V	TO-277	SS5P10-M3xx	Vishay		
D4	1	Yellow/green	LED, Yellow/green, SMD	0402 LED	SML-P12MTT86	Rohm		
D5	1	Yellow	LED, Yellow, SMD	Yellow LED	SML-P12YTT86	Rohm		
D6	1	Orange	LED, Orange, SMD	Orange LED	SML-P12DIT86	Rohm		
D7, D8	2	Green	LED, Green, SMD	LED, 1x2x.6mm	SML-P12PTT86	Rohm		
H1, H2, H3	3		Machine Screw, Round, #4-40 x 1/4, Nylon, Phillips panhead	Screw	NY PMS 440 0025 PH	B&F Fastener Supply	-	-
ISET, SW, TP1, TP3, VBOOST	5	Red	Test Point, Miniature, Red, TH	Red Miniature Testpoint	5000	Keystone		
J1	1		RIGHT ANGLE PLUG FOR PCB	27.15x13.5x12mm	D4S20G-400A5-Z	Rosenberger		
J2, J3, J7	3	2x1	Conn Term Block, 2POS, 3.81mm PCB	PhoenixConact_1727010	1727010	Phoenix Contact	Equivalent	Any
J4	1		Header, 100mil, 2x1, Tin plated, TH	Header 2x1	90120-0122	Molex		
J5, J6	2		Header, TH, 100mil, 2x1, Gold plated, 230 mil above insulator	TSW-102-07-G-S	TSW-102-07-G-S	Samtec, Inc.		
J8	1		Header, 100mil, 2x1, Tin plated, TH	Header, 2 PIN, 100mil, Tin	PEC02SAAN	Sullins Connector Solutions		
J9	1	HMTSW-106-07-x-y-230	Header, 6 pin, 100mil Space, Gold Tail	0.130 x 0.630 inch	HMTSW-106-07-x-y-230	Samtec		
J10	1		Receptacle, 50mil, 6x1, R/A, TH	Receptacle, 6x1, 50mil pitch, R/A	851-43-006-20-001000	Mill-Max		
J11	1	2x26	Slim body GND plane Socket 2x26, 2mm body height, Aq on contact, Alignment, SMD	QRM8 SMD	QRM8-026-02.0-L-D-A	Samtec		
L1	1	5.6uH	Inductor, Shielded, Ferrite, 5.6uH, 3.8A, 0.0264 ohm, SMD	SLF10145	SLF10145T-5R6M3R2-PF	TDK		
L2, L7	2	3.3uH	Inductor, Shielded Drum Core, Ferrite, 3.3uH, 1.9A, 0.08 ohm, SMD	LPS4018	LPS4018-332MLB	Coilcraft		
L3	1		Coupled inductor, 0.28A, 0.41 ohm, +/-25%, SMD	Inductor, 1.2x1.2x2.0 mm	DLW21SN900HQ2L	MuRata		
L4, L5	2	120 ohm	3A Ferrite Bead, 120 ohm @ 100MHz, SMD	0603	BLM18SG121TN1D	MuRata		
L6	1	22uH	Inductor, Shielded, Powdered Iron, 22uH, 5.5A, 0.0313 ohm, SMD	IHLF-5050FD	IHLF5050FDER220M5A	Vishay-Dale		
LOCK, MCLK, PASS, SCL, SDA	5	Yellow	Test Point, Miniature, Yellow, TH	Keystone5004	5004	Keystone		
Q1	1	-60V	MOSFET, P-CH, -60V, 30A, PowerPAK SO-8L	PowerPAK_SO-8L	SQJ461EP	Vishay-Siliconix		None
Q2	1	60V	MOSFET, N-CH, 60V, 25A, DPAK	DPAK	IPD25N06S4L-30	Infineon Technologies		None
R1	1	0	RES, 0 ohm, 5%, 0.25W, 1210	1210	MCR25JZHJ000	Rohm		

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
R2, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R105, R106	25	49.9	RES, 49.9 ohm, 1%, 0.063W, 0402	0402	CRCW040249R9FKED	Vishay-Dale		
R3	1	5.1k	RES, 5.1k ohm, 5%, 0.1W, 0603	0603	RC0603JR-075K1L	Yageo America		
R4	1	1.6k	RES, 1.6k ohm, 5%, 0.1W, 0603	0603	RC0603JR-071K6L	Yageo America		
R5, R77, R81, R111, R113, R114	6	10k	RES, 10k ohm, 5%, 0.1W, 0603	0603	CRCW060310K0JNEA	Vishay-Dale		
R6, R7, R71, R72	4	6.49k	RES, 6.49k ohm, 1%, 0.063W, 0402	0402	CRCW04026K49FKED	Vishay-Dale		
R9, R22, R61, R74	4	13k	RES, 13k ohm, 5%, 0.1W, 0603	0603	CRCW060313K0JNEA	Vishay-Dale		
R10, R16, R65, R73	4	2.7k	RES, 2.7k ohm, 5%, 0.063W, 0402	0402	CRCW04022K70JNED	Vishay-Dale		
R11	1	36k	RES, 36k ohm, 5%, 0.1W, 0603	0603	CRCW060336K0JNEA	Vishay-Dale		
R13, R15, R23, R24, R44, R58, R59, R69	8	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale		
R14, R17, R18, R63, R64, R70	6	3.3k	RES, 3.3k ohm, 5%, 0.063W, 0402	0402	CRCW04023K30JNED	Vishay-Dale		
R19, R33, R42, R43, R48, R51, R54, R56, R60, R109, R110	11	10k	RES, 10k ohm, 5%, 0.063W, 0402	0402	CRCW040210K0JNED	Vishay-Dale		
R20	1	0.12	RES, 0.12 ohm, 5%, 0.25W, 1210	1210	ERJ14RSJR12U	Panasonic		
R21, R62	2	768k	RES, 768k ohm, 1%, 0.063W, 0402	0402	CRCW0402768KFKED	Vishay-Dale		
R25	1	18.0k	RES, 18.0k ohm, 1%, 0.1W, 0603	0603	RC0603FR-0718KL	Yageo America		
R26	1	15.4k	RES, 15.4k ohm, 1%, 0.1W, 0603	0603	CRCW060315K4FKEA	Vishay-Dale		
R27	1	9.09k	RES, 9.09k ohm, 1%, 0.1W, 0603	0603	CRCW06039K09FKEA	Vishay-Dale		
R28	1	24.3k	RES, 24.3k ohm, 1%, 0.1W, 0603	0603	CRCW060324K3FKEA	Vishay-Dale		
R29	1	0.02	RES, 0.02 ohm, 1%, 1W, 2412	2412	LVK24R020FER	Ohmite		
R30	1	40.2k	RES, 40.2k ohm, 1%, 0.125W, 0805	0805	CRCW080540K2FKEA	Vishay-Dale		
R31	1	20.0k	RES, 20.0k ohm, 1%, 0.1W, 0603	0603	CRCW060320K0FKEA	Vishay-Dale		
R34, R40	2	100	RES, 100 ohm, 1%, 0.1W, 0603	0603	CRCW0603100RFKEA	Vishay-Dale		
R35	1	47k	RES, 47k ohm, 5%, 0.1W, 0603	0603	CRCW060347K0JNEA	Vishay-Dale		
R36, R37, R38, R39, R47, R50	6	33k	RES, 33k ohm, 5%, 0.063W, 0402	0402	CRCW040233K0JNED	Vishay-Dale		
R41, R49	2	47k	RES, 47k ohm, 5%, 0.063W, 0402	0402	CRCW040247K0JNED	Vishay-Dale	Equivalent	Any
R45, R46, R53	3	330	RES, 330 ohm, 5%, 0.063W, 0402	0402	CRCW0402330RJNED	Vishay-Dale		
R52	1	0.025	RES, 0.025 ohm, 1%, 3W, 2512	2512	CRA2512-FZ-R025ELF	Bourns		
R55, R112	2	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	RC0603JR-070RL	Yageo America		
R57	1	10.0	RES, 10.0 ohm, 1%, 0.1W, 0603	0603	CRCW060310R0FKEA	Vishay-Dale		
R66, R68	2	487	RES, 487 ohm, 1%, 0.063W, 0402	0402	CRCW0402487RFKED	Vishay-Dale	Equivalent	Any
R67, R107, R108	3	220	RES, 220 ohm, 5%, 0.063W, 0402	0402	CRCW0402220RJNED	Vishay-Dale	Equivalent	Any
R75	1	25k	RES, 12.4k ohm, 1%, 0.1W, 0603	0603	RC0603FR-0712K4L	Yageo America		
R76	1	3.0k	RES, 3.0k ohm, 5%, 0.063W, 0402	0402	CRCW04023K00JNED	Vishay-Dale		
R79	1	2.00Meg	RES, 2.00Meg ohm, 1%, 0.1W, 0603	0603	CRCW06032M00FKEA	Vishay-Dale		
R82	1	750k	RES, 750k ohm, 1%, 0.1W, 0603	0603	RC0603FR-07750KL	Yageo America		
RT1	1	1.0k ohm	Thermistor NTC, 1.0k ohm, 5%, 0805	0805	NCP21XQ102J03RA	MuRata		
S1	1		Switch, Slide, SPST 3 poles, SMT	3 poles SPST Switch	219-3LPST	CTS Electrocomponents		
S2, S3	2		Switch, Push Button, SMD	2.9x2x3.9mm SMD	SKRKAEE010	Alps	Equivalent	Any
TP11, TP12, TP13	3	Black	Test Point, Miniature, Black, TH	Black Miniature Testpoint	5001	Keystone		
U1	1		42V 2A Constant On-Time Switching Regulator With Adjustable Current Limit, DGQ0010A	DGQ0010A	LM25011MY/NOPB	Texas Instruments		None
U2, U8	2		Piezo Haptic Driver with Boost, Digital Front End, and Internal Waveform Memory, RGP0020D	RGP0020D	DRV2667RGP	Texas Instruments		None
U3	1		IC SERIAL/DESERIAL 24 BIT 60-LLP	60-WFQFN Exposed Pad	DS90UH926QSQ/NOPB	Texas Instruments		
U4, U6	2		Automotive Catalog ESD Protected, High-Speed USB 2.0 (480-Mbps) 1:2 Multiplexer / Demultiplexer Switch, 16 ohm RON, 2.5 to 3.3V, -40 to 125 degC, 10-Pin UQFN (RSE), Green (RoHS & no Sb/Br)	RSE0010A	TS3USB221AQRSERQ1	Texas Instruments	Equivalent	None
U5	1		Single Channel, Ultra-Low Resistance Load Switch, DSG0008A	DSG0008A	TPS22965DSG	Texas Instruments		None
U7	1		Mixed Signal MicroController, RHA0040B	RHA0040B	MSP430F2252TRHA	Texas Instruments		None
U9	1		LOW EMI, High Performance 4-Channel LED Driver for Automotive Lighting, VFP0032B	VFP0032B	LP8860QVFPQR1	Texas Instruments		None
C14	0	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603	GCM188R71H104KA57B	MuRata		
C30, C31, C49, C51	0	10uF	CAP, CERM, 10uF, 100V, +/-20%, X7S, 2220	2220	C5750X7S2A106M	TDK		
C41	0	4.7uF	CAP, CERM, 4.7uF, 10V, +/-10%, X7R, 0805	0805	GRM21BR71A475KA73L	MuRata		
FID1, FID2, FID3, FID4, FID5, FID6	0		Fiducial mark. There is nothing to buy or mount.	Fiducial	N/A	N/A		
R8, R12	0	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale		
R32	0	200	RES, 200 ohm, 1%, 0.1W, 0603	0603	CRCW0603200RFKEA	Vishay-Dale		
R78	0	10k	RES, 10k ohm, 5%, 0.1W, 0603	0603	CRCW060310K0JNEA	Vishay-Dale		
R80	0	0 DNI	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale		
TP2	0	Yellow	Test Point, Miniature, Yellow, TH	Keystone5004	5004	Keystone		

## Notes:

Unless otherwise noted in the Alternate PartNumber and/or Alternate Manufacturer columns, all parts may be substituted with equivalents.

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