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TIDA-00520 / UCC29950EVM-631

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
IPC81	1		Printed Circuit Board		PWR631	Any	-	-
C1, C2	2	0.47uF	CAP, Film, 0.47uF, 275V, +/-20%, TH	Radial 25x8.5x18.5	ECQ-U2A474ML	Panasonic		
C3	1	0.33uF	CAP, Film, 0.33uF, 275V, +/-20%, TH	RCAP, 17.5x17.5x9.5mm	ECQ-U2A334ML	Panasonic		
C4, C5	2	0.1uF	CAP, CERM, 0.1uF, 630V, +/-10%, X7R, 1812	1812	GRM43DR72J104KW01L	MuRata		
C6	1	270uF	CAP, AL, 270 uF, 450 V, +/- 20%, 0.737 ohm, TH	D30xL30mm	380LQ271M450K022	Cornell Dubilier Electronics		
C7	1	47uF	CAP, CERM, 47uF, 6.3V, +/-10%, X7R, 1210	1210	GRM32ER70J476KE20L	MuRata		
C8, C27, C42	3	0.1uF	CAP, CERM, 0.1uF, 50V, +/-5%, X7R, 0805	0805	08055C104JAT2A	AVX		
C9, C18	2	1uF	CAP, CERM, 1uF, 50V, +/-10%, X7R, 0805	0805	GRM21BR71H105KA12L	MuRata		
C10	1	1000pF	CAP, CERM, 1000pF, 250V, +/-20%, E, Disc, 8x12mm	Disc, 8x12mm	DE1E3KX102MA5BA01	MuRata		
C11, C19	2	0.016uF	CAP FILM 0.016UF 630VDC RADIAL	Radial	ECW-F6163JL	Panasonic Electronic Compon		
C12, C32	2	0.1uF	CAP, CERM, 0.1uF, 16V, +/-10%, X7R, 0603	0603	C0603C104K4RACTU	Kemet		
C13, C14	2	0.012uF	CAP, Film, 0.012uF, 800V, +/-3%, TH	Cap, 15.4x11.7x5.8mm	ECW-H8123HA	Panasonic		
C15	1	0.047uF	CAP, Film, 0.047uF, 630V, +/-20%, TH	Cap, 10x10.5x5	BFC233820473	Vishay-Bccomponents		
C16	1	1uF	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, 0603	0603	UMK107AB7105KA-T	Taiyo Yuden		
C17, C20	2	330uF	CAP, AL, 330uF, 16V, +/-20%, 0.014 ohm, TH	Cap, 10x12.5mm	APS-160ELL331MJCS5	Nippon Chemi-Con		
C21, C22, C23, C24	4	1000uF	CAP, AL, 1000uF, 16V, +/-20%, 0.03 ohm, TH	CAP, 8x20mm	EEL-FR1C102L	Panasonic		
C25	1	1uF	CAP, CERM, 1uF, 35V, +/-10%, X7R, 0805	0805	GMK212B7105KG-T	Taiyo Yuden		
C26	1	220uF	CAP, AL, 220uF, 35V, +/-20%, 0.087 ohm, TH	Cap 8x15mm	EKY-350ELL221MH15D	Nippon Chemi-Con		
C29	1	0.047uF	CAP, CERM, 0.047uF, 50V, +/-10%, X7R, 0805	0805	08055C473KAT2A	AVX		
C33, C39	2	0.1uF	CAP, CERM, 0.1uF, 50V, +/-10%, X7R, 0603	0603	06035C104KAT2A	AVX		
C34, C35	2	10uF	CAP, CERM, 10uF, 35V, +/-10%, X7R, 1206	1206	GMK316AB7106KL	Taiyo Yuden		
C36, C37, C38	3	470pF	CAP, CERM, 470pF, 50V, +/-10%, X7R, 0603	0603	C0603C471K5RACTU	Kemet		
C40	1	0.1uF	CAP, CERM, 0.1uF, 25V, +/-10%, X7R, 0603	0603	06033C104KAT2A	AVX		
C41	1	1000pF	CAP, CERM, 1000pF, 50V, +/-10%, X7R, 0603	0603	C0603C102K5RACTU	Kemet		
C43, C47	2	10uF	CAP, CERM, 10 uF, 50 V, +/- 10%, X5R, 1206_190	1206_190	CGA5L3X5R1H106K160AB	TDK		
C44, C45	2	100pF	CAP, CERM, 100pF, 50V, +/-1%, C0G/NP0, 0603	0603	06035A101FAT2A	AVX		
C46	1	100pF	CAP, CERM, 100 pF, 50 V, +/- 1%, COG/NP0, 0603	0603	06035A101FAT2A	AVX		
C48	1	0.01uF	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, 0603	0603	C0603C103K5RACTU	Kemet		
D1	1	600V	Diode, Switching-Bridge, 600V, 3A, TH	DO-201AD	1N5406	Vishay-Semiconductor		
D2	1	420V	Diode, Switching-Bridge, 420V, 8A, TH	GBU	GBU8J-BP	Micro Commercial Componen		
D3	1	600V	Diode, Schottky, 600V, 4A, TH	TO-220-F2	C3D04060A	Cree		
D4	1	1000V	Diode, P-N, 1000 V, 1 A, TH	DO-41	1N4007	Fairchild Semiconductor		
D6	1	600V	Diode, Ultrafast, 600V, 1.5A, SMA	SMA	BYG20J-E3/TR	Vishay-Semiconductor		
D7, D8	2	45V	Diode, Schottky, 45V, 20A, TH	TO-220AB	STPS40L45CT	ST Microelectronics		
D10	1	40V	Diode, Schottky, 40 V, 0.38 A, SOD-523	SOD-523	ZLLS350TA	Diodes Inc.		
D11	1	18V	Diode, Zener, 18V, 500mW, SOD-123	SOD-123	MMSZ5248B-7-F	Diodes Inc.		
D12, D13	2	100V	Diode, Switching, 100V, 0.215A, SOT-23	SOT-23	BAV99.215	NXP Semiconductor		
D14	1	12V	Diode, Zener, 12V, 300mW, SOD-323	SOD-323	BZX384-C12.115	NXP Semiconductor		
D15, D16	2	800V	Diode, Fast Rectifier, 800V, 0.2A, TVS, 1.7x.7x1.25mm	TVS, 1.7x.7x1.25mm	DA2JF8100L	Panasonic		
D17	1	Green	LED, Green, TH	LED, 3x4.5mm	HLMF1523	Everlight		
D18, D19	2	100V	Diode, Ultrafast, 100V, 0.25A, SOD-323	SOD-323	BAS316, 115	NXP Semiconductor		
D20	1	75V	Diode, Ultrafast, 75V, 0.3A, SOT-23	SOT-23	BAS16-7-F	Diodes Inc.		
F1	1		Fuse, 8A, 250V, TH	Fuse, 20x5.2mm	0216008.MXESPP	Littelfuse		
H1, H2, H3, H4, H5, H6, H7, H8, H9	9		Screw Pan Head M3	Screw M3	29311	Keystone		
H10, H11, H12, H13, H14, H15, H16, H17	8		HEX STANDOFF 6-32 NYLON 1-1/2"	HEX STANDOFF 6-32 NYLON 1-1/2"	4824	Keystone		
H18, H19, H20, H21, H22, H23, H24, H25	8		Standoff, Hex, 0.5" #6-32 Nylon	6-32 HEX Nylon standoff 0.500 mil	1903C	Keystone		
H26, H27, H28, H29, H30, H31, H32	7		Max Clip	Clip	MAX01NG	Aavid Thermalloy		
H33	1		Will add component to BOM. Useful for cables, nuts, etc. not in libraries	Used in PnP output and some BOM reports	296 SV005	ALPHA WIRE		
H34	1		Heatshrink tubing, Digikey pn Q2F364B-100-ND. This is a 100foot reel. we need a qty of about 0.001 per board (aka 50mm) - this will go on the leads of the new diode.		Q2-F-3/64-01-MS100FT	Qualtek		
HS1, HS2, HS3	3		HEATSINK VERT MAX CLIP, BLACK, 4.25 INCHES	4.25 INCH EXTRUDED HEAT SINK	782653B04250G	Aavid		
J1, J2	2		TERMINAL BLOCK 5.08MM VERT 3POS, TH	TERM_BLK, 3pos, 5.08mm	ED120/3DS	On-Shore Technology		
J3	1		Terminal Block, 4x1, 5.08mm, TH	TERM_BLK, 4pos, 5.08mm	ED120/4DS	On-Shore Technology		
J4	1	1x3	Header, TH, 100mil, 1x3, Gold plated, 230 mil above insulator	PBC03SAAN	PBC03SAAN	Sullins Connector Solutions		
J5	1		TERMINAL BLOCK 5.08MM VERT 2POS, TH	TERM_BLK, 2pos, 5.08mm	ED120/2DS	On-Shore Technology		
J6	1		Header (shrouded), 100mil, 5x2, Gold, TH	5x2 Shrouded header	5103308-1	TE Connectivity		
L1	1	2.2mH	Coupled inductor, 2.2mH, 8A, 0.014 ohm, +/-30%, TH	30x35x21mm	7448258022	Würth Elektronik eiSos		
L2	1		Inductor, ?, A, TH	1800x1740x1750mil	RLTI-1108	Renco Electronics		
L3	1	55uH	Inductor, Shielded, ?, 55uH, A, 0.065 ohm, TH	Ind. 24.13x19.05x24.15mm	75PR8106	Vitec Corporation		
Q1, Q2, Q3	3	850V	MOSFET, N-CH, 650V, 25A, TO-262	TO-262	AOW25S85	AOS		None
Q4	1	600V	MOSFET, N-CH, 600V, 0.021A, SOT-23	SOT-23	BSS126 H6906	Infineon Technologies		None
R1	1	10.0	RES, 10.0 ohm, 1%, 0.25W, 1206	1206	CRCW120610R0FKEA	Vishay-Dale		
R2	1	3.3	RES, 3.3, 5%, 0.75 W, 2010	2010	CRCW20103R30JNEF	Vishay-Dale		
R3	1	1.0	RES, 1.0, 5%, 0.75 W, 2010	2010	CRCW20101R00JNEF	Vishay-Dale		
R4, R5, R6	3	0.1	RES, 0.1, 1%, 2 W, 2512	2512	CSRN2512FTR100	Stackpole Electronics Inc		
R7, R8, R9	3	1.20	RES, 1.20, 1%, 1 W, 2512	2512	ERJ-1TRQF1R2U	Panasonic		

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
R10, R17	2	3.30	RES, 3.30 ohm, 1%, 0.25W, 1206	1206	ERJ-8RQF3R3V	Panasonic		
R11, R13	2	51.1	RES, 51.1 ohm, 1%, 0.25W, 1206	1206	CRCW120651R1FKEA	Vishay-Dale		
R12, R18, R25, R41, R62	5	10.0k	RES, 10.0k ohm, 1%, 0.1W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale		
R14	1	10.0Meg	RES, 10.0 M, 1%, 0.1 W, 0603	0603	RC0603FR-0710ML	Yageo America		
R15	1	1.10Meg	RES, 1.10 M, 1%, 0.1 W, 0603	0603	CRCW06031M10FKEA	Vishay-Dale		
R22	1	5.10k	RES, 5.10k ohm, 0.5%, 0.1W, 0805	0805	RR1220P-512-D	Susumu Co Ltd		
R23	1	1.20k	RES, 1.20k ohm, 1%, 0.1W, 0603	0603	RC0603FR-071K2L	Yageo America		
R24	1	49.9	RES, 49.9 ohm, 1%, 0.25W, 1206	1206	ERJ-8ENF49R9V	Panasonic		
R26	1	18.0k	RES, 18.0k ohm, 1%, 0.1W, 0603	0603	RC0603FR-0718KL	Yageo America		
R30	1	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale		
R31	1	0	RES, 0 ohm, 5%, 0.125W, 0805	0805	CRCW08050000Z0EA	Vishay-Dale		
R33	1	10K	TRIMMER, 10K, 0.75W, TH	19.05X6.35X4.83 MM	3006P-1-103LF	Bourns		
R35, R36, R37, R48	4	0	RES, 0 ohm, 5%, 0.25W, 1206	1206	CRCW12060000Z0EA	Vishay-Dale		
R38, R39, R40, R49, R50, R51	6	3.09Meg	RES, 3.09Meg ohm, 1%, 0.25W, 1206	1206	CRCW12063M09FKEA	Vishay-Dale		
R42, R43, R44	3	10.0Meg	RES, 10.0Meg ohm, 1%, 0.25W, 1206	1206	CRCW120610M0FKEA	Vishay-Dale		
R45	1	75.0k	RES, 75.0k ohm, 1%, 0.1W, 0603	0603	CRCW060375K0FKEA	Vishay-Dale		
R46	1	3.3Meg	RES, 3.3Meg ohm, 5%, 0.1W, 0603	0603	CRCW06033M30JNEA	Vishay-Dale		
R47, R54, R59	3	100k	RES, 100 k, 1%, 0.1 W, 0603	0603	CRCW0603100KFKFA	Vishay-Dale		
R52, R53	2	470	RES, 470 ohm, 1%, 0.1W, 0603	0603	RC0603FR-07470RL	Yageo America		
R55	1	2.21k	RES, 2.21k ohm, 1%, 0.1W, 0603	0603	CRCW06032K21FKEA	Vishay-Dale		
R56	1	3.32k	RES, 3.32k ohm, 1%, 0.1W, 0603	0603	CRCW06033K32FKEA	Vishay-Dale		
R57	1	1.00	RES, 1.00 ohm, 1%, 0.125W, 0805	0805	ERJ-6RQF1R0V	Panasonic		
R58	1	2.2	RES, 2.2, 5%, 0.125 W, 0805	0805	CRCW08052R20JNEA	Vishay-Dale		
R61	1	1.00k	RES, 1.00k ohm, 1%, 0.25W, 1206	1206	CRCW12061K00FKEA	Vishay-Dale		
RT1	1	5 ohm	Thermistor NTC, 5 ohm, 25%, Disc, 220x770 mil	Disc, 220x770 mil	CL-40	GE Sensing		
S1, S2	2		Switch, Toggle, SPST, 1Pos, TH	Switch, 7.0x9.6x4.5mm	200USP9T1A1M2RE	E-Switch		
SH1	1	1x2	Shunt, 100mil, Flash Gold, Black	Closed Top 100mil Shunt	SPC02SYAN	Sullins Connector Solutions		
SIL1, SIL2, SIL3, SIL4, SIL5, SIL6, SIL7, SIL8	8		Silcon Thermal Pad	24 x 21 mm	SP900S-0.009-00-114	Bergquist Company		
T1	1	280uH	LLC Transformer, 280uH, TH	1570x1550x1500mils	RLTI-1115	Renco Electronics		
TP1, TP4	2	Yellow	Test Point, Multipurpose, Yellow, TH	Yellow Multipurpose Testpoint	5014	Keystone		
TP2, TP3, TP5, TP6, TP7, TP11, TP12, TP13, TP14, TP15, TP16, TP17, TP18, TP20, TP21, TP22, TP23, TP24, TP25, TP26, TP29, TP30, TP31, TP32, TP33, TP34	26	White	Test Point, Multipurpose, White, TH	White Multipurpose Testpoint	5012	Keystone		
TP8, TP10, TP28	3	Black	Test Point, Compact, Black, TH	Black Compact Testpoint	5006	Keystone		
TP9	1	Red	Test Point, Compact, Red, TH	Red Compact Testpoint	5005	Keystone		
TP19	1	Red	Test Point, Multipurpose, Red, TH	Red Multipurpose Testpoint	5010	Keystone		
TP27	1	Black	Test Point, Multipurpose, Black, TH	Black Multipurpose Testpoint	5011	Keystone		
U1	1		Single-Channel High-Speed Low-Side Gate Driver (with 4-A Peak Source and 8-A Peak Sink), DBV0006A	DBV0006A	UCC27511DBVR	Texas Instruments	UCC27511DBVT	Texas Instruments
U2	1		High-Speed, 4A, 600V High-side Low-side Gate Driver Device, D0014A	D0014A	UCC27714D	Texas Instruments		Texas Instruments
U3	1		Optocoupler, DC Input, Half-Pitch Phototransistor, 3000 VRMS, SO-4	SOP, 4-Leads, Body 2.65x4.60mm, Pitch 1.27mm	ACPL-217-56AE	Avago		
U5	1		Adjustable Precision Shunt Regulator, 34 ppm / degC, 100 mA, -40 to 85 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	DBZ0003A	TL431AIDBZR	Texas Instruments	Equivalent	None
U6	1		Continuous-Conduction-Mode Power Factor Correction and LLC Resonant Converter Combo Controller, D0016A	D0016A	UCC29950D	Texas Instruments		Texas Instruments
U7	1		Single Output LDO, 100 mA, Adjustable 1.2 to 18.5 V Output, 3 to 60 V Input, with Enable and Power Good, 8-pin MSOP (DGN), -40 to 125 degC, Green (RoHS & no Sb/Br)	DGN0008C	TPS7A1601DGNT	Texas Instruments	Equivalent	None
V1	1	300V	Varistor, 300V, 1.75kA, 7MM Radial, TH	Varistor, TH, 7MM	B72207S2301K101	EPCOS Inc		
C28	0	1000pF	CAP, CERM, 1000pF, 25V, +/-5%, COG/NP0, 0603	0603	GRM1885C1E102JA01D	MuRata		
C30	0	47pF	CAP, CERM, 47pF, 50V, +/-5%, COG/NP0, 0603	0603	06035A470JAT2A	AVX		
C31	0	10uF	CAP, AL, 10uF, 35V, +/-20%, TH	CAPPR2-5x11	UVR1V100MDD1TA	Nichicon		
D5, D9	0	100V	Diode, Ultrafast, 100V, 0.25A, SOD-323	SOD-323	BAS316, 115	NXP Semiconductor		
FID1, FID2, FID3	0		Fiducial mark. There is nothing to buy or mount.	Fiducial	N/A	N/A		
L4	0	1.5uH	Inductor, Shielded, Powdered Iron, 1.5uH, 31A, 0.00162 ohm, SMD	17.15x7.0x17.15mm	IHLP6767GZER1R5M11	Vishay-Dale		
R16	0	1.00k	RES, 1.00k ohm, 1%, 0.25W, 1206	1206	CRCW12061K00FKEA	Vishay-Dale		
R19, R29, R34	0	0	RES, 0 ohm, 5%, 0.1W, 0603	0603	CRCW06030000Z0EA	Vishay-Dale		
R20, R32	0	5.10k	RES, 5.10k ohm, 1%, 0.1W, 0603	0603	RC0603FR-075K1L	Yageo America		
R21	0	NF	RES, 100 ohm, 1%, 0.1W, 0603	0603	CRCW0603100RFKEA	Vishay-Dale		
R27	0	39.2k	RES, 39.2k ohm, 1%, 0.1W, 0603	0603	CRCW060339K2FKEA	Vishay-Dale		
R28	0	1.20k	RES, 1.20k ohm, 1%, 0.1W, 0603	0603	RC0603FR-071K2L	Yageo America		
R60	0	0	RES, 0, 5%, 0.25 W, 1206	1206	CRCW12060000Z0EA	Vishay-Dale		
S3	0		Switch, Toggle, SPST, 1Pos, TH	Switch, 7.0x9.6x4.5mm	200USP9T1A1M2RE	E-Switch		

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U4	0		Optocoupler, DC Input ,Half-Pitch Phototransistor, 3000 VRMS, SO-4	SOP, 4-Leads, Body 2.65x4.60mm, Pitch 1.27mm	ACPL-217-56AE	Avago		

Notes:

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

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