

TIDA-01581 BOM

Designator	Quantity	Value	Description	Package/Reference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
PCB1	1		Printed Circuit Board		000000	Any		
C1	1	470pF	CAP, CERM, 470 pF, 100 V, +/- 10%, X7R, 0603	0603	GRM188R72A471KA01	Murata		
C2, C3	2	4700pF	CAP, CERM, 4700 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603	CGA3E2X7R2A47K08	TDK		
C4, C8, C9, C12, C18, C23	6	0.1uF	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603	CGA3E2X7R1H104K08	TDK		
C6, C7, C10, C11	4	10uF	CAP, CERM, 10 uF, 50 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210	CGA6P3X7S1H106K25	TDK		
C14	1	0.33uF	CAP, CERM, 0.33 uF, 100 V, +/- 10%, X7S, 0805	0805	C2012X7S2A334K125A	TDK		
C15, C16, C33, C34, C35, C38	6	0.01uF	CAP, CERM, 0.01 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603	CGA3E2X7R2A103K08	TDK		
C19, C20, C21, C22	4	4.7uF	CAP, CERM, 4.7 uF, 100 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210	CGA6M3X7S2A475K20	TDK		
C25	1	0.1uF	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0805	0805	C2012X7R2A104K125A	TDK		
C26, C29	2	2.2uF	CAP, CERM, 2.2 uF, 25 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805	CGA4J3X7R1E22K125	TDK		
C27, C28	2	1000pF	CAP, CERM, 1000 pF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603	CGA3E2X7R2A102K08	TDK		
C30, C32, C36	3	0.1uF	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 1206	1206	CGA5L2X7R2A104K100	TDK		
C31	1	0.022uF	CAP, CERM, 0.022 uF, 100 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603	CGA3E2X7R2A22K08	TDK		
C37	1	10pF	CAP, CERM, 10 pF, 50 V, +/- 5%, COG/NPO, AEC-Q200 Grade 1, 0603	0603	CGA3E2C0G1H100008	TDK		
C39	1	0.1uF	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0805	0805	CEU4L2X7R1H104K125	TDK		
C40, C44, C46, LB, C1	4	0.1uF	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0603	0603	96032C104KA12A	AVX		
C43	1	4700pF	CAP, CERM, 4700 pF, 100 V, +/- 5%, X7R, 0603	0603	96031C472JA12A	AVX		
D1, D3	2	100V	Diode, Schottky, 100 V, 12 A, AEC-Q101, TO-277A	TO-277A	Y12P10-M3/86A	Vishay-Semiconductor		
D2	1	100V	Diode, Schottky, 100 V, 3 A, AEC-Q101, PowerDS	PowerDS	PD5110QJ-13	Diodes Inc.		
D4	1	30V	Diode, Schottky, 30 V, 1.2 A, SOD-123	SOD-123	BAV102V7-F	Diodes Inc.		
D6	1	10V	Diode, Zener, 10 V, 500 mW, SOD-123	SOD-123	MMSZ5240B-7-F	Diodes Inc.		
FID1, FID2, FID3	3		Fiducial mark. There is nothing to buy or mount.	Fiducial	N/A	N/A		
J1, J2, J4, LB, J3	4		Terminal Block Receptacle, 3x1, 3.81mm, RA, TH	Term Block, 3 pos	1727023	Phoenix Contact		
L1	1	3.3uH	Inductor, Shielded, Ferrite, 3.3 uH, 5 A, 0.0213 ohm, SMD	Inductor, 6.2x4.5x5.9mm	CLF7045T-3R3N	TDK		
L2, L3	2	10uH	Inductor, Shielded, Powdered Iron, 10 uH, 2.5 A, 0.125 ohm, SMD	Inductor, 6.86x2.46x.47mm	HLF2525BDER100M01	Vishay-Dale		
LA, L6	2	1206	Ferrite Bead, 220 ohm @ 100 MHz, 4 A, 1206	1206	FBMH2216RM21N1V	Taiyo Yuden		
LS, L7	2	600 ohm	Ferrite Bead, 600 ohm @ 100 MHz, 1.5 A, 1206	1206	MIT206R601R-10	Laird Signal Integrity Products		
LB, D1, LB, D2, LB, D3, LB, D4, LB, D5, LB, D6, LB, D7, LB, D8, LB, D9, LB, D10, LB, D11, LB, D12, LB, D13, LB, D14, LB, D15, LB, D16, LB, D17, LB, D18, LB, D19	19	White	LED, White, SMD	2x2.75mm	KW DMLN1-SG-6J8K-e0F460c046-8E8G	OSRAM		
LB, J1, LB, J2	2		Terminal Block, 100mil, 2x1, 6A, 63V, TH	6.2x8.5x5.54 mm	172566	Phoenix Contact		
LB, U1	1		Automotive Grade, 2.7V-Capable, 10 uA Analog Output Temperature Sensor, D0X0005A (SOT-SC70-5)	DCR0005A	LM78JQDCRQ1	Texas Instruments	LM78JQDCRQ1	Texas Instruments
Q1	1	60V	MOSFET, P-CH, 60 V, 3.6 A, PowerPAK 1212	PowerPAK 1212	S14152N Y1-GE3	Vishay-Siliconix		None
Q2, Q4	2	100V	MOSFET, N-CH, 100 V, 20 A, AEC-Q101, 8-PowerVDFN	8-PowerVDFN	STL8N10LF3	STMicroelectronics		None
Q5	1	60V	MOSFET, N-CH, 60 V, 0.32 A, AEC-Q101, SOT-323	SOT-323	BSS138PW-115	Nezperla		None
R1	1	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	0603	CRCW060315R0FKEA	Vishay-Dale		
R2	1	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	0603	CRCW060315R0FKEA	Vishay-Dale		
R3	1	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	0603	CRCW060315R0FKEA	Vishay-Dale		
R4	1	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	0603	CRCW060315R0FKEA	Vishay-Dale		
R5	1	150k	RES, 150 k, 1%, 0.1 W, 0603	0603	CRCW0603150K0FKEA	Vishay-Dale		
R6	1	100k	RES, 100 k, 1%, 0.1 W, 0603	0603	CRCW0603100K0FKEA	Vishay-Dale		
R7	1	20.0k	RES, 20.0 k, 1%, 0.1 W, 0603	0603	CRCW060320K0FKEA	Vishay-Dale		
R8	1	0	RES, 0 ohm, 1%, 0.1 W, 0603	0603	CRCW0603000020E	Vishay-Dale		
R9	1	0.0k	RES, 0 ohm, 1%, 0.1 W, 0603	0603	CRCW0603000020E	Vishay-Dale		
R10	1	0.0k	RES, 0 ohm, 1%, 0.1 W, 0603	0603	CRCW0603000020E	Vishay-Dale		
R11, R12	2	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	0603	CRCW060310R0FKEA	Vishay-Dale		
R13	1	1.0k	RES, 1.0 k, 1%, 0.1 W, 0603	0603	CRCW06031K00FKEA	Vishay-Dale		
R14	1	100k	RES, 100 k, 1%, 0.1 W, 0603	0603	CRCW0603100K0FKEA	Vishay-Dale		
R15	1	20.0k	RES, 20.0 k, 1%, 0.1 W, 0603	0603	CRCW060320K0FKEA	Vishay-Dale		
R16	1	33.0k	RES, 33.0 k, 1%, 0.1 W, 0603	0603	CRCW060333K0FKEA	Vishay-Dale		
R17, R18	2	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	0603	CRCW060310R0FKEA	Vishay-Dale		
R24	1	0	RES, 0 ohm, 1%, 0.5 W, 1206	1206	5108	Keystone		
R26, R32	2	47k	RES, 47 k, 5%, 0.1 W, 0603	0603	CRCW060347K0FKEA	Vishay-Dale		
R28	1	110k	RES, 110 k, 1%, 0.1 W, 0603	0603	CRCW0603110K0FKEA	Vishay-Dale		
R29	1	5.1k	RES, 5.1 k, 5%, 0.1 W, 0603	0603	CRCW06035K10FKEA	Vishay-Dale		
R33	1	4.02k	RES, 4.02 k, 1%, 0.1 W, 0603	0603	CRCW0603402K0FKEA	Vishay-Dale		
R34	1	30.9k	RES, 30.9 k, 1%, 0.1 W, 0603	0603	CRCW060330K9FKEA	Vishay-Dale		
R36, R37	2	2.0k	RES, 2.0 k, 1%, 0.5 W, AEC-Q200 Grade 0, 1210	1210	ERJ-14BQF2R0U	Panasonic		
R38	1	12.1k	RES, 12.1 k, 1%, 0.1 W, 0603	0603	CRCW060312K1FKEA	Vishay-Dale		
R39	1	40.2k	RES, 40.2 k, 1%, 0.1 W, 0603	0603	CRCW060340K2FKEA	Vishay-Dale		
R40	1	10k	RES, 10 k, 5%, 0.1 W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale		
R44	1	100k	RES, 100 k, 1%, 0.1 W, 0603	0603	CRCW0603100K0FKEA	Vishay-Dale		
R46	1	13.3k	RES, 13.3 k, 1%, 0.1 W, 0603	0603	CRCW060313K3FKEA	Vishay-Dale		
TP1, TP2	2	Double	Terminal, Turnst, TH, Double	Keystone1922-2	1922-2	Keystone		
U1	1		LED Converter With Serial Spectrain Frequency Modulation and Internal PWM Generator, PWP0200D (TSSOP-20)	PWP0200D	IPS20692QPWPRQ1	Texas Instruments	IPS20692QPWPTQ1	Texas Instruments
U2	1		Automotive Quad Comparator, PWH014A1	PWH014A1	LM2911QPWRQ1	Texas Instruments		Texas Instruments
U4	1		10-MHz, Rail-to-Rail Input/Output, Low-Voltage, 1.8-V CMOS Operational Amplifier, DGK0008A (VSSOP-8)	DGK0008A	TLV2316QDGKRQ1	Texas Instruments	TLV2316QDGKTQ1	Texas Instruments
C5, C13	0	10uF	CAP, CERM, 10 uF, 50 V, +/- 10%, X7S, AEC-Q200 Grade 1, 1210	1210	CGA6P3X7S1H106K25	TDK		
C17	0	0.1uF	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, AEC-Q200 Grade 1, 0603	0603	CGA3E2X7R1H104K08	TDK		
C24	0	0.01uF	CAP, CERM, 0.01 uF, 100 V, +/- 20%, X7R, 0603	0603	96031C10MA12A	AVX		
C41, C45	0	0.1uF	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0603	0603	96032C10MA12A	AVX		
C42	0	2.2uF	CAP, CERM, 2.2 uF, 10 V, +/- 10%, X6R, 0603	0603	C3060322K2RFACTU	Kenmet		
D5	0	Green	LED, Green, SMD	LED_0603	15060V/S7500	Wurth Elektronik		
D8	0	30V	Diode, Zener, 30 V, 500 mW, AEC-Q101, SOD-123	SOD-123	BZT52-16-V-F	Diodes Inc.		
J3	0	100V	Terminal Block, 100mil, 2x1, 6A, 63V, TH	6.2x8.5x5.54 mm	172566	Phoenix Contact		
Q3, Q6	0	60V	MOSFET, N-CH, 60 V, 0.32 A, AEC-Q101, SOT-323	SOT-323	BSS138PW-115	Nezperla		None
R3	0	10.0k	RES, 10.0 k, 1%, 0.1 W, 0603	0603	CRCW060315R0FKEA	Vishay-Dale		
R17	0	1.0k	RES, 1.0 k, 5%, 0.1 W, 0603	0603	CRCW06031K00FKEA	Vishay-Dale		
R20	0	5.1k	RES, 5.1 k, 5%, 0.1 W, 0603	0603	CRCW06035K10FKEA	Vishay-Dale		
R21, R44	0	30k	RES, 30 k, 5%, 0.1 W, 0603	0603	CRCW060330K0FKEA	Vishay-Dale		
R22	0	732k	RES, 732 k, 1%, 0.1 W, 0603	0603	CRCW0603732K0FKEA	Vishay-Dale		
R23	0	47k	RES, 47 k, 5%, 0.1 W, 0603	0603	CRCW060347K0FKEA	Vishay-Dale		
R25, R50	0	10k	RES, 10 k, 5%, 0.1 W, 0603	0603	CRCW060310K0FKEA	Vishay-Dale		
R27, R43	0	100k	RES, 100 k, 1%, 0.1 W, 0603	0603	CRCW0603100K0FKEA	Vishay-Dale		
R47	0	1.00Meg	RES, 1.00 M, 1%, 0.1 W, 0603	0603	CRCW06031M00FKEA	Vishay-Dale		
R35	0	390k	RES, 390 k, 5%, 0.1 W, 0603	0603	CRCW0603390K0FKEA	Vishay-Dale		
R41	0	4.99k	RES, 4.99 k, 1%, 0.1 W, 0603	0603	CRCW0603499K0FKEA	Vishay-Dale		
R45	0	25.5k	RES, 25.5 k, 1%, 0.1 W, 0603	0603	CRCW060325K5FKEA	Vishay-Dale		
R48	0	200k	RES, 200 k, 1%, 0.1 W, 0603	0603	CRCW0603200K0FKEA	Vishay-Dale		
R49	0	15.0k	RES, 15.0 k, 1%, 0.1 W, 0603	0603	CRCW060315K0FKEA	Vishay-Dale		
U3	0		Single Inverter Gate, D0X0005A (SOT-SC70-5)	DCX0005A	CA7HC1150GDCRQ1	Texas Instruments		Texas Instruments

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

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