

Bill of Materials

TI DESIGNS
TIDM-SOLAR-ONEPHINV

Designator	Footprint	Quantity	Value	DigiKey Part No	MANEX PART#	MFGR	MFGR PART#	VENDOR PART#
Main Board v2.7								
C1	CE1035P2	0	470u/450V	Not connected				
C2,C47,C48	CAP-P10-13X4.5	3	0.022u/630V	P12125-ND				
C3	C27515P2	1	1u/275V	DigiKey Part No:399-5467-ND Manufacturer Part No:R46KR410000M1K				
C4, C6, C9, C15, C37, C38	C0603	6	100nF/16V	478-1259-2-ND				
C5, C10, C11, C12, C13, C14, C18, C20, C21, C36, C50	C0603	11	1nF/16V	0603YC102MAT4A-ND				
C7, C8, C16, C17	C0603	4	220pF/16V	0603YC221MAT2A-ND				
C19,	C0603	1	0.47uF/25V	445-5145-2-ND				
C22, C42	C07521A	2	1000pF/50V	P4036A-ND				
C23, C28	E/2.5/6.5/E1@	2	22uF/25V	493-1058-ND				
C24, C29	CAP-3528	2	10uF/16V	478-1675-2-ND				
C25	CAP-3528	1	22uF/10V	478-3040-2-ND				
C26	Radial Can(2563)	1	100uF/25V	P10413TB-ND				
C27	Radial Can(2550)	1	100uF/16V	P10408TB-ND				
C30	CAP-3528	1	22uF/10V	478-3040-2-ND				
C31, C32, C33, C34	C0603	4	100nF/10V	478-1259-2-ND				
C35	C0603	1	220pF/10V	0603YC221MAT2A-ND				
C39, C40	Radial Can(5080)	2	220uF/25V	P10377TB-ND				
C41	C0603	1	0.1uF/25V	478-1244-2-ND				
C43	C0603	1	0.47uF/25V	445-5145-2-ND				
C44	Radial	1	10nF/50V	478-4271-2-ND				
C45,C46	Axial	2	0.1uF/100V	478-3154-1-ND				
CN1, CN2, CN3, CN4	HDR1X10	4	The Driver Module	Driver board				
CN5	HDR2X5	1	The DC-DC signal interface. Standard 0.1" SIL headers, cut to fit, total needed 2x5	Refer to the V1 board	260-0009772			
CN6	HDR1X3	1	The External SCI port	Not connected				
CON1, CON2	CN3P/7.62	2	The Power Line Connector, including the Header and Plug	ED1734-ND(Plug) ED2851-ND(Header)				

D1, D2	D10626A	2	1N4937	1N4937FSTR-ND				
D3, D4	LED0805	2	LED	404-1021-1-ND				
F1	F275P2	1	10A/250VAC	F2519-ND				
The Ears for F1	Through hole	2		F3784-ND				
HCT1	HCT-HNC-05SYB	1	HNC-05SYB	Bought from China				
J1	DCJACK	1	15V Power DC Jack connector	CP-002AH-ND	260-0005141		PJ-002AH	
JP1, JP2, JP3, JP4, JP5	HDR1X2	5	Standard 0.1" SIL headers, cut to fit, total needed 1x2	260-0008027				
JP6	HDR1X2	1	Standard 0.1" SIL headers, cut to fit, total needed 1x2	260-0008027				
JTAG1	JTAG	1	JTAG port. Standard 0.1" SIL headers, cut to fit, total needed 2x7	Refer to the V1 board	260-0009772			
L1, L2	Inductor-57x30	2	3.5mH/T184-8/90	Bought from China				
P1	HDR2X9	1	PLC Interface/Not Connected	Not connected				
P2	HDR2X4	1	PLC Interface/Not Connected	Not connected				
PW1	PR902A	1	PR902/Texas Instruments	The TI module				
Q1, Q2, Q3, Q4	TO247-HS	4	First Choice: IRG4PC30FDP Bf	First Choice: IRG4PC30FDP BF-ND				
HS1,HS2,HS3,HS4	TO247 Heat-sink	4	Heat-sink	Bought from China				
Q5	FET350R	1	2SK2962	2SK2962(F)-ND				
R1, R2, R12, R13	R1210	4	1.33KSM/0.5W	541-1.33KAATR-ND				
R4, R5, R14, R26, R27, R28, R29, R30, R31	R0805	9	1M /1%	P1.00MHDKR-ND				
R6, R201	R10623	2	10/0.5W	P10BBCT-ND				
R7, R15	R0805	2	20K/1%	P20.0KCTR-ND				
R8, R9, R17, R18	R10623	4	47K/0.5W	P47KBBTB-ND				
R10, R11, R19, R20	R10623	4	10/0.5W	P10BBCT-ND				
R16	R0805	1	10K/1%	P10.0KCTR-ND				
R21, R32, R33, R59, R61, R62, R78	R0603	7	10K/1%	P10.0KHTR-ND				
R22, R34, R43, R48, R49, R65, R66, R77	R0603	8	1K/1%	P1.00KHTR-ND				
R23	R0603	1	270K	P270KGTR-ND				
R24	R0805	1	150	P150ATR-ND				
R25	R0805	1	3K	P3.0KATR-ND				
R35, R37, R38, R41, R71, R73, R74, R75, R76	R0603	9	4.99K/1%(0603)	P4.99KHTR-ND				

R36	R0603	1	30K/1%(0603)	P30.0KHTR-ND				
R44, R64, R72	R0603	3	100/1%(0603)	P100HTR-ND				
R54, R56	R0603	2	20K/1%(0603)	P20.0KHTR-ND				
R55	R0603	1	510K/1%(0603)	P510KHTR-ND				
R57	R0603	1	100/1%(0603)	P100HTR-ND				
R67	R0603	1	1.2K(0603)	P1.2KGTR-ND				
R68	R0603	1	1.5K	P1.5KGTR-ND				
R69	R0805	1	330(0805)	P330CTR-ND				
R70	R0603	1	10K(0603)	P10.0KHTR-ND				
RY1, RY2	RELAY-G5LA-1	2	G5LA-14-DC12	Z2561-ND				
S1	SW-3P8X5	1	The 15V power switch	Refer to the V1 board	249-0000911		108-2AS1T1203-EVX	108-2AS1T1203-EVX
SW1	KRS640	1	The Turn on Key	TL1105TF100Q-ND				
TP1, TP2, TP3, TP4, TP5, TP7, TP8, TP9, TP10, TP11	PIN1	10	The test points	Not connected				
U1	2003SM	1	ULN2003ADR	296-1368-1-ND				
U2	DIMM100-1D27	1		Refer to the V1 board	160-0000913		87630-1001	538-87630-1001
U3, U5	TL074SM	2	OPA4350	OPA4350UA-ND				
U4	339SM	1	LM339	296-1013-2-ND				
U6	PTH08080	1	PTH08080	296-20432-ND				
U7, U9	SOT-223-3P	2	TLV1117-33	296-21112-2-ND				
U8	DCH010505	1	DCH010505	296-20638-ND				
U10	IC-SOIC16P-1.27DW	1	ISO7240C	296-22617-2-ND				
U11	IC-SOIC16P-1.27DW	1	ISO7242C	ISO7272CDWR-ND				
U12	DCH010515	1	DCH010515	296-20642-ND				
U13	DCK	1	TPS71501DCKR	296-12957-2-ND				
ZD2, ZD3, ZD4, ZD5	ZD123BSM	4	15VCSM/22131	BZV55C15-TPMSTR-ND				

Designator	Value	Description	Footprint	Quantity	Digikey No	Where to Buy		
Driver Board v2.5								
C1, C2, C4	10u/35V	CE6666SM	CE6666	3	493-2282-2-ND	USA		
C3, C5	104/50V	C0603SM	C0603	2	478-5052-2-ND	USA		
C6	103/50V	C0603SM	C0603	1	478-1227-2-ND	USA		
C8	103/50V	C0603SM	C0603	1	478-1227-2-ND	USA		
C9	104/50V	C0603SM	C0805	1	478-1395-2-ND	USA		
C10	102/50V	C0603SM	C0603	1	478-1215-2-ND	USA		
CN1	DB0HP07L	DB0HP07L	DB0HP07L	1	SAM1051-10-ND	USA		
D2, D3, D4	ES2D	1 Amp Fast Recovery Rectifier		3	ES2DFSTR-ND	USA		
Q1, Q2	RK7002	7002TSM	7002TSM	2	RK7002BT116TR-ND	USA		

Q3	2SC2873	TR62NTSM	TR62NTSM	1	568-6805-2-ND	USA		
Q4	2SA1213	TR62PTSM	TR62PTSM	1	2DA1213YDI TR-ND	USA		
R1	15K	R0603SM	R0603	1	541-15KGCT-ND	USA		
R2, R4	300	R0603SM	R0603	2	541-300GCT-ND	USA		
R3	150ohm/0.5W	R1206NSM	R1206	1	541-150UCT-ND	USA		
R5	2.2KSM(0603)	R0603SM	R0603	1	541-2.2KGCT-ND	USA		
R6, R7	10K	R0805BSM	R0603	2	P10KCBCT-ND	USA		
R8	1.5KSM(0805)	R0805BSM	R0805	1	P1.5KCBCT-ND	USA		
R9	10ohm	R0805BSM	R0603	1	P10CBCT-ND	USA		
R10	10ohm	R1206NSM	R1206	1	541-10ECT-ND	USA		
TX1	TXEE10		Trans-12x12-8pin	1		CHINA		
U1	UC3845	38458BSM	8-SIOC	1	296-27153-2-ND	USA		
U2	TLP350SM	PH350SM	TLP627-2	1	TLP350F-ND	USA		
ZD1	16V	ZD123TSM	ZD123TSM	1	FLZ16VBTR-ND	USA		

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