

Bill of Materials

TI DESIGNS
TIDM-BUCKBOOST-BIDIR

Revised 1/4/2017, Changed Cap Rating for C3 & C2 to be 16V

Revised 10/29/2015 , Changed R7,R9,R11,R12 to 18R

Qty	Reference	Part Name	Description	Value	Voltage	PCB DECAL	Tolerance	Manufacturer	Digi-Key PN
2	U101-102	TLV2371	INTEGRATED CIRCUIT, OP-AMP			SOT-235		Texas Instruments	296-13057-1-ND
2	U103-104	OPA340NACT	INTEGRATED CIRCUIT, OP-AMP			SOT-235		Texas Instruments	OPA340NACT-ND
1	U201	TPS40210DGQ	INTEGRATED CIRCUIT, PWM CONTROLLER			SO-10-FP		Texas Instruments	296-24813-5-ND
1	Q203	PXT2907A	TRANSISTOR, BIPOLAR, PNP		60 V	SOT-89		NXP	568-5042-1-ND
1	Q204	BC847B	TRANSISTOR, NPN		45 V	SC75		ON-Semiconductor	BC847BTT1GOSCT-ND
1	Q201	BC857BT	TRANSISTOR, PNP		45 V	SC75		ON-Semiconductor	BC857BTT1GOSCT-ND
1	Q205	Si4848DY	MOSFET, N-CHANNEL		150 V	SO-8		Vishay-Siliconix	SI4848DY-T1-E3CT-ND
1	D201	MM3Z6V8T1	DIODE, ZENER	6V8	6.8 V	SOD-323	6%	ON-Semiconductor	MM3Z6V8T1GOSCT-ND
1	D202	BZX84C8V2	DIODE, ZENER		8.2 V	SOT-23		ON-Semiconductor	BZX84C8V2LT1GOSCT-ND
1	D205	MMBD914	DIODE, SILICON		100 V	SOT-23		ON-Semiconductor	MMBD914LT3GOSCT-ND
1	D204	SS14	DIODE, SCHOTTKY		40 V	SMA		Vishay	SS14-E3/61TGICT-ND
1	D203	ES1B	DIODE, SILICON		100 V	SMA		Diodes Inc.	ES1B-FDICT-ND
1	D101	STPS20H100CG	DIODE, SCHOTTKY, POWER		100 V	27-84400		ST Microelectronics	497-2457-1-ND
1	U2	TPS73033	LOW-DROPOUT LINEAR REGULATOR			SOT-235		TEXAS INSTRUMENTS	296-17580-1-ND
2	U1 U3	UCC27211DDA	IC, 120 V Boot, 2.5A Peak, High-Freq. High-Side Low-Side Driver	UCC2720xDDA		DDA-8			296-30308-5-ND
1	Q202	BC846ALT1G	GENERAL PURPOSE TRANSISTOR		65 V	SOT-23		ON-Semiconductor	BC846ALT1GOSCT-ND
4	Q101-102 Q105-106	IRF6644_MN,IRF6644TRPbF	IRF6644 DirectFET	IRF6644TRPbF	100 V	525-DIRECTFET_MN		INTERNATIONAL RECTIFIER	IRF6644TRPBFCT-ND

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1	D2	527-V12P10,V12P10	Diode, High Current,Trench MOS Barrier Schottky, 100V, 12A	V12P10		TO-277A			V12P10-M3/86AGICT-ND
1	L101	530-HA55-3623,38.8 uH,20%	POWER INDUCTOR	38.8 uH		530-HA55-3623	20%	BI Technologies	
1	T201	531-G094256LF,500 uH,16%	SEPIC COUPLED INDUCTOR	500 uH		531-G094256LF	16%	GCi Technologies	
2	C115,C119	CAP,0.01 uF,10%	CAPACITOR, MLS, X7R, SMD	0.01 uF	50 V	0603C	10%		
2	C116 C118	CAP,0.01 uF,10%	CAPACITOR, MLS, X7R, SMD	0.01 uF	50 V	0603C	10%		
2	C120-121	CAP,1 uF,10%	CAPACITOR, MLS, X7R, SMD	0.022 uF	16 V	0603C	10%		
3	C9 C214-215	CAP,0.047 uF,10%	CAPACITOR, MLC, X7R, SMD	0.047 uF	25 V	0603C	10%		
4	C4-7	CAP,0.1 uF,10%	CAPACITOR, MLS, X5R, SMD	0.1 uF	16 V	0603C	10%		
2	C123-124	CAP,0.01 uF,10%	CAPACITOR, MLS, X5R, SMD	0.01 uF	16 V	0603C	10%		
1	C306	CAP,0.1 uF,10%	CAPACITOR, MLC, X7R, SMD	0.1 uF	16 V	0603C	10%		
1	C208	CAP,0.22 uF,10%	CAPACITOR, MLC, SMD	0.22 uF	10 V	0603C	10%		
4	C201-204	CAP,1 uF,10%	CAPACITOR, MLC, X7R, SMD	1 uF	100 V	1210C	10%		
3	C209 C211-212	CAP,1 uF,10%	CAPACITOR, MLC, X7R, SMD	1 uF	25 V	0805C	10%		
1	C217	CAP,1 uF,10%	CAPACITOR, MLC, X5R, SMD	1 uF	16 V	0805C	10%		
1	C206	CAP,10 uF,20%	CAPACITOR, MLC, X7R, SMD	10 uF	25 V	1210C	20%		
1	C213	CAP,150 pF,5%	CAPACITOR, MLC, SMD	150 pF	50 V	0603C	5%		
2	C1 C125	CAP,2.2 uF,10%	CAPACITOR, MLC, X5R, SMD	2.2 uF	16 V	0805C	10%		
2	C3 C2	CAP,2.2 uF,10%	CAPACITOR, MLS, X7R, SMD	2.2 uF	16 V	0603C	10%		
14	C101-114	CAP,2.2 uF,10%	CAPACITOR, MLS, X7R, SMD	2.2 uF	100 V	1210C	10%		
1	C8	CAP,2.2 uF,10%	CAPACITOR, MLC, X7R, SMD	2.2 uF	25 V	0805C	10%		
1	C205	CAP,22 uF,20%	CAPACITOR, MLS, X5R, SMD	22 uF	6.3 V	1210C	20%		
1	C207	CAP,220 pF,5%	CAPACITOR, MLC, SMD	220 pF	50 V	0603C	5%		
1	C216	CAP,4.7 uF,20%	CAPACITOR, MLC, X5R, SMD	4.7 uF	6.3 V	0805C	20%		
1	C210	CAP,470 pF,10%	CAPACITOR, MLC, SMD	470 pF	50 V	0805C	10%		

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1	J1	DIMM-100	CONNECTOR, SOCKET, DIMM 100			CON1.27MM-100-DIMM		Molex	
3	L201-203	FERRITE	FERRITE BEAD, SMD			FERRITE_9.6X3.05MM		Fair-Rite	
2	TP208	HEADER100-2	HEADER, 0.1 IN, 2-WAY		350 V	SIH-2P		Molex	
1	J3	HEADER100-4	HEADER, 0.1 IN, 4-WAY		350 V	HEADER100-4		Molex	
2	LK202 LK301	HEADER100-2X2	HEADER, 0.1 IN, DUAL-ROW, 4-WAY		350 V	HEADER100-2X2		Molex	
1	LK203	HEADER100-2X2	HEADER, 0.1 IN, DUAL-ROW, 4-WAY		350 V	HEADER100-2X2		Molex	
1	J2	HEADER100-2X7	HEADER, DUAL-ROW, 0.100"			HEADER100-2X7		Molex	
14	TP1 TP4 TP120 TP128-129 TP134-135 TP137 TP204-207 TP209-210	HOLE	TEST POINT, 0.025-IN THRO' HOLE			HOLE036			
10	TP103-105 TP111-113 TP131-132 TP211 TP213	HOLE025	TEST POINT, 0.025-IN THRO' HOLE			HOLE025			
8	V1-8	HOLE159				HOLE159			
4	TP107-108 TP122-123	PTH0689	PLATED-THRO' HOLE, 0.068 IN DIA.			PTH0689			
1	U4	REF33XXAIDBZ,REF33xxAIDBZ	IC, 30 ppm/°C, 3.9 µA xx-Voltage Reference	REF33xxAIDBZ		SOT-23			
2	R101-102	RESISTOR,0R010,1%	RESISTOR, LOW SENSE, SMD	0.01		2512	1%		RHM.010AUTR-ND
1	R219	RESISTOR,0R050,5%	RESISTOR, SMD	0R050		1206R	5%		P50NPCT-ND
2	R107-108	RESISTOR,1K,1%	RESISTOR, SMD	1K		0603R	1%		
2	R212-213	RESISTOR,100k,1%	RESISTOR, SMD	100k		0603R	1%		
1	R220	RESISTOR,100k,1%	RESISTOR, SMD	100k		0805R	1%		
4	R7 R9 R11-12	RESISTOR,18R,5%, 0.125W	RESISTOR, SMD	18R		0805R	5%	Rohm	
1	R217	RESISTOR,10R0,1%	RESISTOR, SMD	10R0		0603R	1%		
6	R120-123 R205-206	RESISTOR,10k0,1%	RESISTOR, SMD	10k0		0603R	1%		
1	R201	RESISTOR,15k0,1%	RESISTOR, SMD	15k0		0603R	1%		
1	R208	RESISTOR,15k4,1%	RESISTOR, SMD	15k4		0603R	1%		
1	R214	RESISTOR,187k,1%	RESISTOR, SMD	187k		0603R	1%		
1	R218	RESISTOR,1k0,1%	RESISTOR, SMD	1k0		0603R	1%		

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1	R215	RESISTOR,1k5,1%	RESISTOR, SMD	1k5		0603R	1%		
1	R224	RESISTOR,1k78,1%	RESISTOR, SMD	1k78		0603R	1%	Panasonic	
1	R211	RESISTOR,20k0,1%	RESISTOR, SMD	20k0		0603R	1%		
4	R2, R109- R111	RESISTOR,200K,1%	RESISTOR, SMD	200K		0603R	1%		
4	R1,R5,R6,R 8	RESISTOR,18K,1%	RESISTOR, SMD	18K		0603R	1%		
2	R103-104	RESISTOR,24.3k0,0.1%	RESISTOR, PRECISION, SMD	24.3k0		1206R	0.10%	Stackpole Electronics	
1	R222	RESISTOR,2k21,1%	RESISTOR, SMD	2k21		0603R	1%		
1	R209	RESISTOR,2k49,1%	RESISTOR, SMD	2k49		0603R	1%		
1	R203	RESISTOR,301k,1%	RESISTOR, SMD	301k		0805R	1%		
1	R207	RESISTOR,49R9,1%	RESISTOR, SMD	49R9		0603R	1%		
1	R202	RESISTOR,49k9,1%	RESISTOR, SMD	49k9		0603R	1%		
1	R204	RESISTOR,4k02,1%	RESISTOR, SMD	4k02		0805R	1%		
1	R216	RESISTOR,4k02,1%	RESISTOR, SMD	4k02		0603R	1%		
3	R3-4 R221	RESISTOR,4k64,1%	RESISTOR, SMD	4k64		0603R	1%		
4	R112-114 R116	RESISTOR,500,1%	RESISTOR, SMD		500	0603R	1%		
2	R105-106	RESISTOR,750R,0.1%	RESISTOR, PRECISION, SMD	750R		0805R	0.10%	Panasonic	
1	R210	RESISTOR,7k5,1%	RESISTOR, SMD	7k5		0603R	1%		
1	R223	RESISTOR,9k76,1%	RESISTOR, SMD	9k76		0603R	1%		
3	SP1-2 SP4	RESISTOR-SHORT	STAR-POINT GROUND CONNECTION			1206-SHORT			
1	SP3	RESISTOR-SHORT	STAR-POINT GROUND CONNECTION			0603-SHORT			
2	LUG1-2	TERMLUG-200	TERMINAL LUG, COPPER, 8-14 AWG			TERMLUG- 200			
2	LUG3-4	TERMLUG-250	TERMINAL LUG, COPPER, 4-14 AWG			TERMLUG- 250			
16	TP101-102 TP109-110 TP118-119 TP124-127 TP130 TP133 TP201-203 TP212	TPTH063	TEST POINT, YELLOW			TPTH063		Keystone	
1	TP121	TP_060	TEST POINT, YELLOW			TP_060		Keystone	
1	Terminal Lug Output		BlackBurn Copper Connector (Thomas & Betts) L70 Type L - Copper Single Conductor, One-Hole Mount for Conductor Range 14 Sol.- 4 Str.			http://www.tnb.com/ps/fulltilt/index.cgi?part=L70			

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1	Terminal Lug Input		BlackBurn Copper Connector (Thomas & Betts) L70 Type L - Copper Single Conductor, One-Hole Mount for Conductor Range 14 Sol.- 8 Str.			http://www.tnb.com/ps/fulltilt/index.cgi?part=L35			

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