VIN

J3
575-8
VIN = 6-45VDC @ 14A Max

J7
575-8

+ C1
50V
220µF

C2
50V
4.7uF

C3
50V
4.7uF

C4
50V
4.7uF

GND

TP1
5008

VCC

R20
240k

MODE

R24
93.1k

C21
100pF
50V
885012006057

GND

VIN

D3
BAS316,115

R17
10.0

C19
100nF
50V

GND

EN

R13
249k

R16
59.0k

VCC

J9
1
2
PEC01DAAN

C18
100pF
50V

GND

R23
10.0k

R6
0
HO1
Q11
CSD18537NKCS

R5
0
HO2
Q31
CSD...
B220A-13-F
R3
10.0

R3

C7
50V
10uF

C8
50V
10uF

C9
50V
10uF
VOSNS+

R211
0

R2
0

NT2
Net-Tie
VOSNS-

VOUT

C12
25V
4.7uF

+ C14
16V
220µF

C13
25V
4.7uF

VOUT = 12VDC @ 3A

J4
575-8

J8
575-8

GND

SW1
L1
4.7uH
SW2

GND

CSD18537NKCS

D2
B260A-13-F

R8
10.0

LO1
R11
0
Q21

C17
100pF
50V

LO2
R10
0
Q41
CSD18537NKCS

C16
100pF
50V

C20
1µF
25V
GND

VCC

R151
0.012
R15
0.012

NT1
Net-Tie

R25
100
CS

C24
100pF
50V
CSG

R26
100

GND

U1
2 VIN   VCC 23
1 EN   BIAS 24   BIAS
8 SS   BOOT1 26
11 FB   SW1 28
9 COMP   HDRV1 27   HO1
17 PGOOD   LDRV1 25   LO1
16 CS   BOOT2 20
15 CSG   SW2 18
6 RT/SYNC   HDRV2 19   HO2
5 DITH   LDRV2 21   LO2
3 VINSNS   MODE 4   MODE
12 VOSNS   ISNS 13
7 SLOPE   ISNS+ 14
10 AGND   PGND 22
   PAD
LM5175PWP

D4
BAS316,115
C23
100nF
50V
SW1

D5
BAS316,115
C25
100nF
50V
SW2

C27
100nF
50V

C29
22nF
50V

R31
84.5k

C31
100pF
50V

R29
84.5k

C28
3.3nF
50V

VOUT

R27
0

VIN

R14
0

C30
100pF
50V

C33
100pF
50V

GND

C22
1µF
25V

R19
100
VOSNS-

R22
100
VOSNS+

GND

VOUT

R34
0

R32
20.0k

R33
280k

C34
100pF
50V

VOUT

R28
0

BIAS

C32
100nF
50V

GND

R30
20.0k

FB

GND

Line #	Designator	Quantity	Value	PartNumber	Manufacturer	Description	PackageReference	Revision State	Manufacturer 1	Manufacturer Part Number 1	Manufacturer Lifecycle 1	Supplier 1	Supplier Part Number 1	Supplier Unit Price 1	Supplier Subtotal 1	Supplier 2	Supplier Part Number 2	Supplier Unit Price 2	Supplier Subtotal 2
!PCB		1	XXX###		Any	Printed Circuit Board		Production											
C1		1	220uF	860080675015	Wurth Elektronik	CAP, AL, 220 µF, 50 V, +/- 20%, TH	D10x16mm	Validation	Wurth Electronics	860080675015	Volume Production	Digi-Key	732-9057-1-ND	0.55	0.55	Digi-Key	732-9057-3-ND	0.32	160
C2, C3, C4		3	4.7uF	GRM32ER71H475KA88L	MuRata	CAP, CERM, 4.7 uF, 50 V, +/- 10%, X7R, 1210	1210	Validation	Murata	GRM32ER71H475KA88L	Volume Production	Digi-Key	490-1864-6-ND	0.58	1.74	Digi-Key	490-1864-1-ND	0.58	1.74
C7, C8, C9		3	10uF	GRM32ER71H106KA12L	MuRata	CAP, CERM, 10 uF, 50 V, +/- 10%, X7R, 1210	1210	Production	Murata	GRM32ER71H106KA12L	Volume Production	Digi-Key	GRM32ER71H106KA12L-ND	0	0	Digi-Key	490-6544-1-ND		0
C12, C13		2	4.7uF	885012208068	Wurth Elektronik	CAP, CERM, 4.7 uF, 25 V, +/- 10%, X7R, 1206_190	1206_190	Validation	Wurth Elektronik	885012208068	Unknown	Mouser	710-885012208068						
C14		1	220uF	EKMG160ELL221MF11D	Chemi-Con	CAP, AL, 220 uF, 16 V, +/- 20%, TH	D6.3xL11mm	Validation				Digi-Key	565-1293-ND						
C16, C17, C18, C21, C30, C31, C33, C34		8	100pF	885012206057	Wurth Elektronik	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603	Validation	Wurth Elektronik	06035A5R6CAT2A	Unknown								
C19, C23, C25, C27, C32		5	0.1uF	885012206095	Wurth Elektronik	CAP, CERM, 0.1 uF, 50 V, +/- 10%, X7R, 0603	0603	Validation	Wurth Elektronik	885012206095	Unknown								
C20		1	1uF	885012206076	Wurth Elektronik	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603	Validation	Wurth Elektronik	885012206076	Unknown	Digi-Key	732-7994-1-ND			Newark	75Y6031		
C22		1	1uF	885012206076	Wurth Elektronik	CAP, CERM, 1 uF, 25 V, +/- 10%, X7R, 0603	0603	Validation	Wurth Elektronik	885012206076	Unknown	Digi-Key	732-7994-1-ND			Newark	75Y6031		
C24		1	100pF	885012206057	Wurth Elektronik	CAP, CERM, 100 pF, 50 V, +/- 5%, C0G/NP0, 0603	0603	Validation	Wurth Elektronik	06035A5R6CAT2A	Unknown								
C28		1	3300pF	885012206086	Wurth Elektronik	CAP, CERM, 3300 pF, 50 V, +/- 10%, X7R, 0603	0603	Production				Digi-Key	732-8004-1-ND			Newark	15AC9377		
C29		1	0.022uF	885012206091	Wurth Elektronik	CAP, CERM, 0.022 uF, 50 V, +/- 10%, X7R, 0603	0603	Validation	Wurth Elektronik	885012206091	Unknown								
D1		1	20V	B220A-13-F	Diodes Inc.	Diode, Schottky, 20 V, 2 A, SMA	SMA	Validation	Diodes	B220A-13-F	Volume Production	Digi-Key	B220A-FDIDKR-ND	0.49	0.49	Digi-Key	B220A-FDICT-ND	0.49	0.49
D2		1	60V	B260A-13-F	Diodes Inc.	Diode, Schottky, 60 V, 2 A, SMA	SMA	Validation	Diodes	B260A-13-F	Volume Production	Digi-Key	B260A-FDIDKR-ND	0.46	0.46	Digi-Key	B260A-FDICT-ND	0.46	0.46
D3, D4, D5		3	100V	BAS316,115	Nexperia	Diode, Ultrafast, 100 V, 0.25 A, SOD-323	SOD-323	Validation	Nexperia	BAS316,115	Unknown	Digi-Key	1727-4309-1-ND	0.11	0.33	Digi-Key	1727-4309-6-ND	0.11	0.33
FID1, FID2, FID3		3		N/A	N/A	Fiducial mark. There is nothing to buy or mount.	N/A	Production											
H1, H2, H3, H4		4		NY PMS 440 0025 PH	B&F Fastener Supply	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	Screw	Production	B&F Fastener	NYPMS4400025PH	Volume Production	Digi-Key	H542-ND	0	0				
J3, J4, J7, J8		4		575-8	Keystone	Standard Banana Jack, Uninsulated, 8.9mm	Keystone575-8	Production	Keystone Electronics	575-8	Volume Production	Digi-Key	36-575-8-ND	0.88	3.52	Mouser	534-575-8	0.78	3.12
J9		1		PEC01DAAN	Sullins Connector Solutions	Header, 2.54mm, 1x2, Tin, Black, TH	Header, 2.54mm, 2x1, TH	Validation				Digi-Key	S2012E-01-ND						
L1		1	4.7uH	7443551470	Wurth Elektronik	Inductor, Shielded Drum Core, WE-Perm, 4.7 uH, 13 A, 0.007 ohm, SMD	WE-HCA1	Validation				Digi-Key	732-1128-1-ND			Mouser	710-7443551470		
LBL1		1		THT-14-423-10	Brady	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650 x 0.200 inch	Production	Brady	THT-14-423-10	Volume Production	Arrow	THT-14-423-10	58.02	58.02	Digi-Key	2267-THT-14-423-10-ND	78.99	78.99
Q11, Q21, Q31, Q41		4	60V	CSD18537NKCS	Texas Instruments	MOSFET, N-CH, 60 V, 50 A, KCS0003B (TO-220-3)	KCS0003B	Validation				Digi-Key	296-36456-5-ND			Newark	04X4640		
R2, R28, R211		3	0	RC1206JR-070RL	Yageo America	RES, 0, 5%, 0.25 W, 1206	1206	Validation	Yageo America	RC1206JR-070RL	Unknown	Digi-Key	311-0.0ERCT-ND			Mouser	603-RC1206JR-070RL		
R3, R8		2	10.0	RC1206FR-0710RL	Yageo America	RES, 10.0 ohm, 1%, 0.25W, 1206	1206	Not managed	Yageo	RC1206FR-0710RL	Volume Production	Digi-Key	311-10.0FRCT-ND	0.15	0.3	Mouser	603-RC1206FR-0710RL	0.15	0.3
R5, R6, R10, R11, R14, R27, R34		7	0	RC0603JR-070RL	Yageo	RES, 0, 5%, 0.1 W, 0603	0603	Production	Yageo	RC0603JR-070RL	Volume Production	Digi-Key	311-0.0GRCT-ND	0.017	0.17	Digi-Key	311-0.0GRDKR-ND	0.017	0.17
R13		1	249k	RC0603FR-07249KL	Yageo	RES, 249 k, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-07249KL	Volume Production	Digi-Key	311-249KHRCT-ND	0.1	0.1	Digi-Key	311-249KHRDKR-ND	0.1	0.1
R15, R151		2	0.012	CSR1206FK12L0	Stackpole Electronics Inc	RES, 0.012, 1%, 0.5 W, 1206	1206	Validation	Stackpole Electronics Inc	CSR1206FK12L0	Unknown	Digi-Key	CSR1206FK12L0CT-ND						
R16		1	59.0k	RC0603FR-0759KL	Yageo	RES, 59.0 k, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-0759KL	Volume Production	Mouser	603-RC0603FR-0759KL	0.1	0.1	Digi-Key	311-59.0KHRDKR-ND	0.1	0.1
R17		1	10.0	RC0603FR-0710RL	Yageo	RES, 10.0, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-0710RL	Volume Production	Digi-Key	311-10.0HRCT-ND	0.1	0.1	Digi-Key	311-10.0HRCT-ND	0.1	0.1
R19, R22, R25, R26		4	100	RC0603FR-07100RL	Yageo	RES, 100, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-07100RL	Volume Production	Digi-Key	311-100HRDKR-ND	0.024	0.24	Digi-Key	311-100HRCT-ND	0.024	0.24
R20		1	240k	RC0603FR-07240KL	Yageo	RES, 240 k, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-07240KL	Volume Production	Digi-Key	311-240KHRDKR-ND	0.1	0.1	Digi-Key	311-240KHRCT-ND	0.1	0.1
R23		1	10.0k	RC0603FR-0710KL	Yageo	RES, 10.0 k, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-0710KL	Volume Production	Digi-Key	311-10.0KHRDKR-ND	0.1	0.1	Digi-Key	311-10.0KHRCT-ND	0.1	0.1
R24		1	93.1k	RC0603FR-0793K1L	Yageo	RES, 93.1 k, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-0793K1L	Volume Production	Digi-Key	311-93.1KHRDKR-ND	0.1	0.1	Digi-Key	311-93.1KHRCT-ND	0.1	0.1
R29, R31		2	84.5k	RC0603FR-0784K5L	Yageo	RES, 84.5 k, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-0784K5L	Volume Production	Digi-Key	311-84.5KHRDKR-ND	0.1	0.2	Digi-Key	311-84.5KHRCT-ND	0.1	0.2
R30, R32		2	20.0k	RC0603FR-0720KL	Yageo	RES, 20.0 k, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-0720KL	Volume Production	Digi-Key	311-20.0KHRCT-ND	0.1	0.2	Digi-Key	311-20.0KHRDKR-ND	0.1	0.2
R33		1	280k	RC0603FR-07280KL	Yageo	RES, 280 k, 1%, 0.1 W, 0603	0603	Production	Yageo	RC0603FR-07280KL	Volume Production	Digi-Key	311-280KHRDKR-ND	0.1	0.1	Digi-Key	311-280KHRCT-ND	0.1	0.1
TP1		1		5008	Keystone	Test Point, Compact, Orange, TH	Orange Compact Testpoint	Validation	Keystone Electronics	5008	Volume Production	Digi-Key	36-5008-ND	0.42	0.42	Newark	52F7285	22.6	22.6
U1		1		LM5175PWP	Texas Instruments	LM5175: 42V Wide VIN 4-Switch Synchronous Buck-Boost Controller, PWP0028F	PWP0028F	Not managed											