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Xilinx Ultrascale Kintex Power Ref Design

Dagignator	Description	Manufacturar	DowtNumber	Ougntitu
Designator !PCB1	Description Printed Circuit Board	Manufacturer	PartNumber SAT0101	Quantity 1
	CAP, TA, 68uF, 16V, +/-20%, 0.05 ohm, SMD	Any Panasonic	16TQC68MYF	9
C1, C15,	CAP, 1A, 000F, 10V, +/-20%, 0.05 01111, SWID	Pariasonic	101 QC66WITF	9
C27, C60,				
C82, C94,				
C107,				
C119, C200				
C2, C16,	CAP, CERM, 47uF, 16V, +/-20%, X5R, 1210	MuRata	GRM32ER61C476ME15L	9
C28, C61,				
C83, C95,				
C108,				
C120, C201				
C3, C18,	CAP, AL, 220uF, 4V, +/-20%, 9 ohm, SMD	Panasonic	EEFSX0G221ER	7
C30, C85,				
C98, C110,				
C121				
	CAP, CERM, 47uF, 6.3V, +/-20%, X5R, 1210	MuRata	GRM32ER60J476ME20L	61
C7, C8, C9,				
C10, C11,				
C12, C13,				
C19, C20,				
C21, C22,				
C23, C24,				
C25, C31,				
C32, C33,				
C34, C35,				
C36, C37,				
C64, C65,				
C77, C78,				
C79, C86,				
C87, C88,				
C89, C90,				
C91, C92,				
C99, C100,				
C101,				
C102,				
C103,				
C104,				
C105,				
C103,				
C111, C112,				
C112, C113,				
C113, C114,				
C115,				
C116,				
C117,				
C122,				

Designator	Description	Manufacturer	PartNumber	Quantity
	CAP, CERM, 0.1uF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E104KA01D	22
C38, C49,				
C50, C52,				
C53, C55,				
C81, C93,				
C106,				
C118,				
C131,				
C149,				
C150, C168,				
C168, C169,				
C109, C189,				
C109, C190,				
C190, C192,				
C193, C195				
0 100, 0 100				
C39, C40,	CAP, CERM, 0.01uF, 50V, +/-10%, X7R, 0402	MuRata	GRM155R71H103KA88D	17
C41, C42,	. , , , , , , , ,			
C43, C44,				
C45, C46,				
C47, C180,				
C181,				
C182,				
C183,				
C184,				
C185,				
C186, C187				
040, 0400	OAD OEDM 0.04 F 40V -/ 40V -/ 70D 0400	M. D. t.	ODM455D74.0400K4.04D	
	CAP, CERM, 0.01uF, 16V, +/-10%, X7R, 0402	MuRata	GRM155R71C103KA01D GRM188R60J475KE19D	2
C51, C54, C191, C194	CAP, CERM, 4.7uF, 6.3V, +/-10%, X5R, 0603	MuRata	GRIVI 188R60J475KE 19D	4
0191, 0194				
C56 C57	CAP, CERM, 1000pF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E102KA01D	6
C58, C142,	574 , 6214W, 1666pi , 26 V, 17 1670, 7414, 6666	Markata	CHANTOCK TETOETO TO TE	J
C145, C198				
C59, C196,	CAP, CERM, 1200pF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E122KA01D	3
C199	, , , , , , , , , , , , , , , , , , , ,			
C63, C203	CAP, CERM, 100pF, 100V, +/-5%, C0G/NP0, 0603	MuRata	GRM1885C2A101JA01D	2
C66	CAP, CERM, 4.7uF, 25V, +/-10%, X7R, 1206	TDK	C3216X7R1E475K	1
C67	CAP, AL, 100uF, 25V, +/-20%, 30 ohm, SMD	Panasonic	EEHZA1E101XP	1
C68	CAP, AL, 470uF, 2.5V, +/-20%, 4.5 ohm, SMD	Panasonic	EEFSX0E471E4	1
C69, C70,	CAP, CERM, 22uF, 25V, +/-10%, X5R, 1210	MuRata	GRM32ER61E226KE15L	11
C71, C134,				
C135,				
C136,				
C137,				
C138,				
C139,				
C140, C141				
C72	CAP, CERM, 0.1uF, 25V, +/-10%, X5R, 0603	MuRata	GRM188R61E104KA01D	1
0/2	OAF, OERIVI, U. TUF, 20V, T/-1070, AOK, U000	Ινιμιταία	GUNHOULO LE INAVANTO	<u> </u>

Danimatan	Description	Manufacture	Dowthlowels on	0
Designator C73, C74,	Description CAP, CERM, 100uF, 6.3V, +/-20%, X5R, 1210	Manufacturer MuRata	PartNumber GRM32ER60J107ME20L	Quantity 18
C75, C74,	OAI , OEINN, 1000I , 0.3V, 17-2070, X3N, 1210	Murtata	GRWI32ER003 TO TWIE20E	10
C152,				
C153,				
C154,				
C155,				
C156,				
C157,				
C158,				
C171,				
C172,				
C173,				
C174,				
C175,				
C176, C177				
C97, C206	CAP, CERM, 3300pF, 50V, +/-10%, X7R, 0402	MuRata	GRM155R71H332KA01D	2
	CAP, AL, 100uF, 25V, +/-20%, 0.3 ohm, SMD	Panasonic	EEE-FC1E101P	2
C143	CAP, CERM, 100pF, 50V, +/-5%, C0G/NP0, 0603	MuRata	GRM1885C1H101JA01D	1
C144, C164	CAP, CERM, 0.1uF, 25V, +/-10%, X5R, 0402	MuRata	GRM155R61E104KA87D	2
C146,	CAP, CERM, 470pF, 50V, +/-10%, X7R, 0603	MuRata	GRM188R71H471KA01D	4
C148,	, , , , , , ,			
C166, C167				
C147,	CAP, CERM, 1uF, 25V, +/-10%, X5R, 0603	MuRata	GRM188R61E105KA12D	5
C161,				
C162,				
C163, C165				
C151 C170	CAP, CERM, 3300pF, 50V, +/-10%, X7R, 0603	MuRata	GRM188R71H332KA01D	2
C151, C179	CAP, CERIVI, 3300PF, 30V, +7-10%, A7R, 0003	INIURala	GRW166R71H332RAUTD	
C159, C170	CAP, CERM, 1000pF, 50V, +/-10%, X7R, 0603	MuRata	GRM188R71H102KA01D	2
, , , ,	, , , , , , , , , , , , , , , , , , , ,			
C160, C178	CAP, TA, 560uF, 2V, +/-20%, 0.003 ohm, SMD	Panasonic	EEF-GX0D561L	2
C197	CAP, CERM, 2200pF, 25V, +/-10%, X7R, 0603	MuRata	GRM188R71E222KA01D	1
C207, C208	CAP, CERM, 1000pF, 16V, +/-10%, X5R, 0402	MuRata	GRM155R61C102KA01D	2
D1, D2	Diode, Zener, 5.1V, 300mW, SOD-523	Diodes Inc.	BZT52C5V1T-7	2
	Fiducial mark. There is nothing to buy or mount.	N/A	N/A	3
FID6	5 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -			
H1, H2, H3,	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips	B&F Fastener Supply	NY PMS 440 0025 PH	4
H4	panhead			
	Standoff, Hex, 0.5"L #4-40 Nylon	Keystone	1902C	4
H8	TEDMINIAL DI OCK E COMMA VEDT COCC. TU	On Chara Tachastas	ED420/2DC	10
	TERMINAL BLOCK 5.08MM VERT 2POS, TH	On-Shore Technology	ED120/2DS	10
J5, J6, J7, J8, J9, J10,				
Jo, J9, J10, J15				
J4	Header, 100mil, 5x2, Tin plated, TH	Sullins Connector	PEC05DAAN	1
		Solutions		
	Standard Banana Jack, Uninsulated	Keystone	6095	2
	Lug, Copper, 35A,	Panduit	CX35-36-CY	2
L1, L2	Inductor, Shielded Drum Core, Ferrite, 330nH, 27A,	Wurth Elektronik eiSos	744308033	2
1514	0.00037 ohm, SMD	Donale	THE 44 400 40	
LBL1	Thermal Transfer Printable Labels, 0.650" W x 0.200" H	Brady	THT-14-423-10	1
	- 10,000 per roll	l	1	

Designator	Description	Manufacturer	PartNumber	Quantity
	Synchronous Buck NexFET Power Stage, NexFET Q5M		CSD95378B	2
, ,	-, · · · · · · · · · · · · · · · · · · ·			
R1	RES, 8.45k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06038K45FKEA	1
R2, R8,	RES, 49.9 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060349R9FKEA	13
R15, R40,				
R46, R53,				
R60, R67,				
R74, R81,				
R91, R95,				
R125				
R3	RES, 2.15k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K15FKEA	1
	RES, 261k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603261KFKEA	2
	RES, 0.005 ohm, 1%, 2W, 1224	Ohmite	LVK25R005FER	8
R19, R47,				
R57, R64,				
R71, R77	DEC. 4.001 1 404 0 404 0000	\" \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		40
	RES, 1.00k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031K00FKEA	10
R22, R24,				
R26, R82,				
R110,				
R111, R113, R115				
	RES, 9.31k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06039K31FKEA	3
R7, R32, R73	RES, 9.3 IK OHHI, 170, 0.1VV, 0003	Visitay-Dale	CRCW00039K3TFREA	3
	RES, 2.87k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K87FKEA	2
	RES, 324k ohm, 1%, 0.1W, 0603	Vishay-Dale Vishay-Dale	CRCW06032R67FREA	5
R55, R62,	11LO, 024R 01IIII, 170, 0.1VV, 0000	Visitay-Date	CICWOODSSZ4NI NEA	
R69				
	RES, 499 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603499RFKEA	3
R65	1123, 100 01, 170, 0.111, 0000	Violity Ballo	01.011.00001.001.11.1.2.1	
	RES, 6.81k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06036K81FKEA	3
R66	-, , , ,			
R16, R61,	RES, 1.13k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06031K13FKEA	3
R68				
R20	RES, 249 ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603249RFKEA	1
R23	RES, 41.2k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060341K2FKEA	1
R25, R114	RES, 90.9k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060390K9FKEA	2
R27, R116,	RES, 10k ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW040210K0JNED	8
R132,				
R133,				
R134,				
R138,				
R139, R140				
	RES, 10.0k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060310K0FKEA	16
R30, R31,				
R39, R86,				
R96, R99,				
R117,				
R118,				1
R119,				1
R120, R135,				
R135, R136,				
R141, R142				1
	RES, 2.21k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K21FKEA	3
R32, R33, R34	INCO, 2.2 IN OHIII, 170, 0.100, 0000	v isitay-Dale	ONOW GOODENE IF NEA	3
R35	RES, 2.80k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW06032K80FKEA	1
	RES, 3.24k ohm, 1%, 0.1W, 0603	Vishay-Dale Vishay-Dale	CRCW06033K24FKEA	3
R123	-, >:=,,,,	20.0		
			•	

Designator					
R121, R124 R31 RES, 453 ohm, 1%, 0.1W, 0603 R32 RES, 158k ohm, 1%, 0.1W, 0603 R342 RES, 158k ohm, 1%, 0.1W, 0603 R343, R128 RES, 68 th ohm, 1%, 0.1W, 0603 R345, R128 RES, 68 th ohm, 1%, 0.1W, 0603 R345, R128 RES, 68 th ohm, 1%, 0.1W, 0603 R348 RES, 478k ohm, 1%, 0.1W, 0603 R348 RES, 478k ohm, 1%, 0.1W, 0603 R348 RES, 478k ohm, 1%, 0.1W, 0603 R349 RES, 715 ohm, 1%, 0.1W, 0603 R349 RES, 715 ohm, 1%, 0.1W, 0603 R350 RES, 169k ohm, 1%, 0.1W, 0603 R372 RES, 169k ohm, 1%, 0.1W, 0603 R372 RES, 169k ohm, 1%, 0.1W, 0603 R373 RES, 1.24k ohm, 1%, 0.1W, 0603 R374 RES, 1.24k ohm, 1%, 0.1W, 0603 R375 RES, 1.24k ohm, 1%, 0.1W, 0603 R378 RES, 1.24k ohm, 1%, 0.1W, 0603 R379 RES, 0.0m, 0.003 R379 R370 R379 R370 R370 R370 R370 R370 R370 R370 R370	Designator				Quantity
R41			Vishay-Dale	CRCW06032K55FKEA	4
R43. RES, 158k ohm, 1%, 0.1W, 0603					
R43, R128 RES, 68 It kohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060388K1FKEA 2 R48 RS, 12 It kohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06034K1FKEA 2 R48 RS, 47 KR kohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06034K75FKEA 1 R49 RS, 15 Sh, 15 Mm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316KFKEA 1 R50 RES, 169k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060375RFKEA 1 R72 RS, 243k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060375RFKEA 1 R78 RS, 124k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060375RFKEA 1 R78 RS, 10.0k ohm, 01%, 0.1W, 0603 Vishay-Dale CRCW060375RFKEA 1 R79 RS, 10.0k ohm, 01%, 0.1W, 0603 Vishay-Dale CRCW060375RFKEA 1 R80, R101 R85, 10.0k ohm, 01%, 0.1W, 0603 Vishay-Dale CRCW060375RFKEA 1 R81 RS, 100 RS, 8.0k ohm, 1%, 0.063W, 0402 Vishay-Dale CRCW04026W06FKED 2 R85 RS, 18, 18, 0 hm, 01%, 0.1W, 0603 Vishay-Dale CRCW0603121KFKEA 1 R87, R88, R87, 0 ohm, 5%, 0 ohm, 5%, 0.1W, 0603 Vishay-Dale CRCW060312KFKEA 1					
R45, R130 RE5, 121 kr ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060312K1FKEA 2 R48 RES, 475k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603715RFKEA 1 R49 RES, 175 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603715RFKEA 1 R50 RES, 169k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603715RFKEA 1 R72 RES, 750 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603750RFKEA 1 R75 RES, 248k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603750RFKEA 1 R77 RES, 100k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K24FKEA 1 R78 RES, 124k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K24FKEA 1 R79 RES, 100k ohm, 0.1%, 0.1W, 0603 Susumu Co Ltd RG1608P-103-B-15 1 R80, R83, R8101 RES, 0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW06031K24FKEA 1 R85, R85, R85, R85, 0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603000020ED 4 R85 R87, R88, R87, R89, R97, R90, R88, R87, R90, R89, R90, R89, R90, R89, R90, R89, R90, R89, R90, R90, R90, R90, R90, R90, R90, R9			· · · ·	CRCW0603158KFKEA	
R48			<u> </u>		
R49				CRCW060312K1FKEA	
RES. 169k ohm. 1%, 0.1 W. 0603 Vishay-Dale CRCW0603169KFKEA 1			-		
RF2					
R75			-		
R78					
RES RES 0.0 k ohm 0.1 % 0.1 W 0.603					_
R80, R83, RES, 0 ohm, 5%, 0.063W, 0402					
R88, R101 R84, R100 RES, 8.06k ohm, 1%, 0.063W, 0402 Vishay-Dale R85, RES, 16.9k ohm, 0.1%, 0.1W, 0603 R87, R88, R89, R107 R88, R89, R107 R89, R102, R103 R89, R107 R89, R107 R89, R103 R89, R107 R89, R103 R89, R107 R89, R103 R89, R107 R89, R106 R89, R107 R1					_
R85, RES, 16.9k ohm, 0.1%, 0.1W, 0603 R87, R88, RRS, ReS, 0.0 hm, 5%, 0.1W, 0603 R89, R102, R103 R89, R107, RES, 121k ohm, 1%, 0.1W, 0603 R92, RES, 40.2k ohm, 1%, 0.1W, 0603 R108, R109 R105, RES, 16.2k ohm, 1%, 0.1W, 0603 R106, RES, 16.2k ohm, 1%, 0.1W, 0603 R107, RES, 53.6k ohm, 1%, 0.1W, 0603 R108, R109 R108, R109 R109, RES, 16.2k ohm, 1%, 0.1W, 0603 R112, RES, 53.6k ohm, 1%, 0.1W, 0603 R112, RES, 162k ohm, 1%, 0.1W, 0603 R122, RES, 162k ohm, 1%, 0.1W, 0603 R122, RES, 162k ohm, 1%, 0.1W, 0603 R122, RES, 162k ohm, 1%, 0.1W, 0603 R123, RES, 267 ohm, 1%, 0.1W, 0603 R124, RES, 267 ohm, 1%, 0.1W, 0603 R125, RES, 162k ohm, 1%, 0.1W, 0603 R127, RES, 105k ohm, 1%, 0.1W, 0603 R128, RES, 267 ohm, 1%, 0.1W, 0603 R129, RES, 105k ohm, 1%, 0.1W, 0603 R131, R137, RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603267REA R1 R11, R197, RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KEKEA R1 R11, R197, RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KEKEA R1 R11, R197, RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KEKEA R1 R11, R137, RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KEEA R1 R11, R137, RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KEEA R1 R11, R137, RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KEEA R1 R1 R1 R198, R199,		RES, 0 ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04020000Z0ED	4
R87, R88, R87, R88, R87, R88, R87, R88, R87, R102, R103	R84, R100	RES, 8.06k ohm, 1%, 0.063W, 0402	Vishay-Dale	CRCW04028K06FKED	2
R97, R102, R103 R89, R107 R106 R89, R10, 0.1W, 0603 R105 R89, 16.2k ohm, 1%, 0.1W, 0603 R105 R89, 16.2k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060326X6FKEA R1 R112 R89, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060336X6FKEA R1 R112 R89, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060336X6FKEA R1 R127 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316XFKEA R1 R117 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316XFKEA R1 R117 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310SKFKEA R1 R118, R1187 R89, 1.02k ohm, 1%, 0.1W, 0603 R118, R			Yageo America	RT0603BRD0716K9L	
R103 R89, R107 RES, 121k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603121KFKEA 2 R89, R94, RES, 40.2k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060340K2FKEA 1 R93, R94, R108, R109 R105 RES, 10.0 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310R0FKEA 4 R108, R109 R105 RES, 16.2k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316K2FKEA 1 R106 RES, 25.5k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060325K6FKEA 1 R112 RES, 53.6k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060353K6FKEA 1 R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06035K6FKEA 1 R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K6FKEA 1 R127 RES, 10.6k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316KFKEA 1 R127 RES, 10.6k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603105KFKEA 1 R131, R137 RES, 1.05k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603105KFKEA 1 R131, R137 RES, 1.05k ohm, 1%, 0.063W, 0402 Vishay-Dale CRCW0603105KFKEA 1 R131, R137 RES, 1.05k ohm, 1%, 0.063W, 0402 Vishay-Dale CRCW04021R00JNED 2 TP1, TP6, TP91, TP1, TP6, TP93, TP26, TP31, TP36, TP41, TP56, TP98, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP33, TP33, TP33, TP37, TP38, TP37, TP38, TP37, TP38, TP37, TP38, TP44, TP42, TP39, T	R87, R88,	RES, 0 ohm, 5%, 0.1W, 0603	Vishay-Dale	CRCW06030000Z0EA	5
R89, R107 RES, 121k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603121KFKEA 2 R92 RES, 40.2k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060340K2FKEA 1 R93, R94, RES, 10.0 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310R0FKEA 4 R108, R109 R105 RES, 16.2k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060325K5FKEA 1 R112 RES, 53.6k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060355K6FKEA 1 R112 RES, 53.6k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060355K6FKEA 1 R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060355K6FKEA 1 R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060356KFKEA 1 R126 RES, 267 bm, 1%, 0.1W, 0603 Vishay-Dale CRCW060356KFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603267FKEA 1 R131, R137 RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KFKEA 1 R171, TP6, Test Point, Multipurpose, Orange, TH TP11, TP19, TP26, TP31, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP20, TP23, TP24, TP27, TP28, TP12, TP13, TP28, TP12, TP13, TP28, TP12, TP28, TP33, TP37, TP38, TP37, TP38, TP37, TP38, TP42, TP38, TP38, TP38, TP42, TP38, TP38, TP38, TP38,	R97, R102,				
R92	R103				
R93, R94, R10, R109 RES, 10.0 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060310R0FKEA 4 R108, R109 RES, 16.2k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316k2FKEA 1 R106 RES, 25.5k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060325k5FKEA 1 R112 RES, 53.6k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060345k6FKEA 1 R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603166FKEA 1 R126 RES, 267 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603267RFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603165KFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603165KFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316XFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316XFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316XFKEA 1 R131, R137 RES, 105k ohm, 1% Vishay-Dale CRCW0402100000000000000000000000000000000	R89, R107	RES, 121k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603121KFKEA	2
R108, R109 R105 RES, 16.2k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060316K2FKEA 1	R92	RES, 40.2k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060340K2FKEA	1
R106 RES, 25.5k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060325K5FKEA 1 R112 RES, 53.6k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06035K6FKEA 1 R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K62FKEA 1 R126 RES, 267 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K62FKEA 1 R127 RES, 1.05k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603165KFKEA 1 R131, R137 RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KFKEA 1 TP1, TP6, TP11, TP19, TP26, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP20, TP22, TP13, TP20, TP23, TP24, TP27, TP28, TP33, TP24, TP38, TP42, TP38, TP42, TP38, TP42,			Vishay-Dale	CRCW060310R0FKEA	4
R106 RES, 25.5k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW060325K5FKEA 1 R112 RES, 53.6k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06035K6FKEA 1 R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K62FKEA 1 R126 RES, 267 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K62FKEA 1 R127 RES, 1.05k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603165KFKEA 1 R131, R137 RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KFKEA 1 TP1, TP6, TP11, TP19, TP26, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP20, TP22, TP13, TP20, TP23, TP24, TP27, TP28, TP33, TP24, TP38, TP42, TP38, TP42, TP38, TP42,			Vishay-Dale	CRCW060316K2FKEA	1
R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K62FKEA 1 R126 RES, 267 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603267RFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603105KFKEA 1 R131, R137 RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KFKEA 1 R131, R137 RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW04021R00JNED 2 TP1, TP6, TP11, TP19, TP26, TP31, TP36, TP41, TP55, TP69 TP2, TP3, TP7, TP8, TP12, TP13, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP23, TP24, TP27, TP28, TP33, TP24, TP27, TP28, TP33, TP37, TP38, TP37, TP38, TP42, TP38, TP42.	R106		·	CRCW060325K5FKEA	1
R122 RES, 1.62k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW06031K62FKEA 1 R126 RES, 267 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603267RFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603105KFKEA 1 R131, R137 RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW0603105KFKEA 1 TP1, TP6, TP11, TP19, TP26, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP33, TP24, TP27, TP28, TP33, TP37, TP38, TP42, TP38, TP42, TP38, TP42,	R112	RES, 53.6k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW060353K6FKEA	1
R126 RES, 267 ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603267RFKEA 1 R127 RES, 105k ohm, 1%, 0.1W, 0603 Vishay-Dale CRCW0603105KFKEA 1 R131, R137 RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW04021R00JNED 2 TP1, TP6, TP1, TP6, TP1, TP9, TP26, TP31, TP36, TP41, TP98, TP12, TP13, TP20, TP20, TP20, TP20, TP23, TP24, TP24, TP27, TP28, TP33, TP33, TP33, TP33, TP33, TP33, TP33, TP33, TP33, TP37, TP38, TP42, TP38, TP42,	R122	RES, 1.62k ohm, 1%, 0.1W, 0603	·	CRCW06031K62FKEA	1
R131, R137 RES, 1.0 ohm, 5%, 0.063W, 0402 Vishay-Dale CRCW04021R00JNED 2 TP1, TP6, TP11, TP19, TP26, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP27, TP28, TP33, TP32, TP33, TP37, TP38, TP37, TP38, TP38, TP37, TP38, TP38, TP37, TP38, TP38, TP39, TP39, TP38, TP39, TP38, TP39, TP38, TP39, TP38, TP39, TP38, TP39, TP38, TP42,	R126		Vishay-Dale	CRCW0603267RFKEA	1
TP1, TP6, Test Point, Multipurpose, Orange, TH TP11, TP19, TP26, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP32, TP33, TP34, TP38, TP42,	R127	RES, 105k ohm, 1%, 0.1W, 0603	Vishay-Dale	CRCW0603105KFKEA	1
TP11, TP19, TP26, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP32, TP33, TP37, TP38, TP38, TP42,	R131, R137	RES, 1.0 ohm, 5%, 0.063W, 0402	Vishay-Dale	CRCW04021R00JNED	2
TP19, TP26, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP214, TP27, TP28, TP27, TP28, TP32, TP37, TP38, TP37, TP38, TP37, TP38, TP42,	TP1, TP6,	Test Point, Multipurpose, Orange, TH	Keystone	5013	10
TP26, TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP32, TP33, TP37, TP38, TP42, TP38, TP42,	TP11,				
TP31, TP36, TP41, TP65, TP69 TP2, TP3, TP77, TP8, TP12, TP23, TP24, TP27, TP28, TP33, TP37, TP38, TP42,	,				
TP36, TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP24, TP27, TP28, TP32, TP32, TP33, TP37, TP38, TP42,					
TP41, TP65, TP69 TP2, TP3, TP7, TP8, TP12, TP23, TP24, TP27, TP28, TP27, TP28, TP32, TP33, TP37, TP38, TP42,					
TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP32, TP33, TP37, TP38, TP42,					
TP2, TP3, TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP32, TP33, TP37, TP38, TP42,					
TP7, TP8, TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP28, TP32, TP33, TP37, TP38, TP42,	TP65, TP69				
TP12, TP13, TP20, TP23, TP24, TP27, TP28, TP32, TP32, TP33, TP37, TP38, TP42,		Test Point, Multipurpose, Red, TH	Keystone	5010	18
TP13, TP20, TP23, TP24, TP27, TP28, TP32, TP33, TP37, TP38, TP42,					
TP20, TP23, TP24, TP27, TP28, TP32, TP33, TP33, TP37, TP38, TP42,					
TP23, TP24, TP27, TP28, TP32, TP33, TP37, TP38, TP42,					
TP24, TP27, TP28, TP32, TP33, TP37, TP38, TP42,					
TP27, TP28, TP32, TP33, TP37, TP38, TP42,					
TP28, TP32, TP33, TP37, TP38, TP42,					
TP32, TP33, TP37, TP38, TP42,					
TP33, TP37, TP38, TP42,					
TP37, TP38, TP42,					
TP38, TP42,					
TP42,					
'					
TP43, TP66	,				
	TP43, TP66				

Designator	Description	Manufacturer	PartNumber	Quantity
TP4, TP9,	Test Point, Miniature, White, TH	Keystone	5002	16
TP14,				
TP16,				
TP21,				
TP29,				
TP34,				
TP39,				
TP44,				
TP49,				
TP50,				
TP52,				
TP59,				
TP60,				
TP61, TP67				
TP5, TP10,	Test Point, Multipurpose, Black, TH	Keystone	5011	10
TP15,				
TP22,				
TP25,				
TP30,				
TP35,				
TP40,				
TP45, TP68				
TP17,	Test Point, Miniature, Red, TH	Keystone	5000	6
TP46,				· ·
TP48,				
TP53,				
TP62, TP63				
TP18,	Test Point, Miniature, Black, TH	Keystone	5001	7
TP47,	Toot Form, Williams, Black, TT			,
TP51,				
TP55,				
TP56,				
TP57, TP58				
	Test Point, Miniature, SMT	Keystone	5015	2
	6A SIMPLE SWITCHER Power Module with 2.95V-	Texas Instruments	LMZ31506RUQ	2
01, 017	14.5V Input and Current Sharing in QFN Package,	l exas instruments	LIVIZSTSOUNOQ	۷
	RUQ0047A			
112 114 116	Micro-Power (50mA), Zerø-Drift, Rail-to-Rail Out	Texas Instruments	INA333AIDGK	8
	Instrumentation Amplifier	l exas instruments	INASSSAIDGR	O
	instrumentation Ampliner			
U14, U16,				
U18	2A CIMPLE CIVITCHED Downs Madula with 4 EV 44 EV	Toyon Instruments	I M721502DUO	7
	3A SIMPLE SWITCHER Power Module with 4.5V-14.5V	Texas Instruments	LMZ31503RUQ	1
, , ,	Input in QFN Package, RUQ0047A			
U15, U21	IC Digital DWM Contage Contaglian	Tı	LICDO0420ADCC	
	IC, Digital PWM System Controller	Tours Instruments	UCD90120ARGC	2
U9	10A SIMPLE SWITCHER Power Module with 2.95V-	Texas Instruments	LMZ31710RVQ	1
	17V Input and Current Sharing in QFN Package,			
1115	RVQ0042A	T	TD0 40 4005: 14	
U19	Dual output, 2 phase, stackable PMBUS synchronous	Texas Instruments	TPS40428RHA	1
L	buck driverless controller, RHA0040B			

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