

Fitted	Description	Designator	PartNumber	Quantity	Manufacturer	PackageReference	Value
Fitted	Printed Circuit Board	!PCB1	TIDA-010956	1	Any		
Fitted	CAP, CERM, 0.1 uF, 16 V, +/- 10%, X7R, 0402	C1, C3, C4, C5, C6, C8, C9, C13, C20, C28, C29, C39, C40, C42, C46, C47, C51, C52	885012205037	18	Wurth Elektronik	0402	0.1uF
Fitted	CAP, CERM, 0.033 uF, 10 V, +/- 10%, X7R, 0402	C2, C7, C15	GRM155R71A333KA01D	3	MuRata	0402	0.033uF
Fitted	CAP, CERM, 4.7 uF, 16 V, +/- 20%, X5R, 0402	C10	CC0402MRX5R7BB475	1	Yageo America	0402	4.7uF
Fitted	47uF ±10% 16V Ceramic Capacitor X6S 1210 (3225 Metric)	C11, C30, C31	GRT32EC81C476KE13L	3	Murata	1210	
Fitted	CAP, CERM, 2.2 uF, 16 V, +/- 10%, X5R, 0402	C12	GRM155R61C225KE11D	1	MuRata	0402	2.2uF
Fitted	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, 0805	C14	885012207103	1	Wurth Elektronik	0805	1uF
Fitted	CAP, CERM, 4700 pF, 50 V, +/- 10%, X7R, 0603	C16	C0603C472K5RAC TU	1	Kemet	0603	4700pF
Fitted	CAP, CERM, 33 pF, 50 V, +/- 5%, COG/NPO, 0603	C17	C0603C330J5GACT U	1	Kemet	0603	33pF
Fitted	CAP, CERM, 470 pF, 100 V, +/- 10%, X7R, 0402	C18, C19	GRM155R72A471KA01D	2	MuRata	0402	470pF
Fitted	CAP, CERM, 2200 pF, 16 V, +/- 10%, X7R, 0402	C21, C22, C23, C24, C25, C26, C27	GRM155R71C222KA01D	7	MuRata	0402	2200pF
Fitted	CAP, CERM, 4.7 uF, 100 V, +/- 10%, X7S, 1210	C33	C3225X7S2A475K200AE	1	TDK	1210	4.7uF
Fitted	CAP, CERM, 0.1 uF, 100 V, +/- 10%, X7R, 0603	C34, C58, C60, C74, C79, C83, C98, C104, C108, C124	GRM188R72A104KA35J	10	MuRata	0603	0.1uF
Fitted	CAP, CERM, 10 uF, 10 V, +/- 10%, X7R, 0805	C35, C41	885012207026	2	Wurth Elektronik	0805	10uF

Fitted	Description	Designator	PartNumber	Quantity	Manufacturer	PackageReference	Value
Fitted	10 μ F \pm 10% 50V Ceramic Capacitor X7R 1210 (3225 Metric)	C36, C37, C38	885012209073	3	Würth Electronics	1210	10 μ F
Fitted	CAP, 0603, X7R, 1 μ F, 50VDC	C43, C48, C54, C69, C78, C93, C102, C103, C118	885012206126	9	Würth Elektronik		
Fitted	CAP, CERM, 10 μ F, 25 V, +/- 10%, X7R, 0805	C44, C49	GRM21BZ71E106KE15L	2	MuRata	0805	10 μ F
Fitted	CAP, CERM, 2200 pF, 100 V, +/- 10%, X7R, 0603	C45, C50	GRM188R72A222KA01D	2	MuRata	0603	2200pF
Fitted	CAP, CERM, 2.2 μ F, 25 V, +/- 10%, X7S, 0603	C53, C77, C101	GRM188C71E225KE11D	3	MuRata	0603	2.2 μ F
Fitted	CAP, CERM, 47 pF, 50 V, +/- 5%, COG/NPO, 0402	C55, C56, C80, C81, C105, C106	885012005044	6	Würth Elektronik	0402	47pF
Fitted	CAP, CERM, 2.2 μ F, 100 V, +/- 10%, X7R, 1210	C57, C59, C72, C73, C75, C76, C82, C84, C96, C97, C99, C100, C107, C109, C121, C122, C123, C125, C126, C127	GRM32ER72A225KA35L	20	MuRata	1210	2.2 μ F
Fitted	CAP, CERM, 1000 pF, 25 V, +/- 5%, COG/NPO, 0603	C62, C63, C70, C71, C86, C87, C94, C95, C111, C112, C119, C120	GRM1885C1E102JA01D	12	MuRata	0603	1000pF
Fitted	CAP, CERM, 100 pF, 50 V, +/- 10%, X7R, 0402	C64, C65, C66, C67, C89, C90, C91, C92, C114, C115, C116, C117	CC0402KRX7R9BB101	12	Yageo America	0402	100pF
Fitted	Diode, Superfast Rectifier, 100 V, 1 A, SMA	D1	ES1B-13-F	1	Diodes Inc.	SMA	100V
Fitted	Diode, Schottky, 30 V, 0.2 A, SOT-23	D2, D3, D4, D5, D12	BAT54C-7-F	5	Diodes Inc.	SOT-23	30V
Fitted	Diode, Zener, 10 V, 500 mW, SOD-123	D6, D7, D8	DDZ10C-7	3	Diodes Inc.	SOD-123	10V
Fitted	CAP, AL, 330 μ F, 100 V, +/- 20%, TH	E1, E2	EKZE101ELL331MK35S	2	Chemi-Con	D12.5xL35mm	330 μ F

Fitted	Description	Designator	PartNumber	Quantity	Manufacturer	PackageReference	Value
Fitted	Fiducial mark. There is nothing to buy or mount.	FID1, FID2, FID3, FID4, FID5, FID6	N/A	6	N/A	N/A	
Fitted	Machine Screw, Round, #4-40 x 1/4, Nylon, Philips panhead	H1, H2, H3, H7, H8, H9	NY PMS 440 0025 PH	6	B&F Fastener Supply	Screw	
Fitted	Standoff, Hex, 0.5"L #4-40 Nylon	H4, H5, H6	1902C	3	Keystone	Standoff	
Fitted	Receptacle, 2.54mm, 10x2, Gold, SMT	J1, J2	89898-310ALF	2	FCI	Receptacle, 2.54mm, 10x2, SMT	
Fitted	Terminal Block, 3.5mm Pitch, 4x1, TH	J3	691243110004	1	Würth Elektronik	14x8.2x6.5mm	
Fitted	Ferrite Bead, 300 ohm @ 100 MHz, 0.2 A, 0402	L1, L2, L3	74279272	3	Würth Elektronik	0402	300 ohm
Fitted	Inductor, Shielded Drum Core, Powdered Iron, 22 uH, 1 A, 0.47 ohm, SMD	L4	74437324220	1	Würth Elektronik	4.45x1.8x4.06mm	22uH
Fitted	Ferrite Bead, 100 ohm @ 100 MHz, 0.2 A, 0402	L5	742792711	1	Würth Elektronik	0402	100 ohm
Fitted	Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	LBL1	THT-14-423-10	1	Brady	PCB Label 0.650 x 0.200 inch	
Fitted	LED, Green, SMD	LED1, LED2, LED3, LED4	150060GS75000	4	Würth Elektronik	LED_0603	Green
Fitted	MOSFET N-Channel 100 V 35A (Ta), 267A (Tc) 5.1W (Ta), 291W (Tc) Surface Mount, Wetable Flank 8-TDFNW (8.3x8.4)	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8, Q9, Q10, Q11, Q12	NTMTSC1D6N10M CTXG	12	On Semi	DFNW8	
Fitted	RES, 150 k, 1%, 0.1 W, 0603	R1	RC0603FR-07150KL	1	Yageo	0603	150k
Fitted	RES, 100 k, 1%, 0.0625 W, 0402	R2, R3, R8, R21	RC0402FR-07100KL	4	Yageo America	0402	100k

Fitted	Description	Designator	PartNumber	Quantity	Manufacturer	PackageReference	Value
Fitted	0.2 mOhms ±1% 3W Chip Resistor Wide 1612 (3831 Metric), 1216 Anti- Sulfur, Automotive AEC- Q200, Current Sense, Pulse Withstanding Metal Element	R4, R9	WSK1216L2000FE A	2	Vishay Dale	1612	200μ
Fitted	RES, 4.70 k, 1%, 0.0625 W, 0402	R5, R6, R10, R23	RC0402FR-074K7L	4	Yageo America	0402	4.70k
Fitted	RES, 0, 5%, 0.063 W, 0402	R7, R11, R19, R34, R38, R40, R83, R86, R98, R101, R111, R114, R130, R131, R132	CRCW04020000Z0 ED	15	Vishay-Dale	0402	0
Fitted	RES, 150, 1%, 0.1 W, 0603	R12, R13, R14, R15, R16, R17, R18	RC0603FR- 07150RL	7	Yageo	0603	150
Fitted	RES, 3.30 k, 1%, 0.063 W, AEC- Q200 Grade 0, 0402	R22, R85, R100, R113	RK73H1ETTP3301F	4	KOA Speer	0402	3.30k
Fitted	RES, 10.0 k, 1%, 0.063 W, AEC- Q200 Grade 0, 0402	R24, R44, R48, R52, R71, R72, R73, R75, R76, R77, R89, R102, R115, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129	RK73H1ETTP1002F	26	KOA Speer	0402	10.0k
Fitted	0.3 mOhms ±1% 3W Chip Resistor Wide 1612 (3831 Metric), 1216 Anti- Sulfur, Automotive AEC- Q200, Current Sense, Pulse Withstanding Metal Element	R25	WSK1216L3000FE A	1	Vishay	1216	300μ
Fitted	RES, 51.0, 1%, 0.1 W, 0603	R26, R37	RC0603FR-0751RL	2	Yageo	0603	51.0

Fitted	Description	Designator	PartNumber	Quantity	Manufacturer	PackageReference	Value
Fitted	24.9 Ohms \pm 1% 0.063W, 1/16W Chip Resistor 0402 (1005 Metric) Moisture Resistant Thick Film	R27, R28, R30, R31, R32, R33, R35, R36, R39, R41, R78, R79, R91, R93, R104, R106	RC0402FR- 0724R9L	16	Yageo	0402	24.9
Fitted	RES, 0, 0%, 0.25 W, AEC-Q200 Grade 0, 0603	R29, R42, R43, R49, R53, R54, R59, R60, R61, R62, R66, R68, R69	PMR03EZPJ000	13	Rohm	0603	0
Fitted	RES, 1.50 k, 1%, 0.063 W, AEC- Q200 Grade 0, 0402	R45, R133	RMCF0402FT1K50	2	Stackpole Electronics Inc	0402	1.50k
Fitted	RES, 113 k, 1%, 0.1 W, AEC-Q200 Grade 0, 0402	R46	ERJ-2RKF1133X	1	Panasonic	0402	113k
Fitted	RES, 25.5 k, 1%, 0.1 W, 0603	R47	RC0603FR- 0725K5L	1	Yageo	0603	25.5k
Fitted	RES, 2.26 k, 1%, 0.5 W, 1210	R50, R57	CRCW12102K26FK EA	2	Vishay Dale	1210	2.26k
Fitted	RES, 47.0 k, 1%, 0.0625 W, 0402	R56, R64, R65, R70, R74	RC0402FR-0747KL	5	Yageo America	0402	47.0k
Fitted	RES, 3.01, 1%, 0.1 W, 0603	R81, R82, R87, R88, R94, R95, R96, R97, R107, R108, R109, R110	RC0603FR- 073R01L	12	Yageo	0603	3.01
Fitted	RES, 2.00 k, 0.1%, 0.063 W, 0402	R84, R99, R112	RG1005P-202-B-T5	3	Susumu Co Ltd	0402	2.00k
Fitted	\pm 1% tolerance 10k Ω linear thermistor available in 0402 and 0603 package options 2-SOT- 5X3 -40 to 125	RT1	TMP6131DYAR	1	Texas Instruments	SOD-523	10k
Fitted	Test Point, Miniature, Black, TH	TP10	5001	1	Keystone	Black Miniature Testpoint	
Fitted	-4-V to 110-V, Bidirectional, Ultra-Precise Current Sense Amplifier With Enhanced PWM Rejection	U1, U3	INA241A3IDDF	2	Texas Instruments	SOT23-8	

Fitted	Description	Designator	PartNumber	Quantity	Manufacturer	PackageReference	Value
Fitted	Test Chip	U4	Test Chip	1	Texas Instruments	VSON8	
Fitted	Automotive Catalog Low-Voltage Adjustable Precision Shunt Regulator, 15 mA, -40 to 125 degC, 3-pin SOT-23 (DBZ), Green (RoHS & no Sb/Br)	U5	TLV431BQDBZRQ1	1	Texas Instruments	DBZ0003A	
Fitted	Single 3-Input Positive-AND Gate, DCK0006A (SOT-SC70-6)	U6	SN74LVC1G11DCKR	1	Texas Instruments	DCK0006A	
Fitted	4.2-V to 80-V, 1-A Synchronous Buck Converter with 40-µA IQ	U7	LMR38010FDDAR	1	Texas Instruments	SO8_PowerPAD	
Fitted	1.5A, 28V Input, 3.3V Output, TO-220 Power Module, EAB0003A (SIPMODULE-3)	U8	TPSM84203EAB	1	Texas Instruments	EAB0003A	
Fitted	0.3A, Current Limited Load Switch with Reverse Current Blocking, DCK0006A (SOT-SC70-6)	U9	TPS22948DCKT	1	Texas Instruments	DCK0006A	
Fitted	3.75-kVRMS, High-Speed Single-Channel Opto-Emulator	U10, U11	ISOM8710DFF	2	Texas Instruments	SOIC5	
Fitted	18V, 3A, 79mohm Load Switch with Adjustable Rise Time, Adj. Quick Output Discharge, & Thermal Shutdown, DRV0006A (WSON-6)	U12, U14	TPS22810DRVR	2	Texas Instruments	DRV0006A	

Fitted	Description	Designator	PartNumber	Quantity	Manufacturer	PackageReference	Value
Fitted	4-Bit Fixed Direction Voltage-Level Translator with Schmitt-Trigger Inputs, and Tri-State Outputs, WQFN14	U13, U15	TXU0304BQA	2	Texas Instruments	WQFN14	
Fitted	100-V Half-Bridge Smart Gate Driver with Integrated Protection and Current Sense Amplifier	U16, U17, U18	DRV8162DGSR	3	Texas Instruments	VSSOP20	
Fitted	Diode, Zener, 5.1 V, 500 mW, SOD-123	ZD1, ZD2	MMSZ4689T1G	2	ON Semiconductor	SOD-123	5.1V
Not Fitted	CAP, CERM, 18 pF, 50 V, +/- 5%, COG/NPO, 0402	C32	C1005COG1H180J050BA	0	TDK	0402	18pF
Not Fitted	CAP, CERM, 2200 pF, 100 V, +/- 10%, X7R, 0603	C61, C68, C85, C88, C110, C113	GRM188R72A222KA01D	0	MuRata	0603	2200pF
Not Fitted	Diode, Superfast Rectifier, 100 V, 1 A, SMA	D9, D10, D11	ES1B-13-F	0	Diodes Inc.	SMA	100V
Not Fitted	24.9 Ohms ±1% 0.063W, 1/16W Chip Resistor 0402 (1005 Metric) Moisture Resistant Thick Film	R20	RC0402FR-0724R9L	0	Yageo	0402	24.9
Not Fitted	RES, 25.5 k, 1%, 0.1 W, 0603	R51, R58	RC0603FR-0725K5L	0	Yageo	0603	25.5k
Not Fitted	RES, 0, 0%, 0.25 W, AEC-Q200 Grade 0, 0603	R55, R63, R67	PMR03EZPJ000	0	Rohm	0603	0
Not Fitted	RES, 2.7, 5%, 0.125 W, 0805	R80, R90, R92, R103, R105, R116	CRCW08052R70JNEA	0	Vishay-Dale	0805	2.7

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