

MD006-001

Designator	Quantity	Value	Description	PackageReference	PartNumber	Manufacturer	Alternate PartNumber	Alternate Manufacturer
PCB	1		Printed Circuit Board		MD021	Any		
C1	1	220uF	CAP, AL, 220 uF, 63 V, +/- 20%, 0.16 ohm, SMD	D12.5xL13.5mm	AFK227M63H32T-F	Cornell Dubilier Electronics		
C2, C7, C13	3	0.1uF	CAP, CERM, 0.1 uF, 50 V, +/- 5%, X7R, 0603	0603	C0603C104J5RACTU	Kemet		
C3	1	22uF	CAP, CERM, 22 uF, 6.3 V, +/- 10%, X5R, 0805	0805	JMK212BJ226KG-T	Taiyo Yuden		
C4, C12	2	1uF	CAP, CERM, 1 uF, 50 V, +/- 10%, X7R, 0805	0805	GRM21BR71H105KA12L	MuRata		
C5	1	1000pF	CAP, CERM, 1000 pF, 50 V, +/- 5%, X7R, 0603	0603	C0603C102J5RACTU	Kemet		
C6	1	0.01uF	CAP, CERM, 0.01 uF, 50 V, +/- 10%, X7R, 0603	0603	GRM188R71H103KA01D	MuRata		
C8, C10, C15, C16	4	0.1uF	CAP, CERM, 0.1 uF, 10 V, +/- 10%, X7R, 0603	0603	885012206020	Würth Elektronik		
C9	1	0.047uF	CAP, CERM, 0.047 uF, 50 V, +/- 10%, X5R, 0402	0402	C1005X5R1H473K050B	TDK		
C11, C17	2	4.7uF	CAP, CERM, 4.7 uF, 10 V, +/- 10%, X5R, 0402	0402	C1005X5R1A475K050B	TDK		
C14	1	1000pF	CAP, CERM, 1000 pF, 16 V, +/- 10%, X7R, 0603	0603	885012206034	Würth Elektronik		
D1, D2	2	Bright Green	LED, Bright Green, SMD	LED 0805	150080VS75000	Würth Elektronik		
D3	1	Red	LED, Red, SMD	LED 0805	150080SS75000	Würth Elektronik		
D4	1	40V	Diode, Schottky, 40 V, 1 A, SOD-323	SOD-323	XBS104S13R-G	Torex USA Corporation		
F1	1		Fuse, 100 A, 15 VDC, SMD	1206	1206L050/15YR	Littelfuse		
H1, H2	2		Terminal Block, 5 mm, 2x1, Tin, TH	Terminal Block, 5 mm, 2x1, TH	691 101 710 002	Würth Elektronik		
J1	1		Header, 2.54 mm, 14x1, Gold, SMT	Header, 2.54 mm, 14x1, SMT	GBC14SABN-M30	Sullins Connector Solutions		
J2	1		Header, 2.54mm, 3x1, Gold, SMT	Header, 2.54mm, 3x1, SMT	M20-8770342	Harwin		
J3	1		Receptacle, 1.27mm, 4x1, Gold, R/A, SMD	Receptacle, 1.27mm, 4x1, R/A, SMD	851-13-004-40-001000	Mill-Max		
J4	1		Connector, Receptacle, Micro-USB Type B, R/A, Bottom Mount SMT	7.5x2.45x5mm	473460001	Molex		
LBL1	1		Thermal Transfer Printable Labels, 0.650" W x 0.200" H - 10,000 per roll	PCB Label 0.650 x 0.200 inch	THT-14-423-10	Brady		
R1	1	4.99k	RES, 4.99 k, 1%, 0.1 W, 0603	0603	CRCW06034K99FKEAC	Vishay-Dale		
R2, R3	2	330	RES, 330, 5%, 0.1 W, 0603	0603	RC0603JR-07330RL	Yageo		
R4, R10, R11, R14, R19, R25, R26, R28, R30, R33, R35, R36, R37	13	0	RES, 0, 5%, 0.1 W, 0603	0603	MCR03EZPJ000	Rohm		
R6, R17	2	0	RES, 0, 5%, 0.063 W, 0402	0402	MCR01MZPJ000	Rohm		
R7, R32	2	10.0k	RES, 10.0 k, 1%, 0.063 W, 0402	0402	RC0402FR-0710KL	Yageo America		
R15, R20	2	47k	RES, 47 k, 5%, 0.1 W, 0603	0603	RC0603JR-0747KL	Yageo		
R27	1	0	RES, 0, 5%, 1 W, 2512	2512	RC6432J000CS	Samsung		
R29, R31	2	390	RES, 390, 0.1%, 0.125 W, 0805	0805	RG2012P-391-B-T5	Susumu Co Ltd		
S1	1		Switch, Tactile, SPST-NO, 0.05A, 12V, SMT	SW, SPST 6x6 mm	FSM4J5MA	TE Connectivity		
SH-J2	1		Shunt, 100mil, Gold plated, Black	Shunt 2 pos. 100 mil	881545-2	TE Connectivity		
TP1	1		Test Point, Compact, Red, TH	Red Compact Testpoint	5005	Keystone		
TP2	1		Test Point, Compact, Black, TH	Black Compact Testpoint	5006	Keystone		
TP3, TP4	2		Test Point, Miniature, White, TH	White Miniature Testpoint	5002	Keystone		
U1	1		Ultra-Low Quiescent Current Voltage Regulator, 8-pin Narrow SOIC, Pb-Free	D0008A	LM9036M-3.3/NOPB	Texas Instruments		
U3	1		H-Bridge Motor Driver, PWP0024J (HTSSOP-24)	PWP0024J	DRV8873SPWPR	Texas Instruments		Texas Instruments
U4	1		16 MHz Mixed Signal Microcontroller with 16 KB Flash, 512 B SRAM and 24 GPIOs, -40 to 85 degC, 20-pin SOP (PW), Green (RoHS & no Sb/Br)	PW0020A	MSP430G2553IPW20	Texas Instruments		
U5	1		USB to Serial UART, SSOP28	SSOP28	FT232RL	FTDI		
FID1, FID2, FID3	0		Fiducial mark. There is nothing to buy or mount.	N/A	N/A	N/A		
H3	0		Heatsink Full Brick DC/DC Converter	Heat Sink, 116.8x61mm	ATS-1109-C1-R0	Advanced Thermal Solutions		
R5, R8, R9, R21, R22	0	4.99k	RES, 4.99 k, 1%, 0.063 W, 0402	0402	RC0402FR-074K99L	Yageo America		
R12, R13	0	10.2k	RES, 10.2 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	CRCW040210K2FKED	Vishay-Dale		
R16	0	7.87k	RES, 7.87 k, 1%, 0.063 W, AEC-Q200 Grade 0, 0402	0402	CRCW04027K87FKED	Vishay-Dale		
R18	0	51.1k	RES, 51.1 k, 0.1%, 0.125 W, 0805	0805	RG2012P-5112-B-T5	Susumu Co Ltd		
R23	0	0	RES, 0, 5%, 0.1 W, 0603	0603	MCR03EZPJ000	Rohm		
R24	0	22.0k	RES, 22.0 k, 1%, 0.1 W, 0603	0603	RC0603FR-0722KL	Yageo		
R34	0	10.0k	RES, 10.0 k, 1%, 0.063 W, 0402	0402	RC0402FR-0710KL	Yageo America		
U2	0		2-Channel, 1MHz, RRIO, 1.8V to 5.5V Operational Amplifier for Cost-Optimized Systems, D0008A (SOIC-8)	D0008A	TLV9002IDR	Texas Instruments		Texas Instruments

Notes:

Unless otherwise noted in the Alternate PartNumber and/or Alternate Manufacturer columns, all parts may be substituted with equivalents.