



























Description 18650 1-Cell Lithium Ion Battery	Designator BT1	Footprint	Quantity 1	Value
TAIYO YUDEN - EMK107BBJ106MA-T - CAP CER 10UF 16V 20% X5R 0603	C1 C2, C3, C4, C5,	CAPC1005N	1	10uF
	C6, C7, C8, C9,			
	C10, C11, C12,			
	C13, C14, C15, C16, C17, C18,			
	C19, C20, C21, C22, C37, C38,			
	C22, C37, C38,			
	C39, C40, C41,			
	C42, C43, C44, C45, C46, C47,			
	C48, C49, C50,			
Capacitor, X7R, ±10%, 16V, 0402	C55, C56	CAPC1005N	37	100nF
KEMET - T491D227K016AT - CAP TANT 220UF 16V 10% 2917	C23, C26	TC7343-2917	2	220uF
KEMET - T491B476K010AT - CAP TANT 47UF 10V 10% 1411	C24, C27	TC3528-1411	2	47uF
Capacitor, NPO, ±10%, 25V, 0402	C25, C28	CAPC1005N	2	100pF
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	C29, C30, C33,			
	C34, C35, C36, C51, C52, C53.			
Capacitor, X5R, ±10%, 10V, 0402	C54, C57, C58	CAPC1005N	12	1uF
Capacitor, NP0, ±2%, 25V, 0402	C31, C32	CAPC1005N	2	12pF
	D1, D3, D5, D7,			
	D9, D11, D13, D15, D17, D19,			
	D21, D23, D25,	OVSRRGBCC3_SI		
OPTEK - OVSRRGBCC3 - LED RED/GRN/BLUE 1204 SMD	D27, D29, D31	DE	16	
	D2, D4, D6, D8, D10, D12, D14.			
	D16, D12, D14, D16, D18, D20,			
	D22, D24, D26,			
CREE - CLV1A-FKB-CK1N1G1BB7R4S3 - LED RGB 3-IN-1 3.2X2.8MM 4PLCC	D28, D30, D32	PLCC4	16	
ROHM - SMLE12BC7TT86Q - LED, 0603, LO-CUR. BLU	D33, D34, D37	LED_0603	3	
VISHAY SEMICONDUCTOR - VS-MBRS130TRPBF - DIODE SCHOTTKY 30V 1A DO214AA	D35, D36	SMB DICCS	_	
		SMB_DIODE	2	
KINGBRIGHT - KP-1608MGC - LED, 0603, GREEN, 70MCD, 568NM	D38	LED_0603	1	-
KINGBRIGHT - KP-1608SYC - LED, SMD, 0603, YELLOW	D39	LED_0603	1	
TAIYO YUDEN - NR6028T4R7M - INDUCTOR 4.7UH 2.7A 20% SMD	L1, L2	TY_NR	2	4.7uH
SHENZHEN EONE ELECTRONICS CO.,LTD - IM120424015 - EONE High 16x2 (1602) Characters LCD	LCD1		1	1
company and a second second	LS1, LS2, LS3,		'	
	LS4, LS5, LS6,			1
	LS7, LS8, LS9, LS10, LS11, LS12.			1
	LS10, LS11, LS12, LS13, LS14, LS15,			1
AMS - TSL252R-LF - IC LIGHT TO VOLTAGE SENSOR 3PIN	LS16, LS14, LS15,	AMS_S_3PIN	16	1
	P1. P2. P6. P7. P8.			
MOLEX INC - 0022272021 - CONN HEADER 2POS .100 VERTTIN	P9, P10, P11	HDR1X2	8	
GLOBAL CONNECTOR TECHNOLOGY - USB3140-30-0170-1-C - CONNECTOR, USB 2.0 MICRO B, RCPT, 5POS, SMT	P3	USB3140-30- 0170-1-C	,	
	P4 P16	54		
KEYSTONE ELECTRONICS - 54 - BATTERY CLIP 18MM 18650 CELL	P4, P16	Samtec-SSW-116-	2	
SAMTEC - SSW-116-22-F-S-VS - Conn Socket Strip SKT 16 POS 2.54mm Solder ST SMD Tube	P5	22-F-S-VS	1	
SAMTEC - SSW-106-01-T-D - SOCKET, 2.54MM, 2X6WAY	P13, P14	SSW-106-01-X-D	2	
GLOBAL CONNECTOR TECHNOLOGY - FFC2B10-24-T - FFC/FPC CONNECTOR,	,			
RECEPTACLE, 24POS, 1ROW	P15	FFC2B10	1	
	Q1, Q2, Q3, Q4, Q5, Q6, Q7, Q8,			
	Q5, Q6, Q7, Q8, Q9, Q10, Q11,			
	Q12, Q13, Q14,			
	Q15, Q16, Q17,			
	Q18, Q19, Q20,			
	Q21, Q22, Q23, Q24, Q25, Q26,			
	Q27, Q28, Q29,			
	Q30, Q31, Q32,			
	Q33, Q34, Q35, Q36, Q37, Q38,			
	Q39, Q40, Q41,			
	Q42, Q43, Q44,			
FAIRCHILD SEMICONDUCTOR - BSS138 - MOSFET N-CH 50V 220MA SOT-23	Q45, Q46, Q47, Q48	SOT95P230-3N	48	
			1	
FAIRCHILD SEMICONDUCTOR - FDC6306P - MOSFET 2P-CH 20V 1.9A SSOT6	Q49	SOT-6 SOIC127P600-	1	
INTERNATIONAL RECTIFIER - IRF7416TRPBF - MOSFET P-CH 30V 10A 8-SOIC	Q50, Q51	8AN	2	
	R1, R2, R4, R5,			
	R7, R8, R10, R11,			
	R13, R14, R16, R17, R19, R20.			
	R22, R23, R25,			
	R26, R28, R29,			1
	R31, R32, R34, R35, R37, R38,			1
	R35, R37, R38, R40, R41, R43,			1
Resistor, ±1%, 0.1W, 0603	R44, R46, R47	RESC1608N	32	91R
101101, 2110, 0.111, 0003	R3, R6, R9, R12,			
	R15, R18, R21, R24, R27, R30,			1
	R33, R36, R39,			1
Resistor, ±1%, 0.1W, 0603	R42, R45, R48	RESC1608N	16	150R
	R49, R50, R53, R54, R55, R56.			
				1
				1
	R57, R58, R59, R60, R61, R62,			1
	R60, R61, R62, R63, R64, R65,			1
	R60, R61, R62, R63, R64, R65, R66, R67, R68,			10k
Resistor, ±1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90	RESC1608N	22	
Resistor, ±1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82,			
Resistor, ±1%, 0.1W, 0603 Resistor, ±1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90	RESC1608N RESC1608N	22 5	470R
Resistor, ±1%, 0.1W, 0603 Resistor, ±1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82, R83, R84	RESC1608N RESC1608N		470R 309k
Resistor, ±1%, 0.1W, 0603 Resistor, ±1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82, R83, R84 R69	RESC1608N		470R
Resistor, ±1%, 0.1W, 0603 Resistor, ±1%, 0.1W, 0603 Resistor, ±1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82, R83, R84 R69 R70 R71, R72, R76,	RESC1608N RESC1608N RESC1608N	5 1 1	470R 309k 1.4M
Resistor, a 1%, 0.1W, 0603 Resistor, a 1%, 0.1W, 0603 Resistor, a 1%, 0.1W, 0603 Resistor, a 1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82, R83, R84 R69 R70 R71, R72, R76, R77	RESC1608N RESC1608N RESC1608N RESC1608N		470R 309k 1.4M 100k
Resistor, ±1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82, R83, R84 R69 R70 R71, R72, R76, R77	RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N	5 1 1 4 2	470R 309k 1.4M 100k 47k
Resistor, ±1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82, R83, R84 R69 R70 R71, R72, R76, R77, R73, R78	RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N	5 1 1	470R 309k 1.4M 100k 47k 887k
Resistor, s.1%, 0.1W, 0003	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82, R83, R84 R69 R70 R71, R72, R76, R77	RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N	5 1 1 4 2	470R 309k 1.4M 100k 47k
Reistor, a1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90 R51, R52, R82, R83, R84 R69 R70 R71, R72, R76, R77, R73, R78	RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N	5 1 1 4 2	470R 309k 1.4M 100k 47k 887k
Resistor, a1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R80, R51, R52, R82, R83, R84 R69 R70, R71, R72, R76, R77, R78, R74, R72, R76, R74, R74, R74, R75, R85	RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N	5 1 1 4 2 1	470R 309k 1.4M 100k 47k 887k 1.3M
Resistor, a 1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R68, R89, R90 R51, R52, R82, R83, R84 R69 R70 R71, R72, R76, R71, R72, R76, R74 R74 R74 R75 R75 R75 R75 R75 R75 R75 R75 R75 R75	RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N	5 1 1 4 2 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R
Resistor, a 1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90, R51, R52, R82, R83, R84 R69 R70, R71, R72, R76, R77, R73, R78 R74 R75 R85 R85	RESC1608N	5 1 1 4 2 2 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k
Resistor, a 1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R81, R82, R82, R81, R82, R82, R83, R84 R69 R70 R71, R72, R76, R77, R73, R78 R74 R75 R85 R86	RESC1608N	5 1 1 4 2 1 1 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, a 1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R87, R88, R89, R90, R51, R52, R82, R83, R84 R69 R70, R71, R72, R76, R77, R73, R78 R74 R75 R85 R85	RESC1608N	5 1 1 4 2 2 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k
Resistor, a 1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R67, R68, R89, R90, R51, R52, R82, R83, R84 R70, R71, R72, R76, R77, R73, R78, R74 R74, R75, R85, R86, R86, R86, R874 R77	RESC1608N	5 1 1 4 2 1 1 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, a 1%, 0.1W, 0603 Resistor, 1 1%, 0.1W, 0603 ROBARIZA - NCPIEDRI 10303/RB - THERMISTOR, NTC, 10K, 5%, 5MD COPAL ELECTRONICS, INC - CL. 58 - 128 - 0.1T - SWITCH SUDG SPOT 0.2A GUIL, 12V FOSC Programmable System-on-Chy, 2 56 B Hash, 0.2 GPD, 1.71 to 15.5 V, 10K	R60, R61, R62, R63, R64, R63, R64, R63, R64, R63, R64, R67, R68, R67, R68, R67, R68, R67, R68, R67, R68, R67, R68, R69, R69, R69, R71, R72, R73, R76, R71, R73, R76, R74, R75, R75, R75, R75, R75, R75, R75, R75	RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N	5 1 1 4 2 2 1 1 1 1 1 1 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, s.1%, 0.1W, 0603	R60, R61, R62, R63, R64, R65, R66, R67, R68, R67, R68, R89, R90, R51, R52, R82, R83, R84 R70, R71, R72, R76, R77, R73, R78, R74 R74, R75, R85, R86, R86, R86, R874 R77	RESC1608N	5 1 1 4 2 1 1 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, a 1%, 0.1W, 0603 Resistor, 1 1%, 0.1W, 0603 ROBARIZA - NCPIEDRI 10303/RB - THERMISTOR, NTC, 10K, 5%, 5MD COPAL ELECTRONICS, INC - CL. 58 - 128 - 0.1T - SWITCH SUDG SPOT 0.2A GUIL, 12V FOSC Programmable System-on-Chy, 2 56 B Hash, 0.2 GPD, 1.71 to 15.5 V, 10K	R60, R61, R62, R63, R64, R63, R64, R63, R64, R63, R64, R67, R68, R67, R68, R67, R68, R67, R68, R67, R68, R67, R68, R69, R69, R69, R71, R72, R73, R76, R71, R73, R76, R74, R75, R75, R75, R75, R75, R75, R75, R75	RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N RESC1608N	5 1 1 4 2 2 1 1 1 1 1 1 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, a 1%, 0.1W, 0603 Resistor, a 1%, 0.1W,	Re0, Re1, Re2, Re3, Re4, Re6, Re7, Re8, Re7, Re8, Re7, Re8, Re7, Re8, Re7, Re8, Re7, Re8, Re9, Re9, Re9, Re9, Re9, Re9, Re9, Re9	RESC1608N CL-SB-12B-01T CVP-AX100_L MSOP-10	5 1 1 4 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, s.1%, 0.1W, 0603 COPAL ELECTROPHONICS INC - CL-SB-12B-01T - SWITCH SUDG SP0T 0.2A GUIL 12V PROC Programmable Systemson-Chip, 256 RB Flash, 62 GPIOS, 1.71 to 5.5 V, 100-77 (Top VXXIOS, 1.74) ALLGEOR - A.1809GG/YRET - I. GWITCH PARA TOMSOP HALLGEOR - A.1809GG/YRET - I. GWITCH PARA TOMSOP HALLGEOR - A.1809GG/YRET - I. GWITCH PARA TOMSOP	R60, R61, R62, R63, R64, R63, R64, R63, R64, R63, R64, R63, R64, R67, R68, R66, R67, R68, R67, R68, R69, R69, R69, R69, R69, R69, R69, R69	RESC1608N CI-SB-12B-01T C/P-AX100_L SOT23-3N	5 5 1 1 1 1 4 4 2 2 1 1 1 1 1 1 1 1 1 1 1 2 2 2 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, ±1%, 0.1W, 0603 Resistor, ±1%, 0.1W, 0.0W, 0.0	Red, Ref., Re2, Re3, Re4, Re5, Re6, Re7, Re8, Re7, Re8, Re7, Re8, Re9, Re7, Re8, Re9, Re9, Re9, Re9, Re9, Re9, Re9, Re9	RESC160BN RESC16	5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 2 1 1 1 4 4 2 2 2 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, s.1%, 0.1W, 0603	R60, R61, R62, R62, R63, R64, R63, R64, R63, R64, R63, R68, R68, R69, R68, R69, R69, R69, R69, R69, R69, R69, R69	RESCIGON RES	5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, s.1%, 0.1W, 0603 Re	Red, Belf, Re2, Re3, Re4, Re5, Re5, Re5, Re5, Re5, Re5, Re5, Re5	RESCIGON RES	5 5 1 1 1 1 4 4 2 2 2 1 1 1 1 4 4 4 2 2 2 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M
Resistor, ±1%, 0.1W, 0603 Resistor, ±1%, 0.1	R60, R61, R62, R62, R63, R64, R63, R64, R63, R64, R63, R68, R68, R69, R68, R69, R69, R69, R69, R69, R69, R69, R69	RESCIGON RES	5 5 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	470R 309k 1.4M 100k 47k 887k 1.3M 2k 330R 500k 1M