





Quantity	Comment	LibRef	Designator	Description	Motor	Footprint	Supplier	Supplier Nr
2	Motor	Motor	B1, B2	Motor, General Kind	RES, 10.5			
1	Battery	Battery	BT1	Multicell Battery	BAT_2			
36	100nF	100nF[A][J0603][1] J1	C1, C3, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C22, C23, C24, C25, C26, C27, C28, C29, C30, C31, C38, C39, C37, C38, C39, C35, C32, C35, C36, C67, C68, C69, C70, C71	Capacitor	RESCH1608X06L	Farnell	1288255	
7	10uF	4.7uF[A][J0603][1] J1, 10uF[A][J0603][1]	C2, C4, C32, C46, C51, C52, C72	Capacitor	RESCH1608X06L	Farnell	1463375, 9227784	
7	4.7nF	4.7nF[A][J0603][1] J1	C15, C16, C17, C18, C19, C20, C21	Capacitor	CAPC1608N	Farnell		
9	4.7uF	4.7uF[A][J0603][1] J1	C31, C40, C43, C44, C45, C47, C48, C49, C50	Capacitor	RESCH1608X06L	Farnell	9227784	
1	10uF XSR	10uF[A][J0603][1] 1	C34	Capacitor	RESCH1608X06L	Farnell	1463375	
2	10pF	10pF[A][J0603][1] 3	C41, C42		RESCH1608X06L	Farnell	8819815	
2	1nF	100pF[A][J0603][1] J1	C53, C54	Capacitor	RESCH1608X06L	Farnell	1288255	
3	1uF	10uF[A][J0603][1] J1, 4.7uF[A][J0603][1]	C58, C61, C63	Capacitor	RESCH1608X06L	Distribtec, Farnell	823495, 9227784	
1	1.5nF	10uF[A][J0603][1] 1	C57	Capacitor	RESCH1608X06L	Farnell	9406182	
3	47nF	10uF[A][J0603][1] J1, 470nF[A][J0603][1]	C58, C59, C60	Capacitor	RESCH1608X06L	Distribtec, Farnell	823494, 9406182	
1	51pF	10uF[A][J0603][1] 1	C64	Capacitor	RESCH1608X06L	Farnell	9406182	
4	19-21SURC/S530-A3/TR8	LED	D1, D3, D4, D5	SMD Red 0803 2V@20ma 56 mcd	DIODC1608X08N			
4	BT5050RGBCT180	LED RGB SMD 2	D2, D6, D27, D38	\$0.0271 2000k	LEDSDMS			
12	27-21SURC/S530-A3	LED	D7, D8, D10, D11, D12, D17, D18, D25, D26, D32, D35, D36	SMD Red led right angle mount 2V@20ma 57mcd	Z7-21 Everlight			
3	27-21/BWCAN1P2-3C	LED	D8, D31, D37	SMD blue led right angle mount 3.3V@20ma 20mcd	Z7-21 Everlight Blue			
8	APT01608SYCK	LED	D13, D14, D15, D16, D21, D22, D23, D24	LED standard - CMS Helios SMD Yellow 590nm 480mcd	DIODC1608X08N			
2	WPF104SRC/D	LED	D19, D20	Red led 2V@20ma 57mcd	Led_TH_3mm_20mm			
3	APT01608GCK	LED	D28, D29, D30	LED standard - CMS Helios SMD Green 570nm 230mcd	DIODC1608X08N			
2	BAT54S	D33, D34		Schottky Barrier Double Diode	SOT23_N			
1	Speaker	Speaker	LS1	Loudspeaker	PN2			
1	TD4015BPN	Micro1	MC1	Omni-directional back electret Condenser Microphone	MICRO_PANASONIC_WM64PN			
46	BC17-40	BC17-40	D1, D2, D3, D4, D5, D6, D7, D8, D9, D10, D11, D12, D13, D14, D15, D16, D17, D18, D25, D26, D32, D35, D36, D37, D38, D39, D40, D41, D42, D43, D44, D45, D46	NPN General-purpose Transistor	SOT23_N			
22	4.7K	4.7K[A][J0603][1] J1	R1, R2, R57, R58, R61, R63, R64, R65, R67, R68, R63, R64, R103, R104, R111, R112, R113, R114, R142, R144, R145, R146	Resistor	RESCH1608X06L	Distribtec	715604	
16	33	33K[A][J0603][1] J1, RES	R2, R5, R68, R69, R70, R71, R72, R73, R58, R59, R100, R135, R147, R148, R149, R150	120, Resistor	RESCH1608X06L	Distribtec	715632	
2	2.7K	2.2K[A][J0603][1] J1, RES	R4, R6	Resistor	RESCH1608X06L			
8	22K	2.2K[A][J0603][1] J1, RES	R7, R8, R9, R10, R11, R42, R43, R130	120, Resistor	RESCH1608X06L	Distribtec	715620	
16	2.2K	2.2K[A][J0603][1] J1, RES	R12, R13, R14, R15, R16, R32, R33, R34, R35, R41, R44, R45, R52, R53, R120	120, Resistor	RESCH1608X06L	Distribtec	715596	
7	1.5K	RES	R17, R18, R19, R20, R28, R46, R47	120	RESCH1608X06L			
8	1K	1K[A][J0603][1] J1, RES	R21, R22, R23, R24, R25, R46, R48, R108	120, Resistor	RESCH1608X06L	Distribtec	715588	
16	10K	10K[A][J0603][1] J1, RES	R27, R28, R29, R30, R31, R50, R51, R101, R102, R109, R110, R117, R118, R126, R129, R136	120, Resistor	RESCH1608X06L	Distribtec, Farnell	715612, 9330399, 9331565	
7	2	RES	R32, R37, R38, R39, R40, R54, R55	120	RESCH1608X06L			
14	56	68K[A][J0603][1] J1	R56, R55, R60, R62, R74, R75, R76, R77, R78, R79, R80, R81, R90, R91	Resistor	RESCH1608X06L	Distribtec	715632	
14	39	68K[A][J0603][1] J1	R86, R82, R83, R84, R85, R86, R87, R88, R89, R95, R96, R97, R133, R134	Resistor	RESCH1608X06L	Distribtec	715632	
2	100	RES_ACDORT	R105, R106	Resistance	RESCH1608X06N			
2	180	180K[A][J0603][1] J1	R107, R137	Resistor	RESCH1608X06L	Distribtec	715570	
2	55.6K	2.2K[A][J0603][1] J1	R115, R116	Resistor	RESCH1608X06L	Distribtec	715596	
10	100K	10K[A][J0603][1] J1, 100K[A][J0603][1]	R119, R120, R121, R122, R123, R124, R138, R139, R141, R143	Resistor	RESCH1608X06L	Distribtec	715612, 715638	
1	680K	4.7K[A][J0603][1] J1	R125	Resistor	RESCH1608X06L	Distribtec	715652	
1	6.8K	10K[A][J0603][1] J1	R127	Resistor	RESCH1608X06L	Distribtec	715612	
1	820	22K[A][J0603][1] J1	R131	Resistor	RESCH1608X06L	Distribtec	715620	
1	47K	22K[A][J0603][1] J1	R132	Resistor	RESCH1608X06L	Distribtec	715620	
1	270K	270K[A][J0603][1] J1	R140	Resistor	RESCH1608X06L	Farnell	9330941	
1	NCP150H103F03RC	Res Thermal	RT1	Thermistors - NTC 10K OHM 1% 0402	RESCH1005X04L			
1	MicroSD-Astron 5190008-XM4-R	SD-Card Micro-AB, TROM 5190008-XM4-R	S1	MicroSD Card connector 5190008-XM4-R	Astron 5190008-XM4-R			
1	SW-PB	SW-PB	S2	Switch	FSMRA2JH			
4	DMG1013T	DMG1013T	T1, T2, T3, T4	Transistor MOSFET 1 x P Pining : 1~5, 2~5, 3~0	SOT50P160X80-3N			
4	DMG1012T	DMG1012T	T5, T6, T7, T8	Transistor MOSFET 1 x N, Pining : 1~4, 2~5, 3~0	SOT50P160X80-3N			
1	MMA7660FC	MMA7660FC	U1	MMA7660FC XYZ-AXIS ACCELEROMETER ±1.5 g	DFN50P000X300X100-12N			
2	TR9909	TR9909	U2, U3	Everlight Opto Interrupter	TR9909_LONG			
2	MCPL04T-E/ST	MCPL04T-E/ST	U4, U5	1MR6 85 pA Quad Op Amp, 14Pin TSSOP-Extended Temperature Range, Tape and Reel	TSSOP-8T14_N			
7	TR9909	TR9909	U6, U7, U8, U9, U10, U11, U12	Everlight Opto Interrupter	TR9909_EDGE			
5	MC74HC595ADTR2	MC74HC595ADTR2	U13, U14, U15, U16, U17	8-Bit Serial-Input/Serial or Parallel Output Shift Register with Latched 3-State Outputs	94BF-01_N			
2	AP131-33WG-ND	AP7331	U18, U26	300pA, Low Quiescent Current, Fast Transient LDO	SOT95P285X100-6N			
1	PC24FJ128GB106-UPT	PIC24FJ128GB106-I/P1	U19	GREEN9 PURPOSE 16-BIT MICROCONTROLLER with USB On-The-Go, 128KB Flash, 19KB SRAM, 64-Pin TQFP, Industrial Temperature	TQFP-P164_N			
1	RM3363ET	TSOP32236	U20	IR Receiver Module (38 KHz) for Remote Control Systems	IR-receiver			
1	MCQ73871-2AAU/ML	MCQ73871-2AAU/ML	U21	Stand-Alone System Load Sharing and Li-Ion/Li-Polymer Battery Charge Management Controller, 4.2V, 20-Pin QFN, Industrial Temperature	QFN-ML20_N			
2	AP7331-33WG-7	AP7331	U22, U24	300pA, Low Quiescent Current, Fast Transient LDO	SOT95P285X100-6N			
1	FAN3988	FAN3988	U23	USB Charger and Over Voltage Detection Device	MLP 1.45x1mm			
1	LM4819M	LM4819M	U25	400mW Audio Power Amplifier with Shutdown Mode	M08A_N			
1	Con1a6	Con1a6	X2	1 x 6 pins connector	MHCR1X6			
1	Atalon R3190005-021-R	USB_MMINAB	X3	USB connector Micro B	Astron 3190005-021-r			
1	B15ABLS-B-82	HC489-4H_SMX	Y1	Surface Mount Quartz Crystal 8MHz	HC489-4H_SMX			

Quantity	Comment	LibRef	Designator	Description	Footprint	Supplier	Supplier Nr	Layer
1	100	RES_ACO RT	R105	Resistance	RESC1608X06N			Bottom
1	1uF	1uF[[/\]]06 03[[/\]]1	C63	Capacitor	RESC1608X06L	Distrelec	823495	Bottom
1	6.2	RES	R38	120	RESC1608X06L			Bottom
1	815-ABLS-8-B2	HC49/4H SMX	Y1	Surface Mount Quartz Crystal 8Mhz	HC49/4H_SMX			Bottom
1	AP131-33WGCT-ND	AP7331	U26	300mA, Low Quiescent Current, Fast Transient LDO	SOT95P285X100-5N			Bottom
1	MCP6L04T-E/ ST	MCP6L04 T-E/ ST	U4	1 MHz, 85 µA Quad Op Amp, 14-Pin TSSOP, Extended Temperature Range, Tape and Reel	TSSOP-ST14_N			Bottom
12	4.7K	4.7K[[/\]]0 603[[/\]]1	R1, R2, R57, R59, R61, R63, R64, R65, R111, R112, R113, R114	Resistor	RESC1608X06L	Distrelec	715604	Bottom
15	100nF	100nF[[/\]] 0603[[/\]]1	C5, C7, C8, C9, C14, C22, C25, C26, C28, C30, C55, C68, C69, C70, C71	Capacitor	RESC1608X06L	Farnell	1288255	Bottom
18	BC817-40	BC817-40	Q1, Q2, Q3, Q4, Q7, Q12, Q19, Q20, Q21, Q22, Q23, Q24, Q25, Q26, Q27, Q28, Q29, Q30	NPN General-purpose Transistor	SOT23_N			Bottom
2	18pF	10pF[[/\]]0 603[[/\]]3	C41, C42		RESC1608X06L	Farnell	8819815	Bottom
2	2.7K	RES	R4, R6	Resistor	RESC1608X06L			Bottom
2	4.7uF	4.7uF[[/\]] 0603[[/\]]1	C40, C43	Capacitor	RESC1608X06L	Farnell	9227784	Bottom
2	BT5050RGBCT-180	LED RGB SMD 2	D2, D6	\$0.027/2000k	LEDSMD5			Bottom
2	ITR9909	ITR9909	U2, U3	Everlight Opto Intempler	ITR9909_LONG			Bottom
2	WP7104SRC/D	LED	D19, D20	Red led 2V@20ma 57mcd	Led_TH_3mm_20mm			Bottom
3	10uF	4.7uF[[/\]] 0603[[/\]]1 10uF[[/\]]0 603[[/\]]1	C51, C52, C72	Capacitor	RESC1608X06L	Farnell	1463375, 9227784	Bottom
3	MC74HC595ADTR2	MC74HC5 95ADTR2	U13, U15, U17	8-Bit Serial-Input/Serial or Parallel-Output Shift Register with Latched 3- State Outputs	948F-01_N			Bottom
4	1.5K	RES	R17, R18, R19, R20	120	RESC1608X06L			Bottom
4	1K	RES	R21, R22, R23, R24	120	RESC1608X06L			Bottom
4	22K	RES	R7, R8, R9, R10	120	RESC1608X06L			Bottom
4	DMG1012T	DMG1012 T	T5, T6, T7, T8	Transistor MOSFET 1 x N, Pining : 1=G, 2=S, 3=D	SOT50P160X80-3N			Bottom
4	DMG1013T	DMG1013 T	T1, T2, T3, T4	Transistor MOSFET 1 x P Pining : 1=G, 2=S, 3=D	SOT50P160X80-3N			Bottom
6	100K	100K[[/\]] 0603[[/\]]1	R119, R120, R121, R122, R123, R124	Resistor	RESC1608X06L	Distrelec	715636	Bottom
6	56	68K[[/\]]0 603[[/\]]1	R74, R75, R76, R77, R90, R91	Resistor	RESC1608X06L	Distrelec	715632	Bottom
7	4.7nF	CAP-NP	C15, C16, C17, C18, C19, C20, C21	Capacitor	CAPC1608N			Bottom
8	10K	10K[[/\]]0 603[[/\]]2 RES	R27, R28, R29, R30, R31, R50, R51, R136	120, Resistor	RESC1608X06L	Farnell	9330399	Bottom
8	2.2K	2.2K[[/\]]0 603[[/\]]1 RES	R12, R13, R14, R15, R16, R33, R44, R45	120, Resistor	RESC1608X06L	Distrelec	715596	Bottom
8	33	RES	R3, R5, R68, R69, R70, R71, R72, R73	120, Resistor	RESC1608X06L			Bottom
8	39	68K[[/\]]0 603[[/\]]1	R82, R83, R84, R85, R95, R96, R97, R133	Resistor	RESC1608X06L	Distrelec	715632	Bottom
9	27-21SURC/SS50- A3	LED	D9, D10, D11, D12, D17, D18, D25, D26, D35	SMD Red led right angle mount 2V@20ma 57mcd	27-21 Everlight			Bottom
1	1.5nF	10nF[[/\]]0 603[[/\]]1	C57	Capacitor	RESC1608X06L	Farnell	9406182	Top
1	100	RES_ACO RT	R106	Resistance	RESC1608X06N			Top
1	10uF X5R	10uF[[/\]]0 603[[/\]]1	C34	Capacitor	RESC1608X06L	Farnell	1463375	Top
1	270K	270K[[/\]] 0603[[/\]]2	R140	Resistor	RESC1608X06L	Farnell	9330941	Top
1	47K	22K[[/\]]0 603[[/\]]1	R132	Resistor	RESC1608X06L	Distrelec	715620	Top
1	51pF	10nF[[/\]]0 603[[/\]]1	C64	Capacitor	RESC1608X06L	Farnell	9406182	Top
1	6.8K	10K[[/\]]0 603[[/\]]1	R127	Resistor	RESC1608X06L	Distrelec	715612	Top
1	680K	470K[[/\]] 0603[[/\]]1	R125	Resistor	RESC1608X06L	Distrelec	715652	Top
1	820	22K[[/\]]0 603[[/\]]1	R131	Resistor	RESC1608X06L	Distrelec	715620	Top
1	Alstron R3190005- 021-R	USB_MINI AB	X3	USB connector Micro B	Astron 3190005-x21-r			Top
1	AP131-33WGCT-ND	AP7331	U18	300mA, Low Quiescent Current, Fast Transient LDO	SOT95P285X100-5N			Top
1	Battery	Battery	BT1	Multicell Battery	BAT-2			Top
1	Con1x6	Con1x6	X2	1 x 6 pins connector	MHDR1X6			Top
1	FAN3988	FAN3988	U23	USB/ Charger and Over Voltage Detection Device	MLP 1.45x1mm			Top
1	IRM-3636T	TSOP322 36	U20	IR Receiver Module (36 kHz) for Remote Control Systems	IR-receiver			Top
1	LM4819M	LM4819M	U25	350mW Audio Power Amplifier with Shutdown Mode	M08A_N			Top
1	MCP6L04T-E/ ST	MCP6L04 T-E/ ST	U5	1 MHz, 85 µA Quad Op Amp, 14-Pin TSSOP, Extended Temperature Range, Tape and Reel	TSSOP-ST14_N			Top
1	MCP73871-2AAI/ML	MCP7387 1-2AAI/ML	U21	Stand-Alone System Load Sharing and Li-Ion/ Li- Polymer Battery Charge Management Controller, 4.2V, 20-Pin QFN, Industrial Temperature	QFN-ML20_N			Top

1	MCP6L04T-E/ST	T-E/ST	U5		Range, Tape and Reel	TSSOP-ST14_N			Top
1	MCP73871-2AAJ/ML	MCP7387 1-2AAJ/ML	U21		Stand-Alone System Load Sharing and Li-Ion/ Li-Polymer Battery Charge Management Controller, 4.2V, 20-Pin QFN, Industrial Temperature	QFN-ML20_N			Top
1	MicroSD-Astron 5190008-XA4-R	SD-Card-Micro-ASL-TRON 5190008-XA4-R	S1		MicroSD Card connector 5190008-XA4-R	Astron 5190008-XA4-R			Top
1	MMA7660FC	MMA7660 FC	U1		MMA7660FC-XYZ-AXIS ACCELEROMETER ±1.5 g	DFN50P300X300X100-12N			Top
1	NCP15XHT03F03RC	Res Thermal	RT1		Thermistors - NTC 10K OHM 1% 0402	RES-C1005X04L			Top
1	PIC24FJ128GB106-I/PT	PIC24FJ12 8GB106-I/PT	U19		General Purpose 16-Bit Flash Microcontroller with USB On-The-Go, 128KB Flash, 16KB SRAM, 64-Pin TQFP, Industrial Temperature	TQFP-PT64_N			Top
1	Speaker	Speaker	LS1		Loudspeaker	PIN2			Top
1	SW-PB	SW-PB	S2		Switch	FSMRA2JH			Top
1	TD4015BPN	Micro1	MC1		Omnidirectional Back Electret Condenser Microphone	MICRO_PANASONIC_WM-64PN			Top
10	4.7K	4.7K[[\A]]0603[[\A]]1	R67, R92, R93, R94, R103, R104, R142, R144, R145, R146		Resistor	RESC1608X06L	Distrelec	715604	Top
2	180	180R[[\A]]0603[[\A]]1	R107, R137		Resistor	RESC1608X06L	Distrelec	715570	Top
2	1nF	100nF[[\A]]0603[[\A]]1	C53, C54		Capacitor	RESC1608X06L	Farnell	1288255	Top
2	1uF	1uF[[\A]]0603[[\A]]1, 4.7uF[[\A]]0603[[\A]]1	C56, C61		Capacitor	RESC1608X06L	Distrelec, Farnell	823495, 9227784	Top
2	5.6K	2.2K[[\A]]0603[[\A]]1	R115, R116		Resistor	RESC1608X06L	Distrelec	715596	Top
2	AP7331-33WG-7	AP7331	U22, U24		300mA, Low Quiescent Current, Fast Transient LDO	SOT95P285X100-5N			Top
2	BAT54S	BAT54S	D33, D34		Schottky Barrier Double Diode	SOT23_N			Top
2	BT5050RGB-C-T180	LED RGB SMD 2	D27, D38		\$0.027/ 2000k	LED-SMD5			Top
2	MC74HC595ADTR2	MC74HC5 95ADTR2	U14, U16		8-Bit Serial-Input/Serial or Parallel-Output Shift Register with Latched 3-State Outputs	948F-01_N			Top
2	Motor	Motor	B1, B2		Motor, General Kind	RB5-10.5			Top
21	100nF	100nF[[\A]]0603[[\A]]1	C1, C3, C6, C10, C11, C12, C13, C23, C24, C27, C29, C33, C35, C36, C37, C38, C39, C62, C65, C66, C67		Capacitor	RESC1608X06L	Farnell	1288255	Top
28	BC817-40	BC817-40	Q5, Q6, Q8, Q9, Q10, Q11, Q13, Q14, Q15, Q16, Q17, Q18, Q31, Q32, Q33, Q34, Q35, Q36, Q37, Q38, Q39, Q40, Q41, Q42, Q43, Q44, Q45, Q46		NPN General-purpose Transistor	SOT23_N			Top
3	1.5K	RES	R26, R46, R47		120	RESC1608X06L			Top
3	27-21/BHC-AN1P2/3C	LED	D8, D31, D37		SMD Blue led right angle mount 3.3V@20ma 28mcd	27-21 Everlight Blue			Top
3	27-21SURC/SS30-A3	LED	D7, D32, D36		SMD Red led right angle mount 2V@20ma 57mcd	27-21 Everlight			Top
3	47nF	10nF[[\A]]0603[[\A]]1, 470nF[[\A]]0603[[\A]]1	C58, C59, C60		Capacitor	RESC1608X06L	Distrelec, Farnell	823494, 9406182	Top
3	APTD1608CGCK	LED	D28, D29, D30		LED standard - CMS Helios SMD Green 570nm 230mcd	DIOC1608X08N			Top
4	100K	10K[[\A]]0603[[\A]]1, 100K[[\A]]0603[[\A]]1	R138, R139, R141, R143		Resistor	RESC1608X06L	Distrelec	715612, 715636	Top
4	10uF	4.7uF[[\A]]0603[[\A]]1, 10uF[[\A]]0603[[\A]]1	C2, C4, C32, C46		Capacitor	RESC1608X06L	Farnell	1463375, 9227784	Top
4	19-21SURC/SS30-A3/ TR8	LED	D1, D3, D4, D5		SMD Red 0603 2V@20ma 56 mcd	DIOC1608X08N			Top
4	1K	1K[[\A]]0603[[\A]]1, RES	R25, R48, R49, R108		120, Resistor	RESC1608X06L	Distrelec	715588	Top
4	22K	22K[[\A]]0603[[\A]]1, RES	R11, R42, R43, R130		120, Resistor	RESC1608X06L	Distrelec	715620	Top
6	39	88K[[\A]]0603[[\A]]1	R66, R86, R87, R88, R89, R134		Resistor	RESC1608X06L	Distrelec	715632	Top
6	6.2	RES	R36, R37, R39, R40, R54, R55		120	RESC1608X06L			Top
7	2.2K	2.2K[[\A]]0603[[\A]]1	R32, R34, R35, R41, R52, R53, R126		Resistor	RESC1608X06L	Distrelec	715596	Top
7	4.7uF	4.7uF[[\A]]0603[[\A]]1	C31, C44, C45, C47, C48, C49, C50		Capacitor	RESC1608X06L	Farnell	9227784	Top
7	ITR9909	ITR9909	U6, U7, U8, U9, U10, U11, U12		Everlight Opto Interrupter	ITR9909_EDGE			Top
8	10K	8.2K[[\A]]0603[[\A]]2, 10K[[\A]]0603[[\A]]1, 10K[[\A]]0603[[\A]]2	R101, R102, R109, R110, R117, R118, R128, R129		Resistor	RESC1608X06L	Distrelec, Farnell	715612, 9330399, 9331565	Top
8	33	88K[[\A]]0603[[\A]]1, RES	R98, R99, R100, R135, R147, R148, R149, R150		120, Resistor	RESC1608X06L	Distrelec	715632	Top
8	56	88K[[\A]]0603[[\A]]1	R56, R58, R60, R62, R78, R79, R80, R81		Resistor	RESC1608X06L	Distrelec	715632	Top
8	APTD1608SYCK	LED	D13, D14, D15, D16, D21, D22, D23, D24		LED standard - CMS Helios	DIOC1608X08N			Top

