

BOM F5 – One channel only

Note:

When there are two options, I have marked the one I would suggest green

Stock F5

Refdes	Device	Value	Quantity	Notes	Digikey example
LED1	Light Emitting Diode			Any normal led – ask your wife what color she prefers.	475-1378-ND
Q1	N-Type JFET	2SK170	1	Can be difficult to source – check the GB area	
Q2	P-Type JFET	2SJ74	1	Can be difficult to source – check the GB area	
Q6	NPN BJT	ZTX450	1	You can also use BC546/BC47/BC550	ZTX450-ND
Q5	PNP BJT	ZTX550	1	You can also use BC556/BC57/BC560	ZTX550-ND
Q4 or Q104	N-type MOSFET	IRFP240	1	See section about “Output devices”	IRFP240PBF-ND
Q3 or Q103	P-type MOSFET	IRFP9240	1	See section about “Output devices”	IRFP9240PBF-ND
(R11 R12) or (R111 R112)	Power Resistor	0.47 3W	4		P0.47W-3BK-ND
R1 R2	Resistor	10	2	1W recommended	PPC10W-1CT-ND
R5 R6 R7 R8	Power Resistor	100 3W	4		P100W-3TR-ND
R10	Resistor	100k	1		CMF100KHFCT-ND
R19 R20	Resistor	150	2		CMF150HFCT-ND
R9	Resistor	1k	1		CMF1.00KHFCT-ND
(R17 R18) or (R117 R118)	Resistor	1k	2		CMF1.00KHFCT-ND
R3 R4	Resistor	2.2k	2		CMF2.20KHFCT-ND
(R15 R16) or (R115 R116)	Resistor	2.2k	2		CMF2.20KHFCT-ND
R21 R22	Resistor	22k	2		CMF22.0KHFCT-ND
R35	Resistor	33k	1		CMF33.0KHFCT-ND
(R13 R14) or (R113 R114)	Resistor	47	4		CMF47.0HFCT-ND
(TH1 TH2) or (TH101 TH102)	NTC Thermistor	4.7k	2		495-2161-ND
P1 P2	Variable Resistor	5k	2	Multi-turn pot. Bourns type top adjusted	3296W-502LF-ND

Two output pairs

Refdes	Device	Value	Quantity	Notes	Digikey example
LED1	Light Emitting Diode		1	Any normal led – ask your wife what color she prefers.	475-1378-ND
Q1	N-Type JFET	2SK170	1	Can be difficult to source – check the GB area	
Q2	P-Type JFET	2SJ74	1	Can be difficult to source – check the GB area	
Q6	NPN BJT	ZTX450	1	You can also use BC546/BC47/BC550	ZTX450-ND
Q5	PNP BJT	ZTX550	1	You can also use BC556/BC57/BC560	ZTX550-ND
Q104 Q4	N-type MOSFET	IRFP240	2	See section about “Output devices”	IRFP240PBF-ND
Q103 Q3	P-type MOSFET	IRFP9240	2	See section about “Output devices”	IRFP9240PBF-ND
R11 R111 R112 R12	Power Resistor	0.47 3W	4		P0.47W-3BK-ND
R1 R2	Resistor	10	2	1W recommended	PPC10W-1CT-ND
R5 R6 R7 R8	Power Resistor	100 3W	4		P100W-3TR-ND
R10	Resistor	100k	1		CMF100KHFCT-ND
R19 R20	Resistor	150	2		CMF150HFCT-ND
R9	Resistor	1k	1		CMF1.00KHFCT-ND
(R17 R18) or (R117 R118)	Resistor	1k	2		CMF1.00KHFCT-ND
R3 R4	Resistor	2.2k	2		CMF2.20KHFCT-ND
(R15 R16) or (R115 R116)	Resistor	2.2k	2		CMF2.20KHFCT-ND
R21 R22	Resistor	22k	2		CMF22.0KHFCT-ND
R35	Resistor	33k	1		CMF33.0KHFCT-ND
R113 R114 R13 R14	Resistor	47	4		CMF47.0HFCT-ND
(TH1 TH2) or (TH101 TH102)	NTC Thermistor	4.7k	2		495-2161-ND
P1 P2	Variable Resistor	5k	2	Multi-turn pot. Bourns type top adjusted	3296W-502LF-ND

Cascode and two output pairs

Refdes	Device	Value	Quantity	Notes	Digikey example
LED1	Light Emitting Diode		1	Any normal led – ask your wife what color she prefers.	475-1378-ND
Q1	N-Type JFET	2SK170	1	Can be difficult to source – check the GB area	
Q2	P-Type JFET	2SJ74	1	Can be difficult to source – check the GB area	
Q101	NPN BJT	BC550	1	You can also use ZTX450, but remember to check footprint	BC550-ND
Q6	NPN BJT	ZTX450	1	You can also use BC546/BC47/BC550	ZTX450-ND
Q102	PNP BJT	BC560	1	You can also use ZTX550, but remember to check footprint	BC560-ND
Q5	PNP BJT	ZTX550	1	You can also use BC556/BC57/BC560	ZTX550-ND
Q104 Q4	N-type MOSFET	IRFP240	2	See section about “Output devices”	IRFP240PBF-ND
Q103 Q3	P-type MOSFET	IRFP9240	2	See section about “Output devices”	IRFP9240PBF-ND
C101 C102	Electrolytic Capacitor	220uF	2	Value is not critical – pin spacing 5mm	P10325-ND
R11 R111 R112 R12	Power Resistor	0.47 3W	4		P0.47W-3BK-ND
R1 R2	Resistor	10	2	1W recommended	PPC10W-1CT-ND
R5 R6 R7 R8	Power Resistor	100 3W	4		P100W-3TR-ND
R10	Resistor	100k	1		CMF100KHFCT-ND
R19 R20	Resistor	150	2		CMF150HFCT-ND
R9	Resistor	1k	1		CMF1.00KHFCT-ND
(R17 R18) or (R117 R118)	Resistor	1k	2		CMF1.00KHFCT-ND
R3 R4	Resistor	2.2k	2		CMF2.20KHFCT-ND
(R15 R16) or (R115 R116)	Resistor	2.2k	2		CMF2.20KHFCT-ND
R21 R22	Resistor	22k	2		CMF22.0KHFCT-ND
R35	Resistor	33k	1		CMF33.0KHFCT-ND
R101 R102 R103 R104	Resistor	4.7k	4	Cascode voltage divider – you may need to adjust these values	CMF4.70KHFCT-ND
R113 R114 R13 R14	Resistor	47	4		CMF47.0HFCT-ND
(TH1 TH2) or (TH101 TH102)	NTC Thermistor	4.7k	2		495-2161-ND
P1 P2	Variable Resistor	5k	2	Multi-turn pot. Bourns type top adjusted	3296W-502LF-ND