

Second Stage 5KW FET Power PCB Controller WG47Rev1 Issue 130225

Designator	Comment	Description	Footprint	Quantity	From	Cost	Comments
Blank PCB		WG47Rev1		1			
C1	10n	Monolithic or Film	5.08mm	1			
C2, 10	4u7	Tantalum	2.54/5.08mm	2			
C3	1u	Tantalum or Film	2.54/5.08mm	1			
C4	47n	Capacitor	5.08mm	1			
C5, 6, 9	1u	Capacitor	5.08mm	3			
C7, 12, 13	100n	Capacitor	5.08mm	3			
C8	220n	Capacitor	5.08mm	1			
C11	22u	Tantalum	2.54/5.08mm				
D1 - D12	1N914/1N4148	Signal Diode	DO-35, (0.3")	12			
J1, J2	8 Way Pin Strip	Header strip	2.54mm Pitch x 8	2			
J3, J4, J8	2 Way Vert. PCB	PCB Header 2 Way	5.08mm Pitch	3	Digikey	2.86/10	3770486
(J3, J4, J8)	2 Way Pluggable	Terminal Block	5.08mm Pitch	3	Digikey	7.35/10	102-6390-ND
J6, J7	Screw Terminal 33A	PCB-7 M4	Terminal M4 33A	2	Ali LCSC	~40c 11c ea	PCB7-4 C19724529
J9	4 Pin Vert. PCB	PCB Header 4 Way	5.08mm Pitch	1	Digikey	88c/1	4176384
(J9)	4 Pin Pluggable	Terminal block	5.08mm Pitch	1	Digikey	1.44/1	249364401
LD1, LD2	3mm or 5mm LED	LED	2.54mm Pitch	2			
	4mm OD, 1.3mm ID	FX1115 or equiv.	Ferrite Bead 5mmL		Farnell	9.4c	1633138
OC1	FOD817D	4-Pin Optocoupler	DIP4/300	0	Digikey	65c	DNL - for front panel stage 2 LED
Q1 - Q8	BS170 or equiv.	NCH	TO92/100/DGS	8	LCSC	14c	LCSC #C111691
R1	220R	0.25-0.4W Axial	10mm (0.4" pitch)	1			
R2, R3, R25	4K7	0.25-0.4W Axial	10mm (0.4" pitch)	3			
R4	15K	0.25-0.4W Axial	10mm (0.4" pitch)	1			
R5, R6, R9, R12, R13, R17	100K	0.25-0.4W Axial	10mm (0.4" pitch)	6			
R7, R10, R11	2M2	0.25-0.4W Axial	10mm (0.4" pitch)	3			
R8, R16, R20, R21, R23	10K	0.25-0.4W Axial	10mm (0.4" pitch)	5			
R14, R15, R22	1M	0.25-0.4W Axial	10mm (0.4" pitch)	3			
R18, R19	10R Varistor 150J	0.25-0.4W Axial	10mm (0.4" pitch)	2			Ametherm SL15 47003 or similar
R24	3K3	0.25-0.4W Axial	10mm (0.4" pitch)	1			
R26, R27	2K2	0.25-0.4W Axial	10mm (0.4" pitch)	2			
RE1	RLY SPST 6A	6A Slimline SIP		1			Can use either RE1 or RE1A
RE1A (Alternate RE1)	RLY SPST 10/16A	10/16A DIP					
RE2	RLY SPST 30A	SRGA-1A-SL-12VDC		1	Farnell	\$5.19	
RV1	5K Trimpot	3296					
RV2, RV3	500R Trimpot	3296					
U1	LM393	Dual Comparator					
U2	CD14538B	Dual Monostable					
U3	LM358	Dual OpAmp					
If you have no interest in the DC current input with the CRO out and Metering leave out the following parts;							
C10, C11, C12, C13 & U3 (LM358) & J6, J7, J8 & D6, D7, D8, D9, D10 & Rv2, RV3 & R20, R21, R22, R23.							