

# SOT89 RF AMPLIFIER (CHIRP SPECIFIC)

INPUT MATCHING NETWORK				
INPUT	C3	L2	C5	MMIC AMP 50 OHM
20 Ohm		27nH	27PF	50+0.0j Ohm
40 Ohm		22nH	11PF	50+0.0j Ohm
50 Ohm		SHORT		50+0.0j Ohm
75 Ohm	10PF	39nH		50+0.0j Ohm
86 Ohm	10PF	47nH		50+0.0j Ohm
101 Ohm	11PF	56nH		50+0.0j Ohm
126 Ohm	11PF	68nH		50+0.0j Ohm
215 Ohm	9PF	100nH		50+0.0j Ohm
285 Ohm	8.5PF	120nH		50+0.0j Ohm
420 Ohm	7.2PF	150nH		50+0.0j Ohm

ATTENUATOR VALUES 50 OHM		
dB	R1	R2
0	0	N/A
5	30.1	178.
10	71.5	59.3
15	137	71.5
20	249.	60.4
25	442.	56.2
30	487.	53.6

INPUT MATCHING NETWORK				
INPUT	C3	L2	C5	MMIC AMP 50 OHM
20 Ohm				75+0.0j Ohm
40 Ohm				75+0.0j Ohm
50 Ohm		39nH	10PF	75+0.0j Ohm
75 Ohm		SHORT		75+0.0j Ohm

CATV (75 OHM) DEVICES:  
BGA3015 BGA3018  
8V SUPPLY  
(HIGHER OUTPUT ???)

OUTPUT MATCHING NETWORK				
MMIC AMP	C22	L3	C24	ANTENNA
20 Ohm				50+0.0j Ohm
40 Ohm				50+0.0j Ohm
50 Ohm		SHORT		50+0.0j Ohm
75 Ohm	10PF	39nH		50+0.0j Ohm



THIS BOARD CONTAINS  
STATIC SENSITIVE  
DEVICES. HANDLE  
ONLY IN STATIC SAFE  
ENVIRONMENT

<https://www.analog.com/en/design-center/interactive-design-tools/rf-impedance-matching-calculator.html>

TOP_FULL		BOT_COMPACT		BOARD-ID															
DRAWING FRAME SHOWN ON CIRCUIT BOARD																			
Drawn		Date										The University of Iowa Department of Physics & Astronomy Iowa City, IA, USA							
KC0JFQ		2019-05-13																	
Designed		Date				TITLE: SOT89 RF AMP (TX_ENA)						A102_73181_28							
KC0JFQ		2019-05-13																	
						CAGE		Series		FOX TRANSMITTER		A		Number		2 Layers		Rev	
						2D354		102						73181				28	
												Date: 30 Nov 2024 18:09:12						Sheet: 1/2	

The University of Iowa  
Department of Physics & Astronomy  
Iowa City, IA, USA

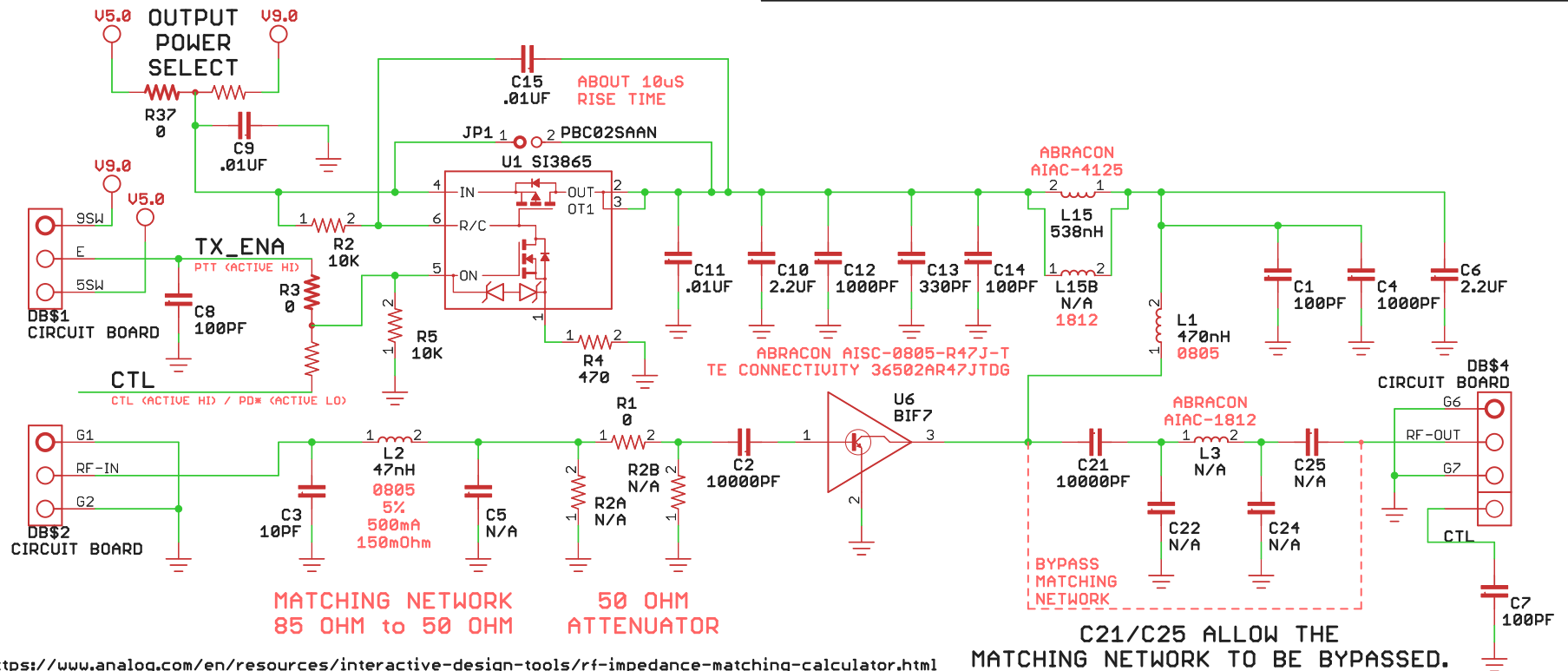
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75 OHM

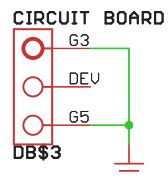
50 OHM

BGA3015 24  
2.43  
BGA3018 25  
2.38

ADL5545 24.1 4.75	ADL5536 19.4 6.14	HMC636 13 8.61	BIF7 27.1 4.03 100mW	BG11C 20.8 1.83
ADL5611 22.2 6.99	SBF-5089 19.5 N/A	HMC480 19 3.56	BIG8 27 4.03	→BG15A 19 2.27 40mW
ADL5602 19.5 6.15	SKY65017 20 3.03		BT05CV 21.5 4.16	BG18C 20.9 1.89



<https://www.analog.com/en/resources/interactive-design-tools/rf-impedance-matching-calculator.html>



ALTERNATE INDUCTOR 0805 (M2012)

TDK MLZ2012N  
EATON MCQ1V3216  
MURATA LQM21FN

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