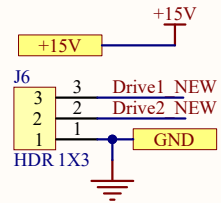
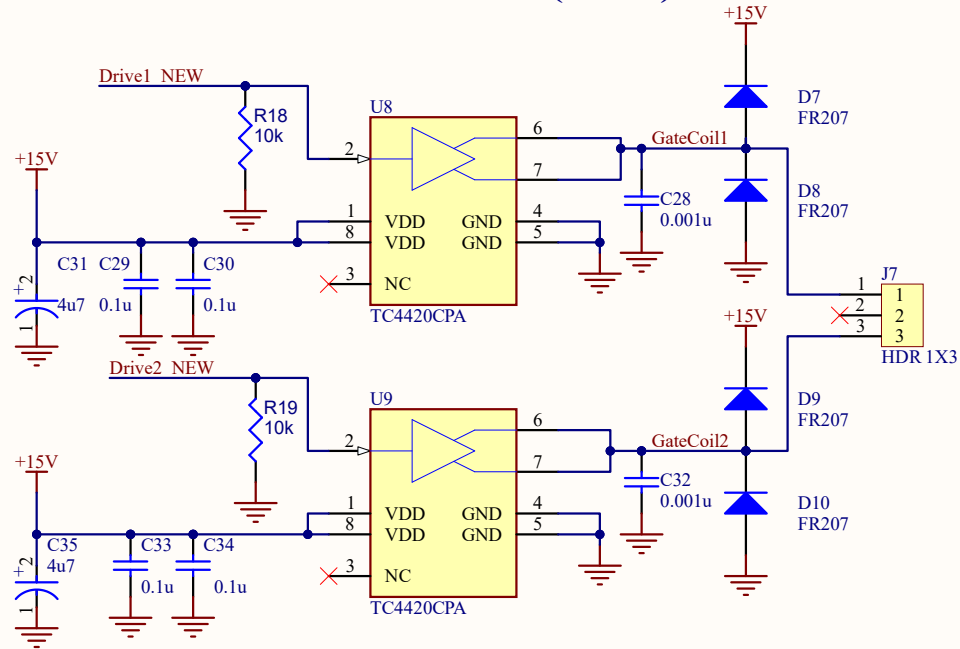


Title			<b>Solid State Tesla Coil [1]</b>		
Size	Number			Revision	
A4	<b>Naman Tanwar</b>				
Date:	6-21-2023			Sheet of	
File:	G:\Projects\SolidStateTeslaCoil_SCH			MTCSSB.Doc	

## Port Connector



## GateDriveTransformer (GDT) Driver



Title			<b>Solid State Tesla Coil [2]</b>
Size	Number	Revision	
A	<b>Naman Tanwar</b>		
Date:	6-21-2023	Sheet of	
File:	G:\Projects\...\SolidStateTeslaCoil_GateCoilDriver.BSCHEMATIC.SchDoc		

# IGBT Driver

The diagram illustrates an IGBT Driver circuit. It features a transformer with two secondary windings, GateCoil1 and GateCoil2, connected to a GDT. The primary winding is connected to a +80VDC source. The secondary windings are connected to a bridge rectifier consisting of four diodes (D11, D12, D13, D14) and four resistors (R20, R21, R22, R23). The bridge output is connected to two IGBTs (Q2, Q3) and two 15V Zener diodes (D15, D16). The IGBTs are connected to a Primary Coil, which is also connected to a +80VDC source and a GND\_80VDC source. The Primary Coil is connected to a load consisting of two capacitors (C36, C37) and two resistors (R22, R23).

**[Not on PCB]**

# Feedback Circuit

The diagram illustrates a feedback circuit for an antenna. It features two comparators, U10B and U10A, both SN74LS14N. U10B is configured as a Schmitt trigger with its output (pin 4) connected to its input (pin 3). U10A is also a Schmitt trigger with its output (pin 1) connected to its input (pin 2). The output of U10A is connected to a network of components: a resistor R24 (100k) in series with a diode D19 (1N4148) connected to a +5V supply. A second diode D21 (1N4148) is connected from this node to ground. A resistor R26 (1k) is connected from this node to a 'TriggerIN' input. The output of this network is connected to a resistor R25 (33k) in series with a capacitor C38 (0.1uF), which is then connected to an antenna. The antenna is represented by a standard antenna symbol.

Title		
Size A4	Number	Revision
Date: 6-21-2023	Sheet of	
File: G:\Projects\IGBT Drive Circuit\NoPCB\Subcircuit\	G:\Projects\IGBT Drive Circuit\NoPCB\Subcircuit\	