RL4175 – 4-bit D-type flip-flop register
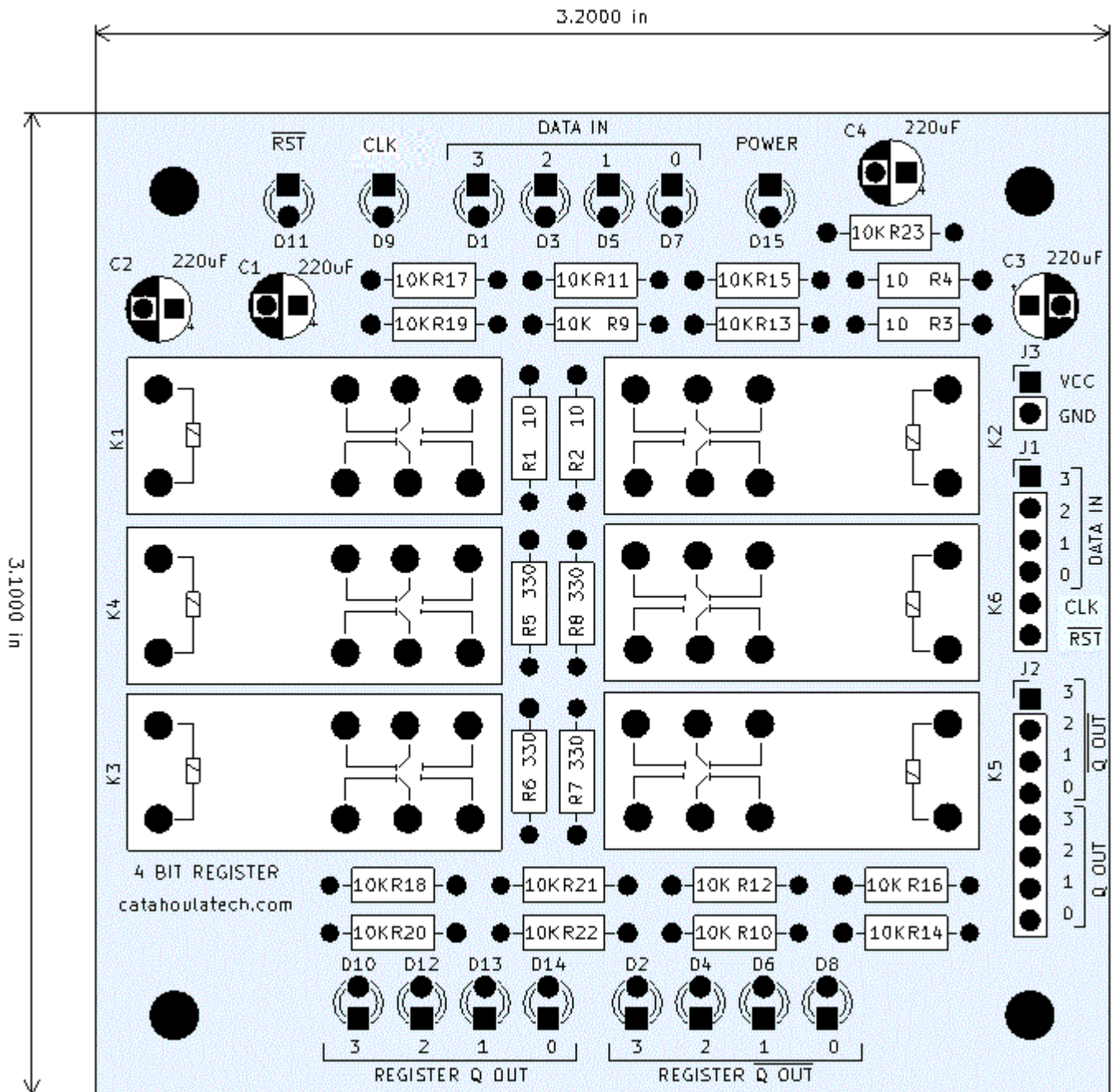
Bill of Materials

Part	Value	Description
R1-R4	10Ω 1/4W	Input current limiting resistor
R5-R8	330Ω 1/4W	Storage relay holding current resistor
R9-R23	10K 1/4W	LED current limiting resistor (optional)
C1-C4	220uF 16V	Input sampling capacitor
D1-D15	LED	3mm T-1 LED (optional)
K1-K6	G2R-2-12VDC	DPDT relay
J1-J3	Header	0.1" pitch header, right angle recommended

Mount holes are 4mm (#8 screw) diameter.

Input Ports

Name	Size	Description
DATA IN	4	Data to be stored to register
CLK	1	Clock input DATA IN is captured on rising edge
~RST	1	Reset input (active low)
VCC	1	Power supply 12VDC
GND	1	Power supply ground

Output Ports

Name	Size	Description
Q OUT	4	Register output
~Q OUT	4	Inverted register output

Logic function

~RST	LOAD (CLK)	DATA IN	Q OUT	~Q OUT	Description
1	0	X	Q	~Q	No change (data latched)
1	⌐	D	D	~ D	Capture DATA IN
0	X	X	0000	1111	Reset

Typical Application

The RL4175 module is used as a memory storage element for registers, memories, counters, or state machines.

Register storage

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