

HT4179 Transmission IC for RFID read only

Summary

HT4179 is the RFID read transmission circuit that is formed by CMOS. The electronic power is provided by the electronic coil of HT4179's 2 pins, and the operation pulse is provided through the same path. HT4179's application is to adjust radio frequency to make 64 bits data loading on RF. This is the reason that HT4179 can transfer data by RFID.

Outside circuit

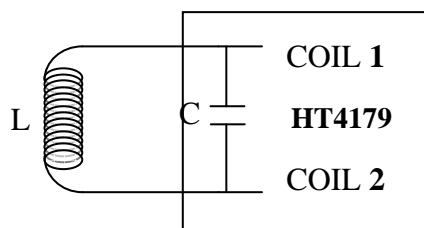
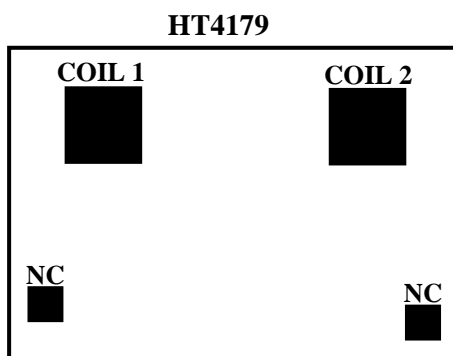


Fig.(一)
IC capacitor 540pF

HT4179's pin Assignment



COIL1 / CLOCK INPUT
COIL2 / DATA TRANSMISSION
PAD size 90um*90um
Chip size 579umx516um
Fig.(二)

Electronic condition

Table (一)

Parameter	Min	Typical	Max	Unit
operation temperature	-40		+85	°C
operation voltage	3.5	5		V
operation frequency	100		150	MHz
storage temperature	-55		+200	°C
ESD capability		2000		V

Code Format

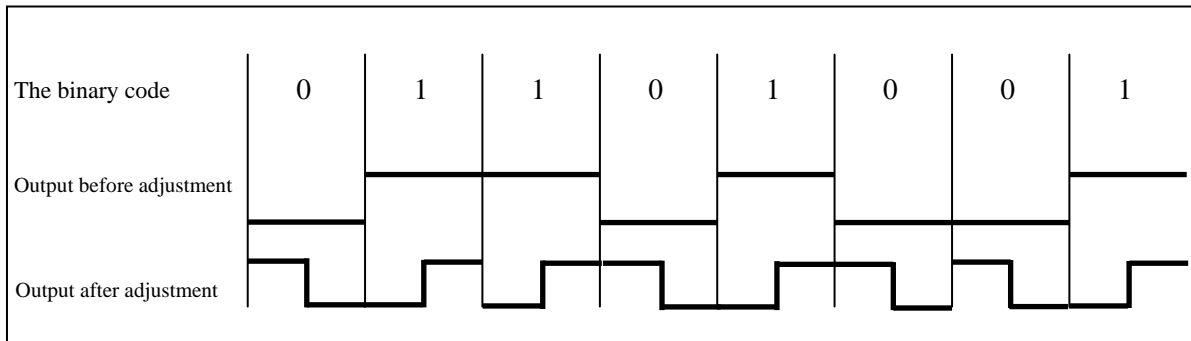


Fig.(三)

TIMING

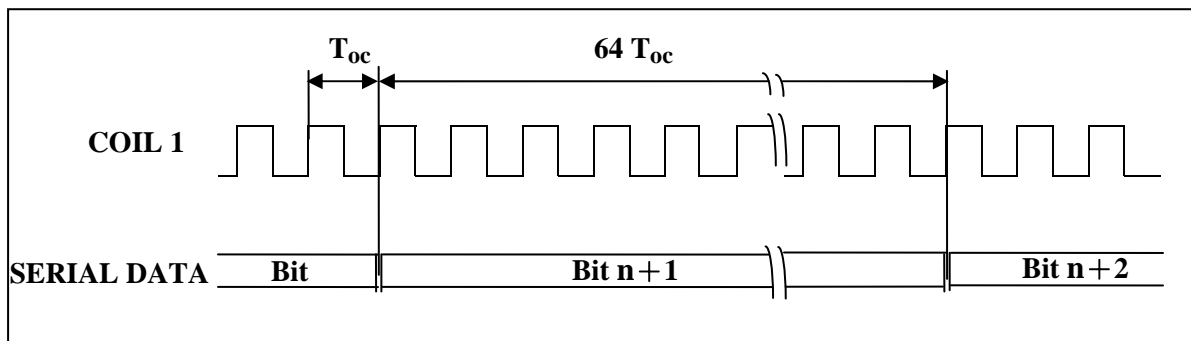


Fig.(四)

IC BLOCK

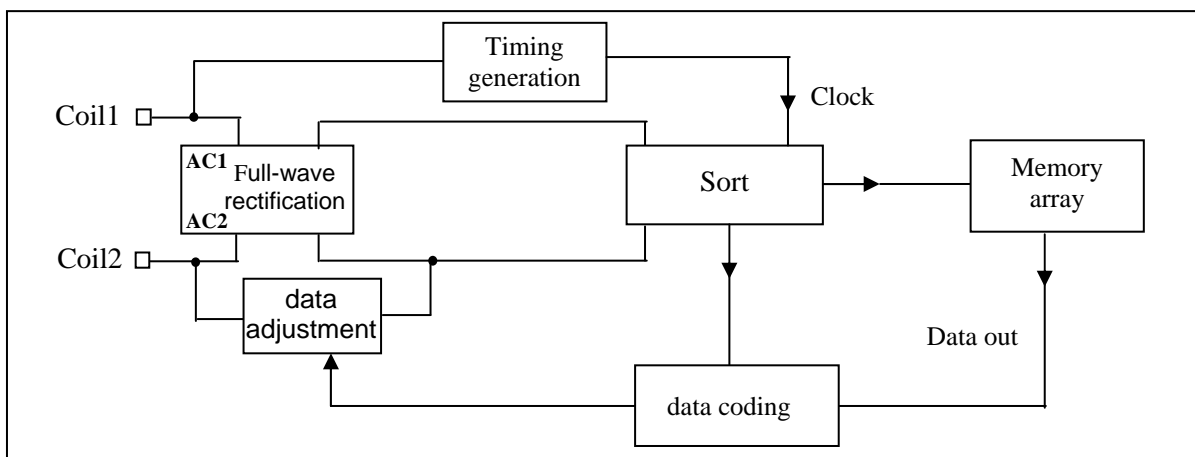


Fig.(五)

MEMORY ARRAY

THE HT4179 CONTAINS 64 BITS DIVIDED IN FIVE GROUPS OF INFORMATION. 9 BITS ARE USED FOR THE HEADER, 10 ROW PARITY BITS (P0-P9), 4 COLUMN PARITY BITS (PC0-PC3), 40 DATA BITS (D00-D93), AND 1 STOP BIT SET TO LOGIC 0.

1 1 1 1	1 1 1 1 1	- 9 BITS HEADER	
8 VERSION BITS OR CUSTOMER ID	D00 D01 D02 D03	P0	- 4 DATA BITS AND ASSOCIATED EVEN ROW PARIY BIT
	D10 D11 D12 D13	P1	
	D20 D21 D22 D23	P2	
	D30 D31 D32 D33	P3	
	D40 D41 D42 D43	P4	
	D50 D51 D52 D53	P5	
	D60 D61 D62 D63	P6	
	D70 D71 D72 D73	P7	
	D80 D81 D82 D83	P8	
	D90 D91 D92 D93	P9	
PC0 PC1 PC2 PC3	0	- 4 COLUMN EVEN PARITY BITS, NO ROW PARITY BIT	
32 DATA BITS ALLOWING 4 BILLION OF COMBINATIONS			

Fig.(六)

THE HEADER IS COMPOSED BY THE 9 FIRST BITS WHICH ARE MASK PROGRAMMED TO 1 1 1 1 1 1 1 1 1. DUE TO THE DATA AND PARITY ORGANISATION, THIS SEQUENCE CANNOT BE REPRODUCED IN THE DATA STRING. THE HEADER IS FOLLOWED BY 10 GROUPS OF 4 DATA BITS AND 1 EVEN ROW PARITY BIT. THEN, THE LAST GROUP CONSISTS OF 4 EVEN COLUMN PARITY BITS WITHOUT ROW PARITY BIT. BITS D00 TO D03 AND BITS D10 TO D13 ARE CUSTOMER SPECIFIC IDENTIFICATION.

THESE 64 BITS ARE OUTPUTTED SERIALLY IN ORDER TO CONTROL THE MODULATOR USED TO MODIFY THE CURRENT AT ONE OF THE COIL TERMINALS. WHEN THE 64 BITS DATA STRING IS OUTPUTTED, THE OUTPUT SEQUENCE IS REPEATED CONTINUOUSLY UNTIL POWER GOES OFF.

CHIP DIMENSIONS

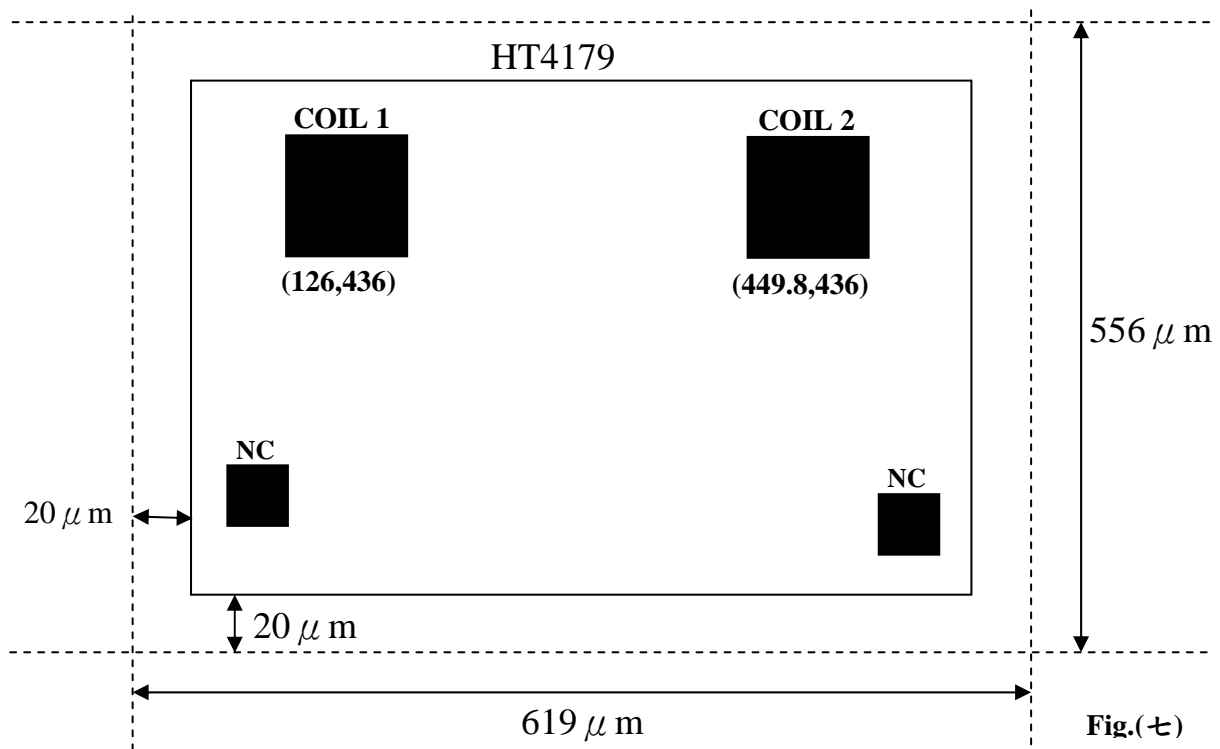


Fig.(七)