Technical Document for Type Approval

for Remote Keyless Entry System

TYPE : 13BBL

Details of content Page

November 2000

DENSO CORPORATION

1. Description of manufacturer

1.1. Trade mark

: ***DENSO***

1.2. Name and address of manufacturer

- Name : DENSO CORPORATION
- Address : 1-1 Showa-cho, Kariya-shi, Aichi-ken, 448-8661, Japan

1.3. Name and address of applicant

- Name : DENSO CORPORATION
- Address : 1-1 Showa-cho, Kariya-shi, Aichi-ken, 448-8661, Japan

2. Technical description of the system

2.1. Type number

- Receiver : 13BBL

2.2. Specifications of receiver

- Nominal frequency : 314.35 MHz
- Micro computer clock frequency : 3.86 MHz
- Type of receiving system : Super-heterodyne
- Power Supply
  - Nominal supply voltage : 12 VDC (vehicle battery)
- Antenna : Built-in type (Fixed)

3. Outline of the system

3.1. Description of the system operation

This system is mainly used for locking or unlocking the doors of the vehicle.

The transmitter send a radio wave signal while the button is pushed.

The receiver becomes active in response to the signal from the transmitter.

3.2. Installation in vehicle

The receiver is installed inside the vehicle.

4. Block diagram

4.1. Receiver

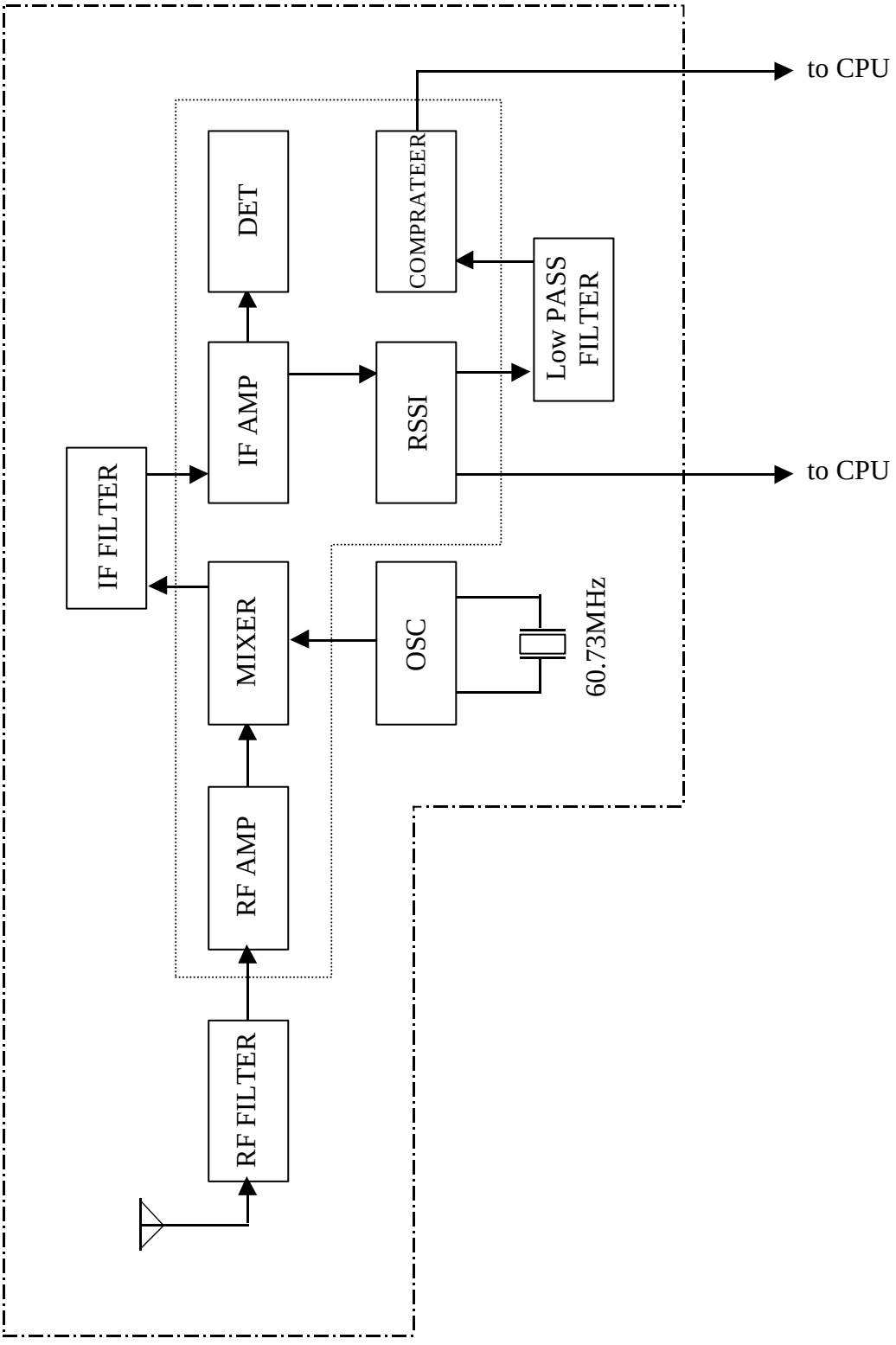

Fig. Block diagram of receiver

5. Circuit diagram

5.1 Receiver

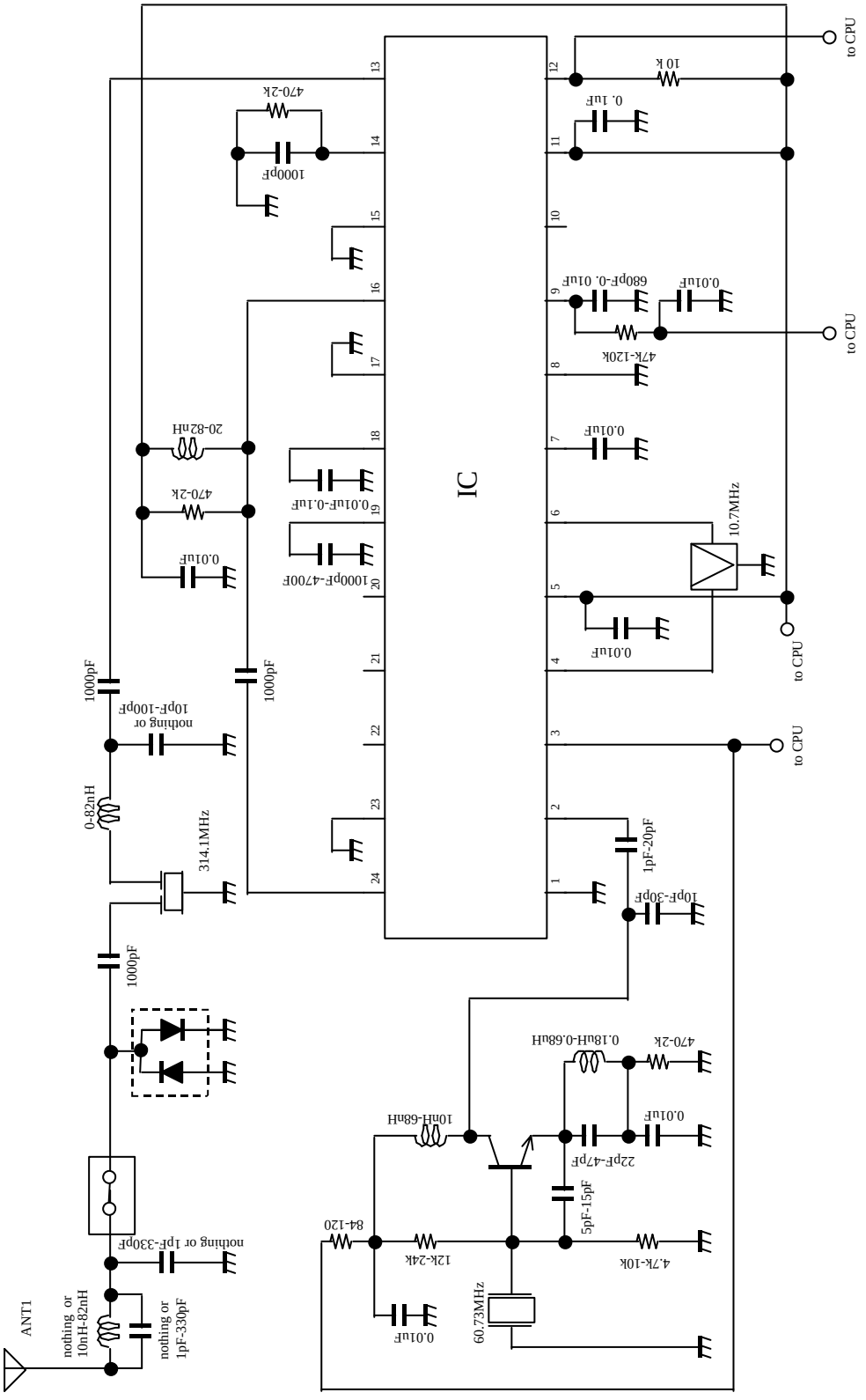

Fig. Circuit diagram of receiver

6. Component listing

6.1. Receiver

Part Name	Description	Number of Units
IC	-	1
Transister	-	1
Diode	-	1
Capaciter	0.01uF	6
Capaciter	1000pF	4
Capaciter	0.1uF	1
Capaciter	nothing or 1pF-330pF	2
Capaciter	1pF-20F	1
Capaciter	nothing or 10pF-100pF	1
Capaciter	10pF-30pF	1
Capaciter	5pF-15pF	1
Capaciter	22pF-47pF	1
Capaciter	1000pF-4700pF	1
Capaciter	680pF-0.01uF	1
Capaciter	0.01uF-0.1uF	1
Resistor	84-120	1
Resistor	470-2k	3
Resistor	4.7k-10k	1
Resistor	12k-24k	1
Resistor	47k-120k	1
Resistor	10k	1
Inductor	nothing or 10nH-82nH	1
Inductor	0-82nH	1
Inductor	20nH-82nH	1
Inductor	10nH-68nH	1
Inductor	0.18uH- 0.68uH	1
Crystal	60.73MHz	1
Filter	314.1MHz	1
Filter	10.7MHz	1
Antenna	-	1

7. Marking location and layout

7.1. Receiver

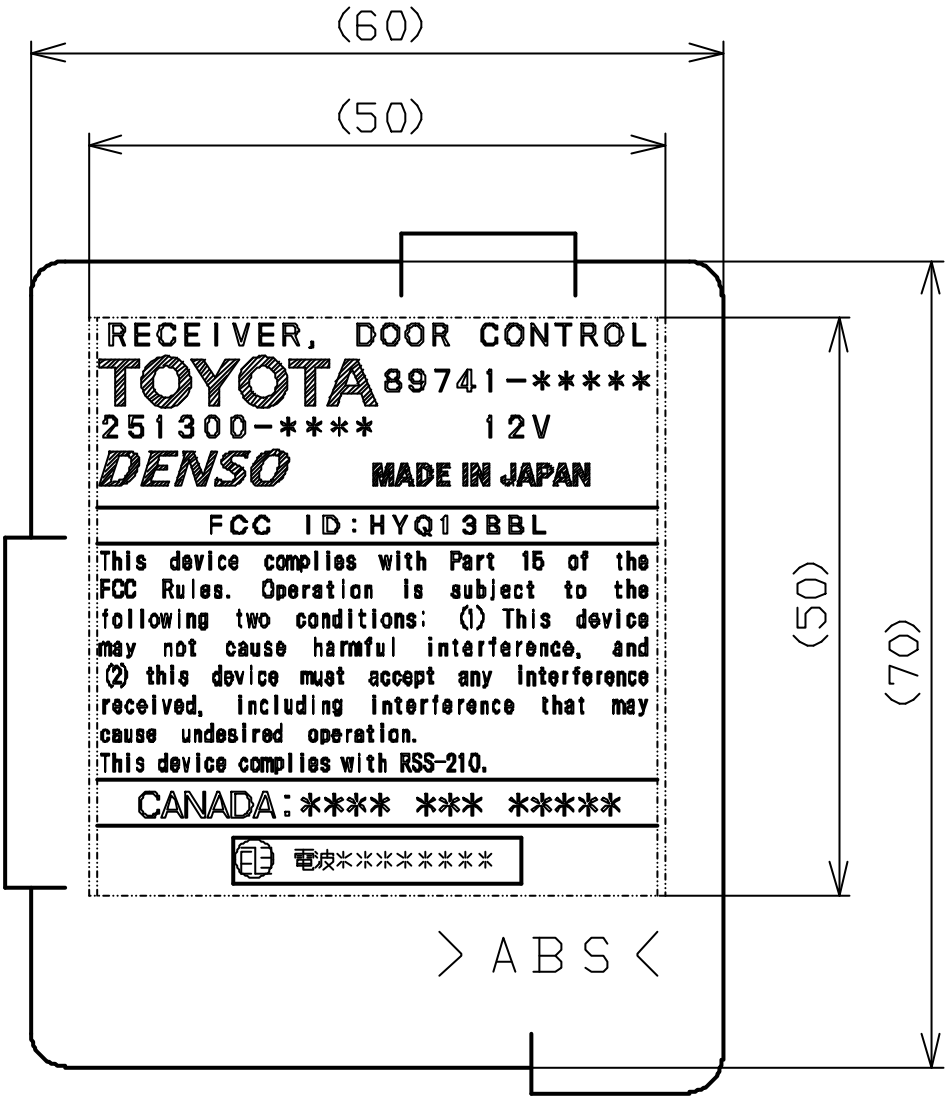

Fig. Marking location and layout of receiver

Note: Compliance statement of marking will not be changed.

But marking layout and size may be changed.