



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-city, Aichi-prefecture, 448-8661, Japan

1.3. Name and address of applicant

- Name	: DENSO CORPORATION
- Address	: 1-1 Showa-cho, Kariya-city, Aichi- prefecture, 448-8661, Japan



## 2. Technical description of the system

### 2.1. Type number

- Transmitter : 12BZE

### 2.2. Specifications of transmitter

- Nominal frequency	: 314.00 MHz
- oscillator frequency	: 314.00 MHz SAW resonator
- Radio frequency output power	: 75.6dB $\mu$ V/m or less at 3m (*)
- Type of modulation	: A1D
- Power Supply	
- Nominal supply voltage	: 3 VDC
- Type of Battery	: One lithium battery
- Antenna	: Built-in type (Fixed)

\* Note: Calculation of Voltage Average Level  
A transmitter has the one complete pulse train

$$\begin{aligned}\text{Voltage Average Level}(\mu\text{V}) &= (\text{Epeak} \times \text{Tt}) \div \text{T} \\ &= (\text{Epeak} \times 89.6\text{msec}) \div 179.2\text{msec}\end{aligned}$$

Epeak = Voltage peak level

T = One complete pulse train time including blanking interval

Tt = Total pulse of transmitter in one complete pulse train



### 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.

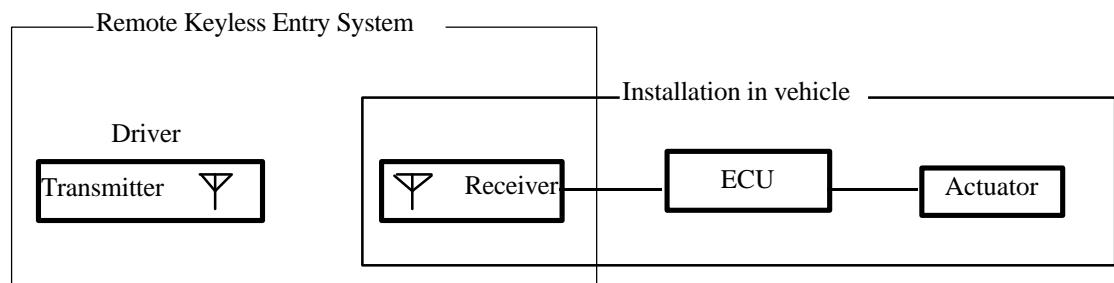


Fig Outline of the System



## 6. Component listing

### Transmitter

Part Name	Description	Number of Units
IC	-	1
SAW Resonator	314.00MHz	1
LED	-	1
Transistor	-	2
Resistor (a)	2.2-4.7k ohm	1
Resistor (b)	2.2-4.7k ohm	1
Resistor (c)	100-330 ohm	1
Capacitor (d)	0.5-5pF	1
Capacitor (e)	0.5-6pF	1
Capacitor (f)	0.5-14pF	1
Capacitor (g)	0.5-2pF	1
Capacitor (h)	0-40pF	1
Capacitor (i)	0-40pF	1
Capacitor (j)	0-40pF	0
Inductor (k)	22-37nH	1
Switch	-	3 or 2
Battery	3V	1