



GENERAL DESCRIPTION 功能敘述

The M3172 is a CMOS ASIC decoder. It will de-code the serial data from data input. The VT signal will go high and data will be copied to the output if address are checked the same. The address input are 3 states i.e. LOW(0) 、 OPEN(X) and HIGH(1).

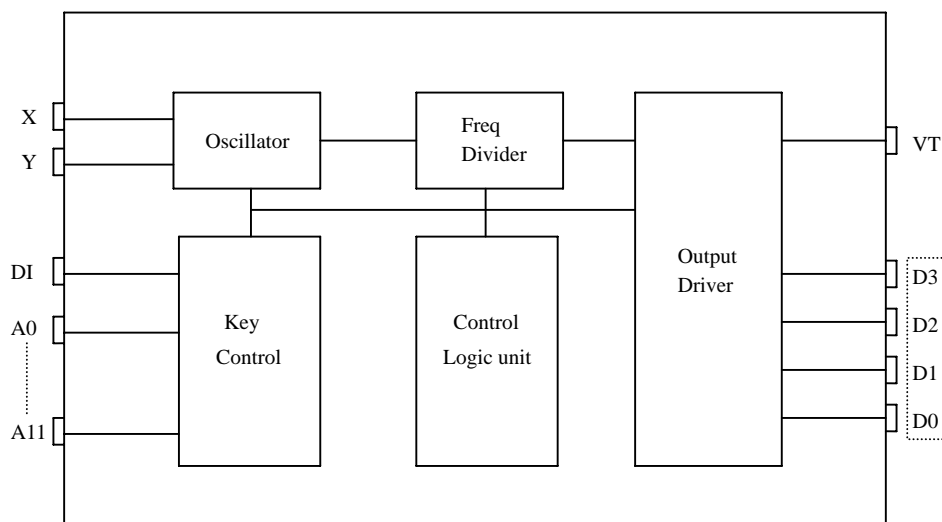
FEATURES 產品特長

- $3^{12} = 531,411$ codes, "0" 、 "X" 、 "1" Tri-states.
- 3 cycles checked each time
- S.O.Package : suffix-S.
- Address / Data types :
 - M3172-L : Latch data outputs.
 - M3172-M : Momentary data outputs.
 - M3172F : Full address type.

APPLICATIONS 產品應用

- Car/home alarm system, garage control etc..

BLOCK DIAGRAM 功能方塊圖



*All specs and applications shown above subject to change without prior notice.
(以上電路及規格僅供參考,本公司得逕行修正)



3 STATES DECODER
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| |
|--------------|
| EN/DECODER |
| M3172 |

ABSOLUTE MAXIMUM RATING

(TA=25°C)

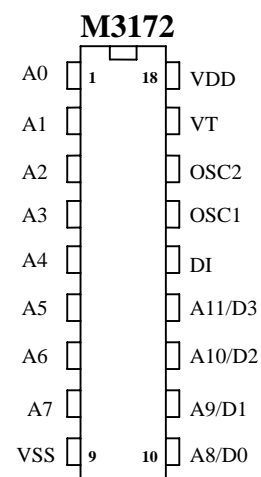
| Parameter | Rating | Unit |
|-----------------------|---------------------------|------|
| Supply Voltage | -0.3 to 5 | V |
| Input Voltage | -0.2~V _{DD} +0.2 | V |
| Operating Temperature | 0 to 70 | °C |
| Storage Temperature | -50 to 125 | °C |

ELECTRICAL CHARACTERISTICS

| Characteristics | Sym. | Min. | Typ. | Max. | Unit | Conditions |
|----------------------|-----------------|----------------------|-----------------|----------------------|------|--------------------------|
| Operating Voltage | V _{DD} | — | 3 | 5 | V | |
| Operating Current | I _{OP} | — | 0.3 | 1 | mA | No load |
| Quiescent Current | I _{SB} | — | 1 | 10 | μA | |
| Output Drive Current | I _O | — | 2 | — | mA | @V _{DS} =1.2V |
| Input Voltage | V _{IH} | V _{DD} -0.2 | V _{DD} | V _{DD} | V | |
| | V _{IL} | V _{SS} | V _{SS} | V _{SS} +0.2 | | |
| Oscillator Frequency | Fosc | — | 38 | — | KHz | External±30%, Rosc=1.1MΩ |

PIN DESCRIPTION

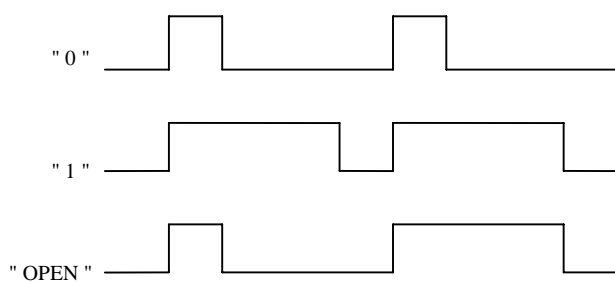
| No. | M3172 | M3172F | Description |
|-------|-------|--------|-----------------------------|
| 1~8 | A0~A7 | A0~A7 | 3 States address inputs |
| 9 | VSS | VSS | Negative power supply |
| 10~13 | D0~D3 | A8~A11 | Data outputs/Address inputs |
| 14 | DI | DI | Data input |
| 15 | OSC1 | OSC1 | Oscillator input |
| 16 | OSC2 | OSC2 | Oscillator output |
| 17 | VT | VT | Valid transmit |
| 18 | VDD | VDD | Positive power supply |



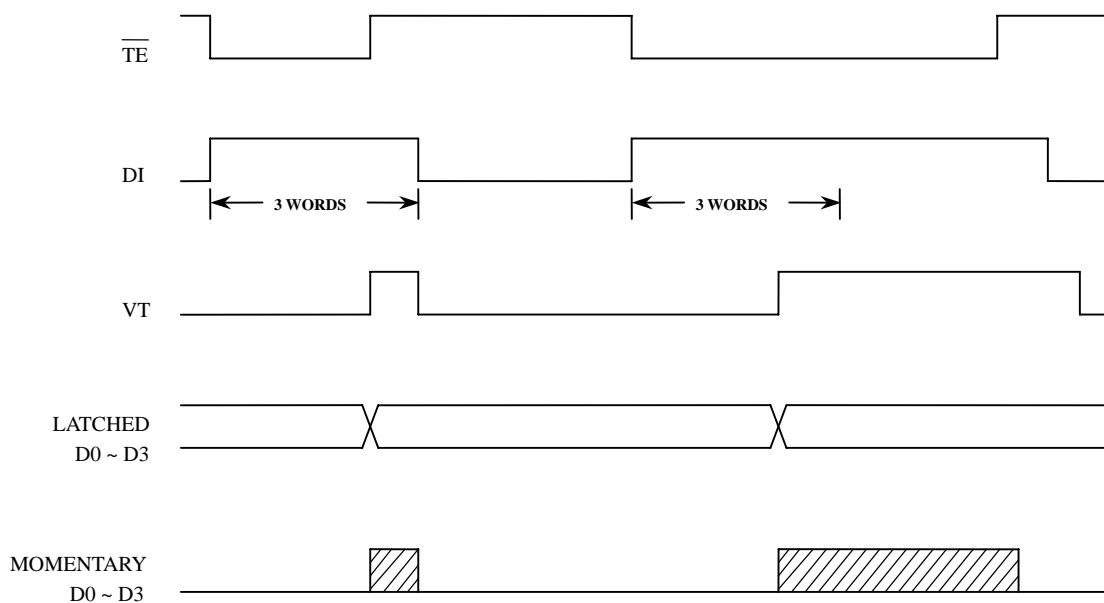


TIMING WAVEFORM

(1) Bit format



(2) TIMING DIAGRAM

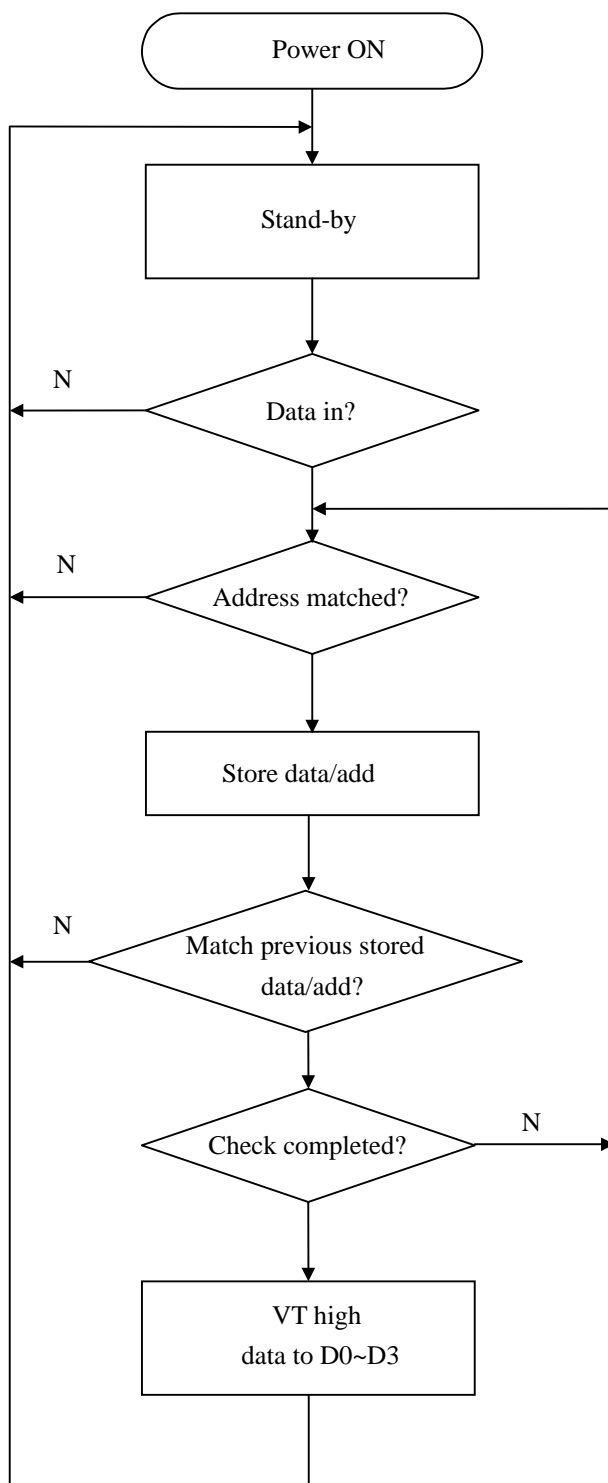




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OPERATING FLOWCHART





3 STATES DECODER

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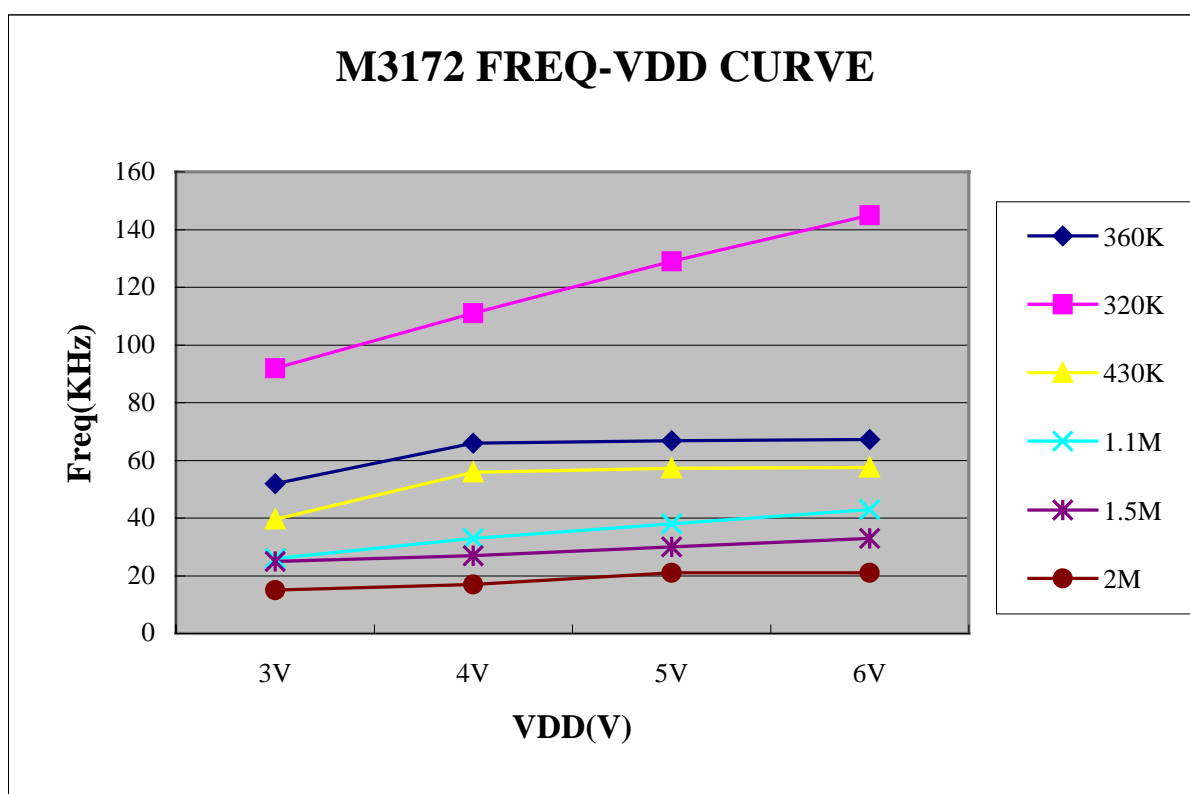
M3172

RECONNENDED OSCILLATOR PARAMETERS

| Volt Rosc (KΩ) | M3172 (KHz) | | | |
|-------------------|-------------|------|------|------|
| | 3V | 4V | 5V | 6V |
| 360K | 51.9 | 65.9 | 66.8 | 67.2 |
| 320K | 92 | 111 | 129 | 145 |
| 430K | 39.6 | 55.9 | 57.2 | 57.5 |
| 1.1M | 26 | 33 | 38 | 43 |
| 1.5M | 25 | 27 | 30 | 33 |
| 2M | 15 | 17 | 21 | 21 |

DATA OUTPUT

| M3162 (D0~D3) | M3172 (D0~D3) |
|---------------|---------------|
| 0 (VSS) | 0 (VSS) |
| X (OPEN) | 1 (VDD) |
| 1 (VDD) | 1 (VDD) |
| POWER ON | 0 (VSS) |





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ADDRESS PIN INFORMATION

| <i>P/N</i> | <i>A0</i> | <i>A1</i> | <i>A2</i> | <i>A3</i> | <i>A4</i> | <i>A5</i> | <i>A6</i> | <i>A7</i> | <i>A8</i> | <i>A9</i> | <i>A10</i> | <i>A11</i> |
|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|
| M3172F | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | A11 |
| M3172-L1 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | D0 |
| M3172-L2 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | D0 | D1 |
| M3172-L3 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | D0 | D1 | D2 |
| M3172-L4 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | D0 | D1 | D2 | D3 |
| M3172-L5 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | D0 | D1 | D2 | D3 | D5 |
| M3172-L6 | A0 | A1 | A2 | A3 | A4 | A5 | D0 | D1 | D2 | D3 | D5 | D6 |
| M3172-M1 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | A10 | D0 |
| M3172-M2 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | A9 | D0 | D1 |
| M3172-M3 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | A8 | D0 | D1 | D2 |
| M3172-M4 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | A7 | D0 | D1 | D2 | D3 |
| M3172-M5 | A0 | A1 | A2 | A3 | A4 | A5 | A6 | D0 | D1 | D2 | D3 | D5 |
| M3172-M6 | A0 | A1 | A2 | A3 | A4 | A5 | D0 | D1 | D2 | D3 | D5 | D6 |

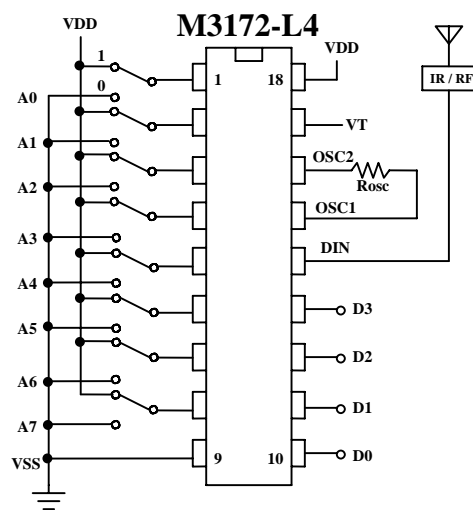
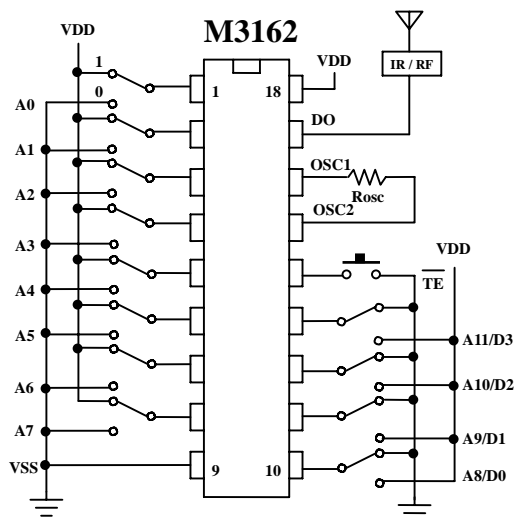


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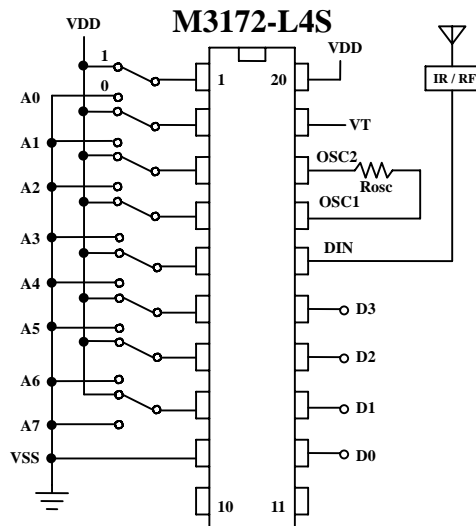
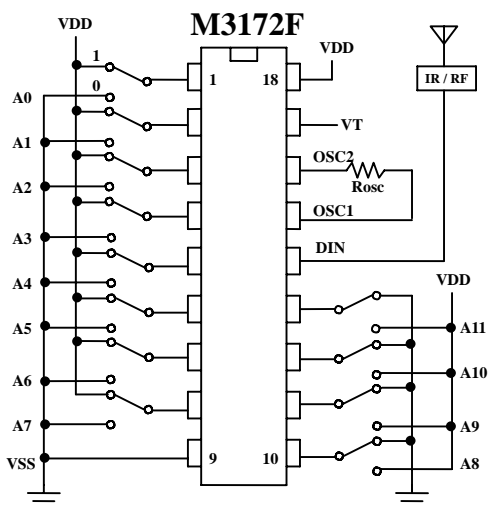
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APPLICATION DIAGRAM 參考電路圖 (DIP, SOP)



SOP Package



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