# DESCRIPTION

The PT2221M and PT2222M are remote control transmitters utilizing CMOS technology specially designed for use on infrared remote control applications. They are pin-to-pin compatible with NEC µPD6121 and µPD6122 respectively. PT2221M is packaged in 20 pins SO and capable of controlling 32 functions and 3 double keys. PT2222M, on the other hand, is housed in 24 pins SOP and capable of controlling 64 function keys and 3 double keys. PT2221M/PT2222M may be paired with PT2225 to construct a powerful remote control system.
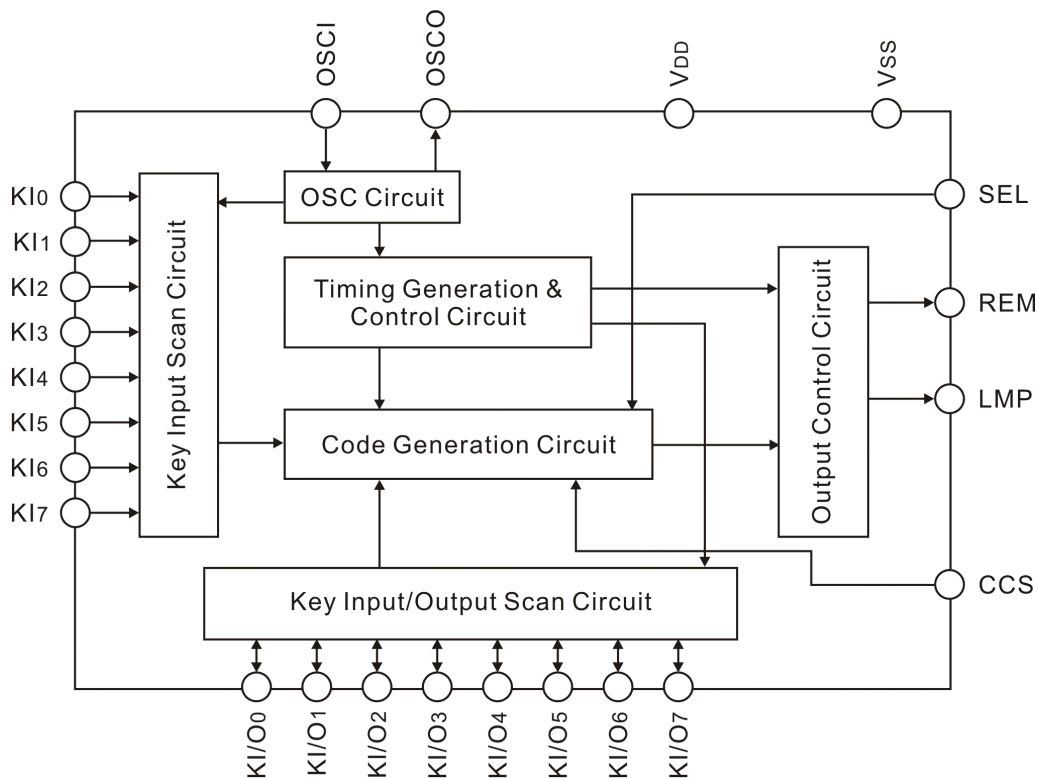
# FEATURES

- CMOS technology
- Low power consumption (VDD=2.0 to 3.3V)
- Pin-to-Pin compatible with µPD6121/µPD6122
- Using SEL pin, PT2221M can support 64+6 function codes
- Using SEL pin, PT2222M can support 128+6 function codes
- Customer code can be selected (please contact PTC for details)
- Available in COB package
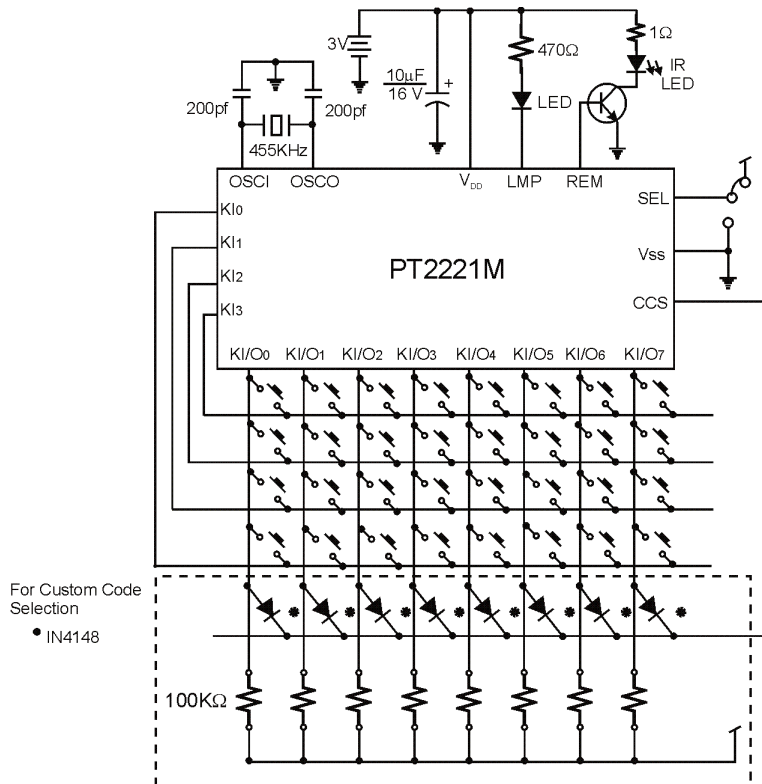
# APPLICATIONS

- Audio equipment
- Television (TV)
- Cable TV tuner
- Video cassette recorder (VCR)
- Cassette deck
- Air conditioner
- Video compact disk (VCD)
- DVD ROM player
- Moniputer/Multi-media personal computer system

# BLOCK DIAGRAM

![Princeton Technology Corp. logo] 普 誠 科 技
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# APPLICATION CIRCUIT 1



Note:
The Vcc and Vss Terminals must be "SHORT" before the batteries are loaded to the transmitter handset to insure that PT2221M Power On Reset Function will operate properly.
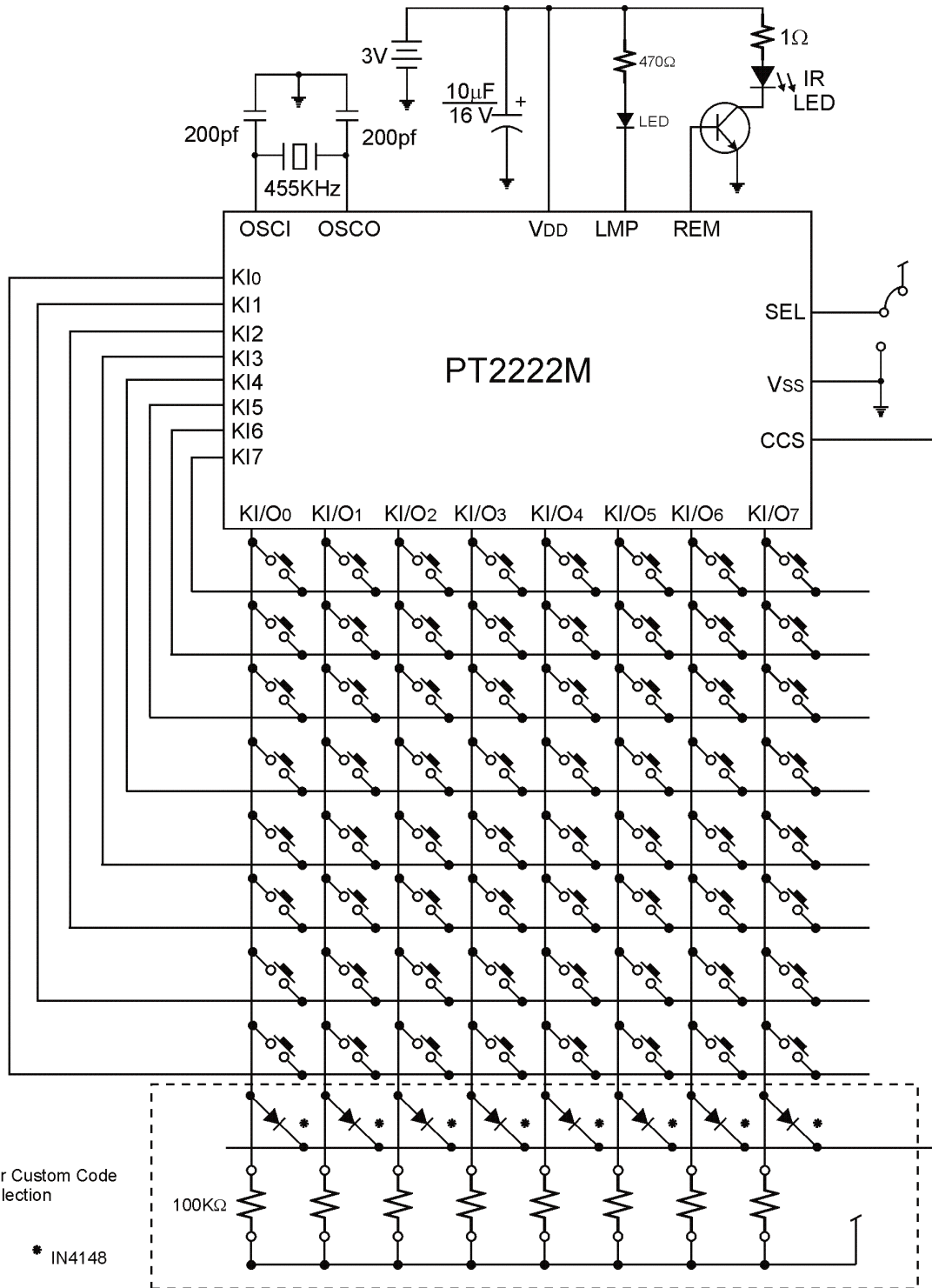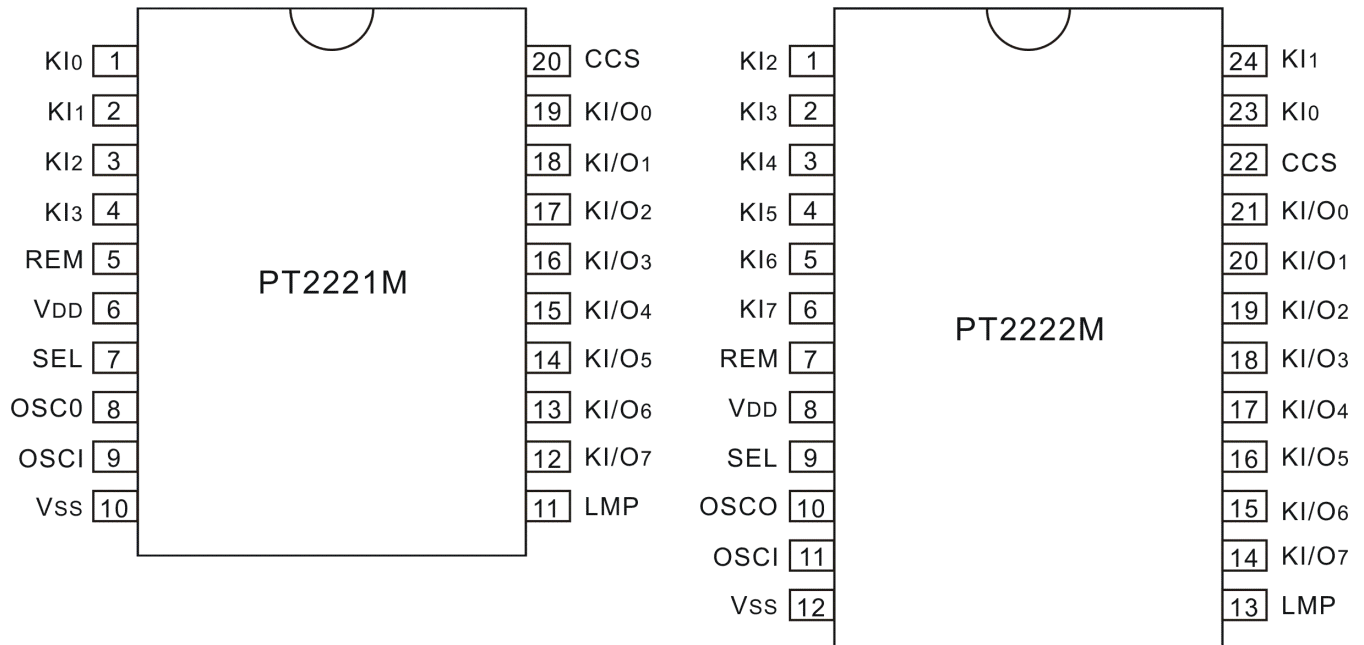
# APPLICATION CIRCUIT 2



Note:
The Vcc and Vss Terminals must be "SHORT" before the batteries are loaded to the transmitter handset to insure that PT2222M Power On Reset Function will operate properly.

# ORDER INFORMATION

| Valid Part Number | Package Type | Top Code |
|---|---|---|
| PT2222M-001 | COB | - |
| PT2221M-001-D | 20 Pins, DIP, 300mil | PT2221M-001-D |
| PT2221M-001 | 20 Pins, SOP, 300mil | PT2221M-001 |
| PT2221M-002 | 20 Pins, SOP, 300mil | PT2221M-002 |
| PT2222M-001 | 24 Pins, SOP, 300mil | PT2222M-001 |
| PT2222M-002 | 24 Pins, SOP, 300mil | PT2222M-002 |

# PIN CONFIGURATION

**PT2221M**

| Pin | Name | | Pin | Name |
|---|---|---|---|---|
| 1 | $KI_0$ | | 20 | CCS |
| 2 | $KI_1$ | | 19 | $KI/O_0$ |
| 3 | $KI_2$ | | 18 | $KI/O_1$ |
| 4 | $KI_3$ | | 17 | $KI/O_2$ |
| 5 | REM | | 16 | $KI/O_3$ |
| 6 | $V_{DD}$ | | 15 | $KI/O_4$ |
| 7 | SEL | | 14 | $KI/O_5$ |
| 8 | OSC0 | | 13 | $KI/O_6$ |
| 9 | OSCI | | 12 | $KI/O_7$ |
| 10 | $V_{SS}$ | | 11 | LMP |

**PT2222M**

| Pin | Name | | Pin | Name |
|---|---|---|---|---|
| 1 | $KI_2$ | | 24 | $KI_1$ |
| 2 | $KI_3$ | | 23 | $KI_0$ |
| 3 | $KI_4$ | | 22 | CCS |
| 4 | $KI_5$ | | 21 | $KI/O_0$ |
| 5 | $KI_6$ | | 20 | $KI/O_1$ |
| 6 | $KI_7$ | | 19 | $KI/O_2$ |
| 7 | REM | | 18 | $KI/O_3$ |
| 8 | $V_{DD}$ | | 17 | $KI/O_4$ |
| 9 | SEL | | 16 | $KI/O_5$ |
| 10 | OSCO | | 15 | $KI/O_6$ |
| 11 | OSCI | | 14 | $KI/O_7$ |
| 12 | $V_{SS}$ | | 13 | LMP |

# PIN DESCRIPTION

| Pin Name | I/O | Description | Pin No. | |
|---|---|---|---|---|
| | | | **20 Pins** | **24 Pins** |
| Vss | - | Power supply | 10 | 12 |
| KI0 to KI3 | I | Key input pin No. 0 to 3 | 1 to 4 | 23, 24, 1, 2 |
| KI4 to KI7 | I | Key input pin No. 4 to 7 | - | 3 to 6 |
| REM | O | Data output pin | 5 | 7 |
| VDD | - | Power supply | 6 | 8 |
| SEL | I | Select pin | 7 | 9 |
| OSCO | O | Oscillator pin | 8 | 10 |
| OSCI | I | Oscillator pin | 9 | 11 |
| CCS | I | Custom code scan input pin | 20 | 22 |
| LMP | - | Output LED indicator | 11 | 13 |
| KI/O0 to KI/O7 | I/O | Key input/output pin No. 0 to 7 | 19 to 12 | 21 to 14 |

## IMPORTANT NOTICE

Princeton Technology Corporation (PTC) reserves the right to make corrections, modifications, enhancements, improvements, and other changes to its products and to discontinue any product without notice at any time.
PTC cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a PTC product. No circuit patent licenses are implied.

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