Tel: 886-2-29162151 Fax: 886-2-29174598 URL: http://www.princeton.com.tw

Infrared Remote Control Receiver

PT2249A / PT2250A Series

## **Description**

The PT2249A / PT2250A Series are infra-red remote control receivers utilizing CMOS Technology. Remote Control System can be constructed together with the PT2248 remote control encoder. The PT2249A Series are packaged in 16 pins DIP and are capable of controlling 10 functions while the PT2250A Series are packaged in 24 pins DIP and are capable of controlling 18 functions. Several options, inverting/non-inverting IR signal input and/or dependent/independent cyclic (toggle) outputs, are provided to fit different application needs.

## **Features**

	CMOS Technology
	Low Power Consumption
	Very High Noise Immunity
	Able to output parallel multiple keying signals sent from the transmitter
	(PT2249A is able to output up to 5 functions simultaneously while
	PT2250A is able to output up to 6 functions simultaneously)
	Outputs for single pulse, hold pulse and cyclic pulse are provided
	A single terminal type oscillator by means of RC is provided
	Code Detection Circuit prevents interference from various types of
	machines and apparatus
	Digital Filtering and Code Checking prevent interference from light
	sources such as PL Lamp without sacrificing the receiving sensitivity
<b>A *</b>	oplications
A	phications
	Audio Equipment Remote Control
	Television (TV) Remote Control
	Video Cassette Recorder (VCR) Remote Control

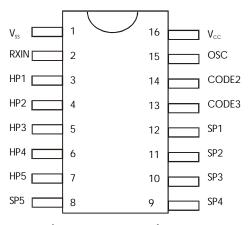


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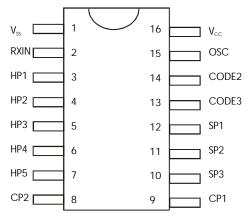
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# **Pin Configurations**

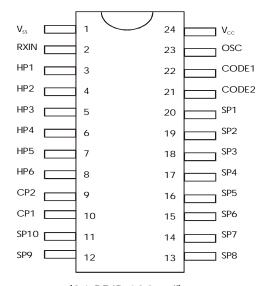


(16 PDIP 300 mil) PT2249A



(16 PDIP 300 mil)

PT2249AI / PT2249AIN PT2249AL / PT2249ALN PT2249AH / PT2249AHN



(24 PDIP 600 mil)

PT2250A /PT2250AN PT2250AL / PT2250ALN

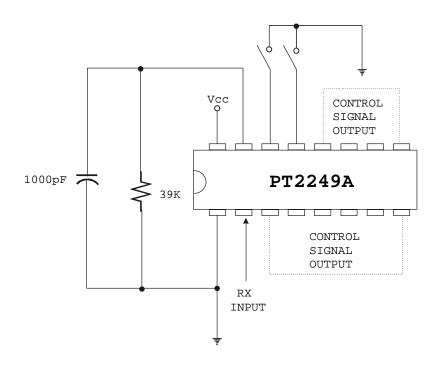
- A Advanced Version
- N Inversed RXIN Input
- I Independent Cyclic (Toggle) Outputs
- L Advanced Dependent Cyclic (Toggle) Outputs)
- H Output Format same as "L", except that when HP1 or HP2 is active, it will clear CP1.

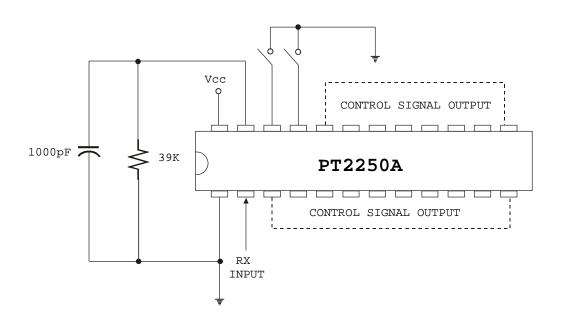
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# **Application Circuit**







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#### Application Note:

#### 1. Combination of PT2248/PT2249A Series Code Bits

- a) PT2249A Series Code Bit C1 is internally pulled high and thereby set at a default value of "1". Thus, PT2248 Code Bit C1 must be set at "1".
- b) PT2249A Series Code Bits C2 and C3 may be programmed as follows:
  - 1) "0", "0" (This combination is not available with TC9149.)
  - 2) "0", "1"
  - 3) "1", "0"
  - 4) "1", "1"
- c) To set Code Bit to "1" on PT2248, diodes must be connected to Code Terminal from the T1 ~ T3 terminals.
- d) To set Code Bit to "0" on PT2248, the terminals must be kept floating, except C1 add one diode.
- e) The Code Bits Combinations of PT2248 and PT2249A Series are shown below:

PT2248			PT2249A Series	
C1	C2	C3	C2	C3
1	0	0	0	0
1	0	1	0	1
1	1	0	1	0
1	1	1	1	1

f) Example: (Refer to Example 1 diagram)

The following example shows the case when PT2248 Code Bits C1 = 1, C2 = 1, and C3 = 0. The CODE2 Pin of the PT2249A Series is programmed in floating state and CODE3 pin is connected to Vss (C2 = 1,

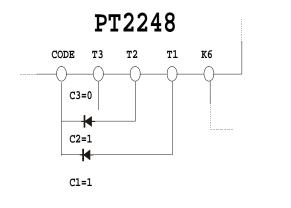


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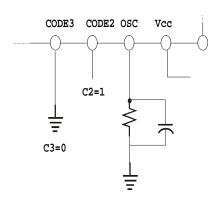
#### Infrared Remote Control Receiver

#### PT2249A / PT2250A Series

C3 = 0.) In this way, the PT2249A Series can match the C2, C3 Code Bits of PT2248 and correctly decode the remote commands.



#### PT2249A Series



Example 1 Circuit Diagram when Code Bit C2 = 1 and C3 = 0

#### 2. Combination of PT2248/PT2250A Series Code Bits

- a) PT2250A Series Code Bit C3 is internally pulled high and thereby set at a default value of "1". Thus, PT2248 Code Bit C3 must be set at "1".
- b) PT2250A Series Code Bits C2 and C3 may be programmed as follows:
  - 1) "0", "0" (This combination is not available with TC9150.)
  - 2) "0", "1"
  - 3) "1", "0"
  - 4) "1", "1"
- c) To set Code Bit to "1" on PT2248, diodes must be connected to Code Terminal from the T1 ~ T3 terminals.
- d) To set Code Bit to "0" on PT2248, the terminals must be kept floating.



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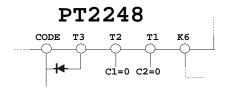
PT2249A / PT2250A Series

e) The Code Bits Combinations of PT2248 and PT2250A Series are shown below:

I	PT2248	3	PT2250A Series		
<b>C</b> 1	C2	C3	C1	C2	
0	0	1	0	0	
0	1	1	0	1	
1	0	1	1	0	
1	1	1	1	1	

f) Example: (Refer to Example 2 diagram)

The following example shows the case when PT2248 Code Bits C1 = 0, C2 = 0, and C3 = 1. The CODE1 and CODE2 pins of the PT2250A Series are connected to the Vss (C1=0 and C2=0). In this way, the PT2250A or any of its series matches the C1 and C2 Code Bits of PT2248; thus, the remote commands are correctly decoded.



# PT2250A Series CODE1 CODE2 OSC VCC

CODET CODEZ OSC Vee +5\
= = = +5\
= C1=0 C2=0 = =

Example 2 Circuit Diagram when Code Bit C1=0 and C2=0