



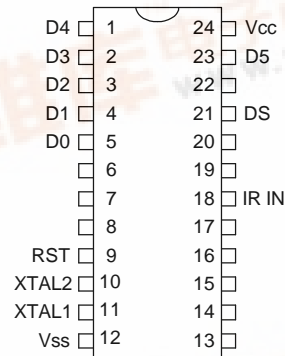
Preliminary  
12/15/00

# IC1001 INFRARED RECEIVER/DECODER INTEGRATED CIRCUIT

## FEATURES

- Integrated Solution
- Enables Computer or Microcontroller to Receive Infrared Remote Control Signals
- Converts Serial IR input from Handheld Remote Control to Parallel Data Words
- Matches ISI101B Handheld Remote Control
- Up to 64 Key Positions

## PIN CONFIGURATION



## DESCRIPTION

The Innotech Systems IC1001 Infrared Receiver/Decoder Integrated Circuit provides a convenient means of enabling microprocessor or microcontroller-based systems to receive infrared remote control signals. The IC1001 receives and decodes the infrared signal generated by the matching ISI101B handheld “Customizable Universal Remote Control.”

The IC1001 inputs serial IR data from an infrared detector and provides a 6-bit parallel word indicating row and column location of the remote control key pressed. An Infrared Signal Detected strobe remains active as long as the key on the remote control is held down, and will remain active 75 ms after key release. The parallel bus data will remain latched until the subsequent key press.

## CODE DESCRIPTION

The IC1001 and matching ISI101B Remote Control support keypad layouts of up to 61 keys. Unused keys on the matching remote control are “masked out” with an overlay template ensuring a

unique look to each remote control design. The available remote control key locations and the matching hexadecimal codes produced by the IC1001 are shown below.



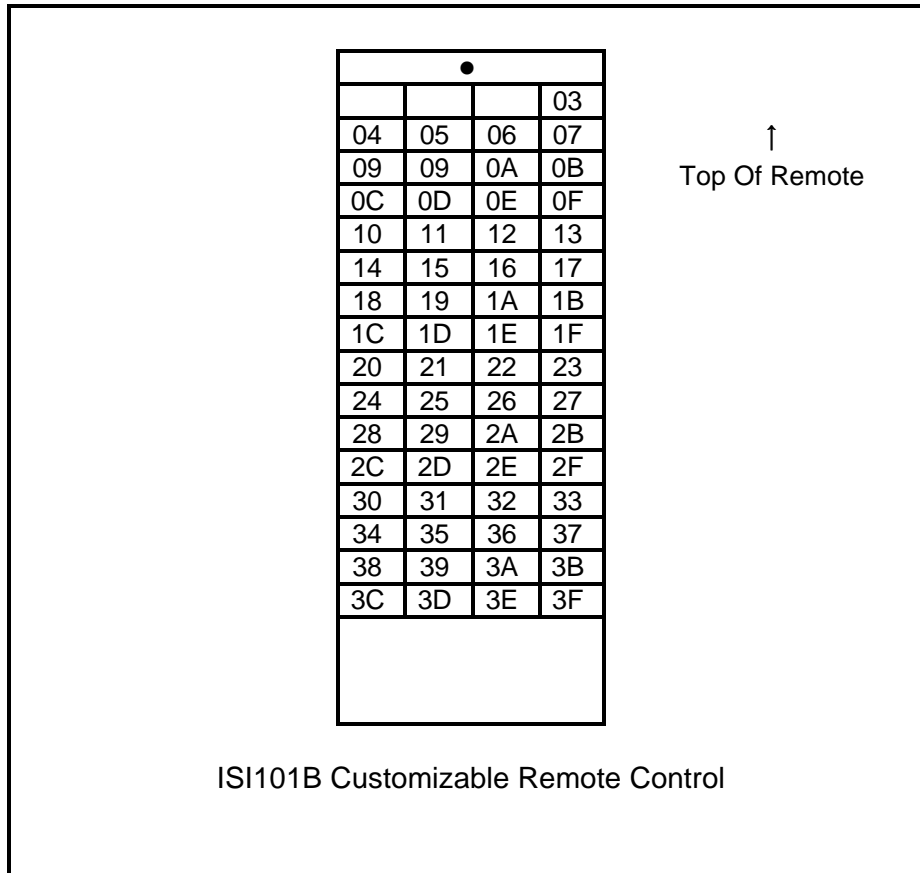


Illustration shows key locations of matching ISI101 “Customizable Standard” Remote Control and codes produced for each key location.

Note: codes may be customized to fit specific requirements.



## OPERATIONAL DESCRIPTION

### MAXIMUM GUARANTEED RATINGS\*

Operating Temperature Range	0°C - 70°C
Storage Temperature Range	-55°C to + 150°C
Voltage from any pin to $V_{SS}$	-0.5 to $V_{CC} + 0.5$
Voltage from $V_{CC}$ to $V_{SS}$	-0.5 to +6.5

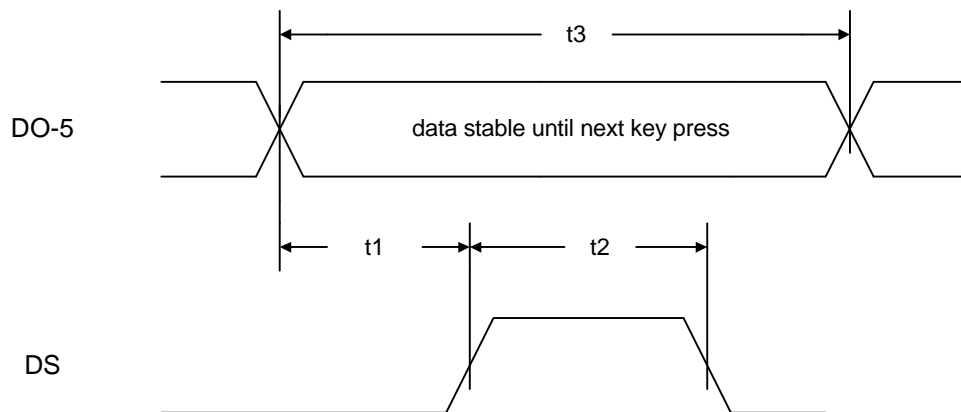
\*Stresses above those listed could cause permanent damage to the device. This is a stress rating only and functional operation of the device at any other condition above those indicated in the operation sections of this specification is not implied.

### DC ELECTRICAL CHARACTERISTICS ( $T_A = 0^\circ\text{C} - 70^\circ\text{C}$ , $V_{CC} = +5.0\text{ V} \pm 10\%$ )

SYMBOL	PARAMETER	MIN	MAX	UNIT	COMMENT
$V_{IL}$	Input Voltage Low		$0.2V_{CC}-0.1$	V	
$V_{IH}$	Input Voltage High	$0.2V_{CC}+0.9$		V	Except XTAL
$V_{OL}$	Output Voltage Low		.45	V	$I_{OL}=1.6\text{mA}$
$V_{OH}$	Output Voltage High	2.4		V	$I_{OH}=-60\mu\text{A}$
$I_{CC}$	Power Supply Current		22	mA	12 MHz Clock

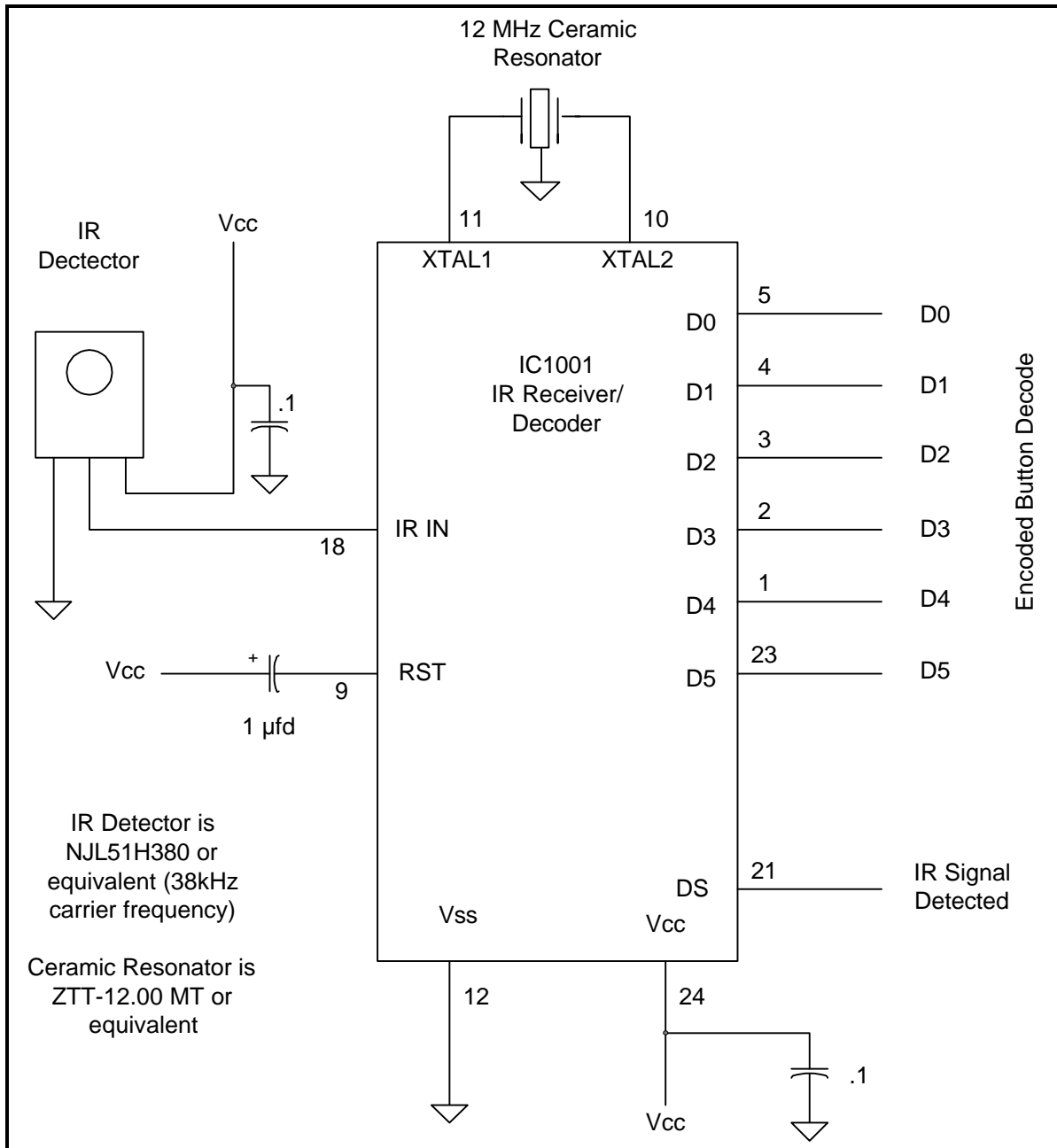
### AC CHARACTERISTICS ( $T_A = 0^\circ\text{C} - 70^\circ\text{C}$ , $V_{CC} = +5.0\text{ V} \pm 10\%$ )

SYMBOL	DESCRIPTION	MIN	MAX	UNIT	COMMENT
t1	Data Ready	1		$\mu\text{s}$	
t2	Data Strobe Hold	75		ms	After key release
t3	Data Stable Time				see diagram





### Typical Application: IC1001 Infrared Receiver Decoder:



Package: 24 Pin DIP (300 mil center)