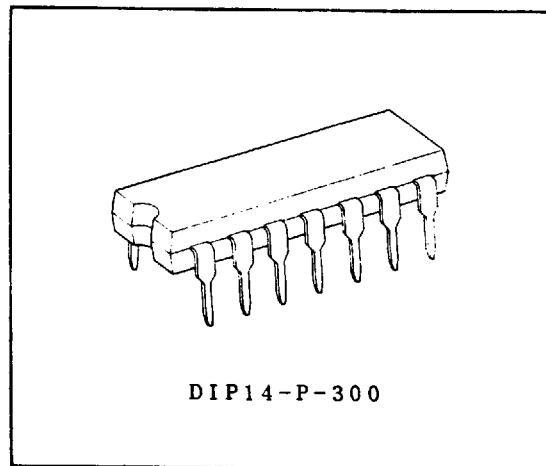


RADIO CONTROL RECEIVER IC

The TA7657P is designed for a radio control receiver IC including regulator, amplifier, integrator, comparator and driver.

By combining TA7333P (Transmitter IC) and TA7657P (Receiver IC) a suitable radio control system of toy is able to be constituted.

- . Very Few External Parts
- . Wide Supply Voltage Range:  $V_{opr}=6 \sim 10V$   
 Recommended  $V_{CC}=9V$



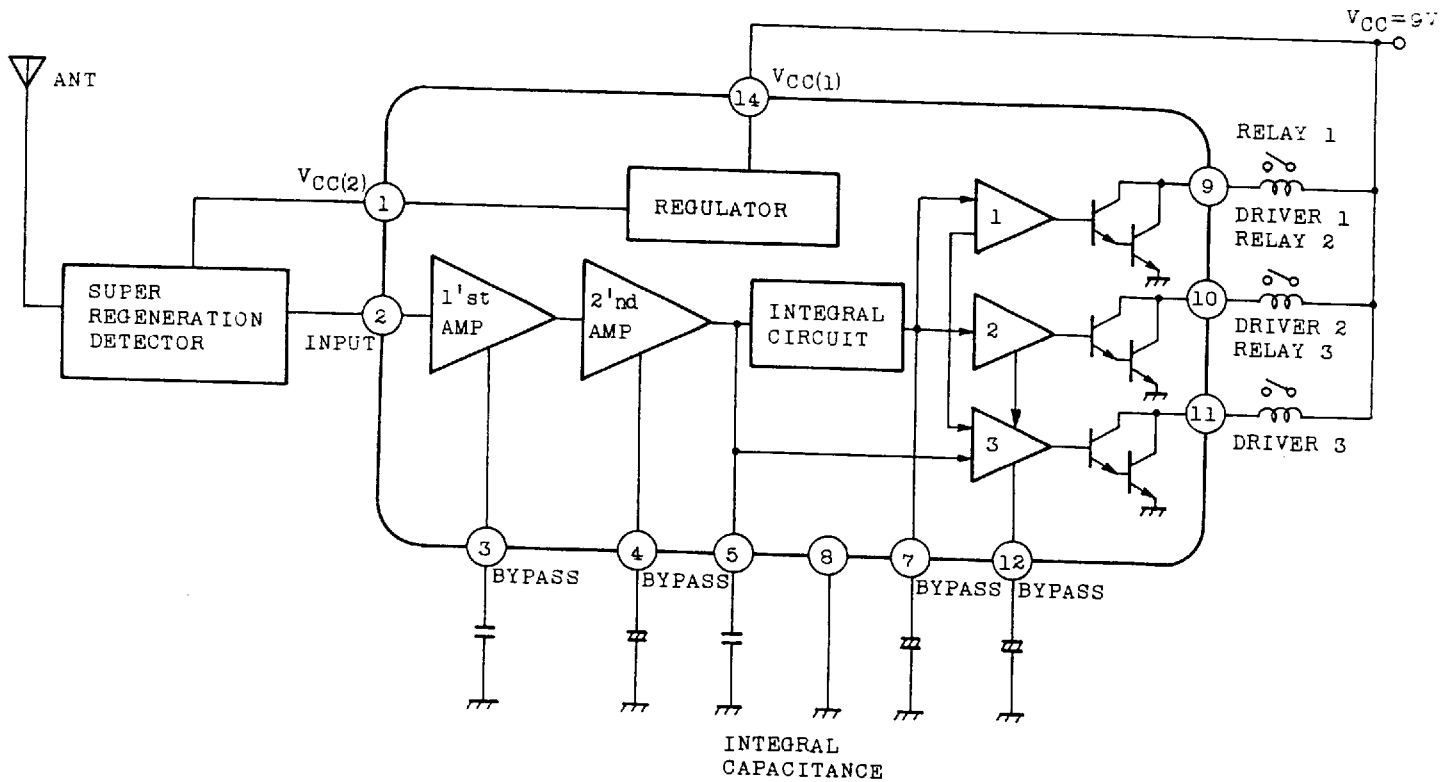
Weight: 1.0g(Typ.)

MAXIMUM RATINGS ( $T_a=25^{\circ}C$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}$	12	V
Driver Terminal Voltage	$V_d$	$V_{DD}+0.3$	V
Driver Terminal Current	$I_d$	120	mA
Regulator Output Current	$I_l$	5	mA
Power Dissipation (Note)	$P_D$	625	mW
Operating Temperature	$T_{opr}$	$-25 \sim 75$	$^{\circ}C$
Storage Temperature	$T_{stg}$	$-55 \sim 150$	$^{\circ}C$

Note : Derated above  $T_a=25^{\circ}C$  in the proportion of  $5mW/^{\circ}C$

BLOCK DIAGRAM

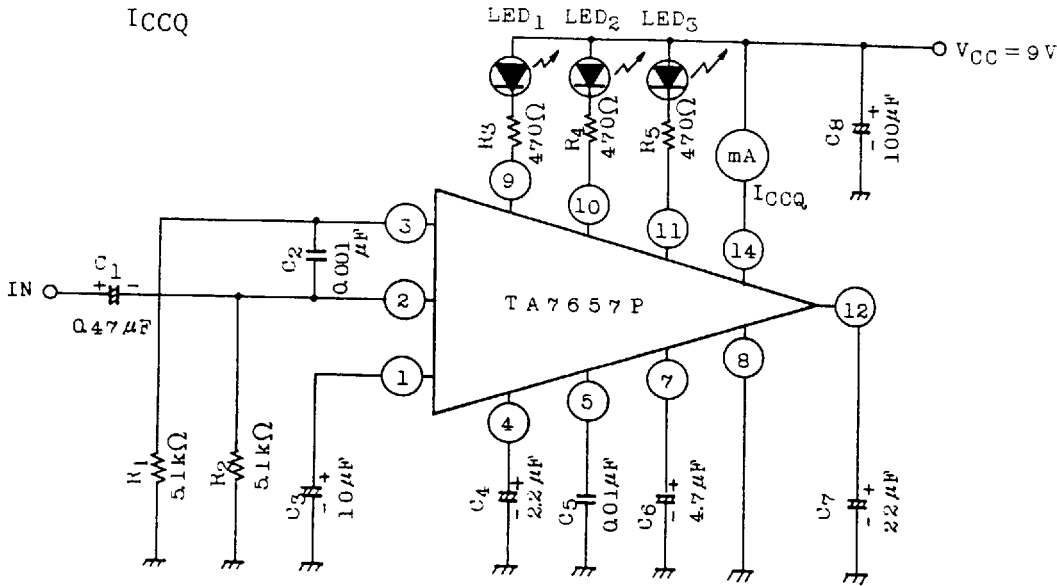


ELECTRICAL CHARACTERISTICS (Unless otherwise specified  $V_{CC}=9V, T_a=25^{\circ}C$ )

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	$I_{CCQ}$	1	$V_{IN}=0$	-	10.5	13.5	mA
Saturation Voltage	9 Pin $V_9(\text{sat})$	-	$I_8=100\text{mA}$	-	0.9	1.2	V
	10 Pin $V_{10}(\text{sat})$	-	$I_9=100\text{mA}$	-	0.9	1.2	
	11 Pin $V_{11}(\text{sat})$	-	$I_{10}=100\text{mA}$	-	0.9	1.2	
1 Pin Voltage	$V_1$	-	-	4.7	5.0	5.3	V
Voltage Gain	$G_V$	2	$V_{IN}=-70\text{dBm}, f=1\text{kHz}$	62	65	68	dB

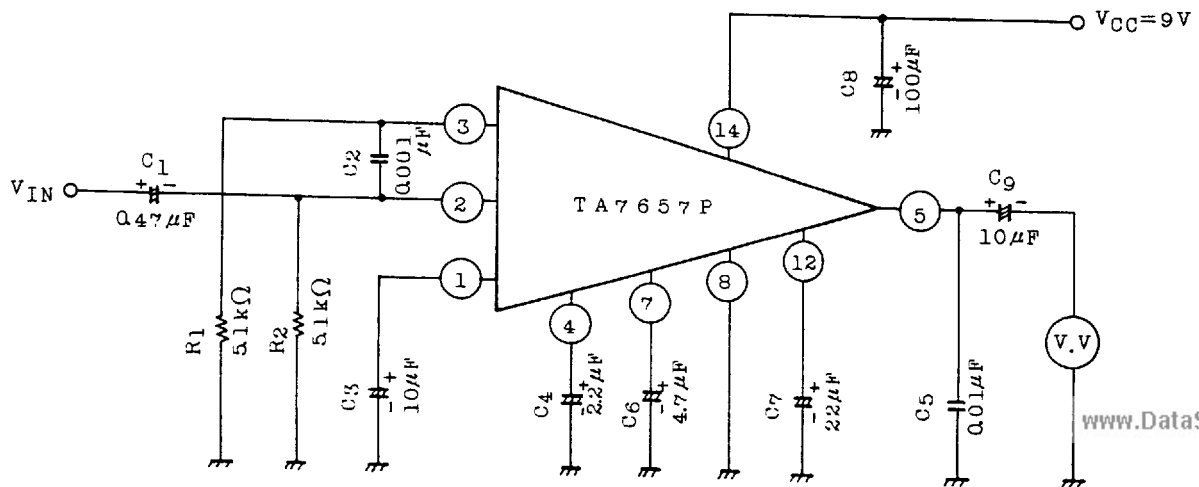
TEST CIRCUIT

1. FUNCTION TEST  
I<sub>CCQ</sub>



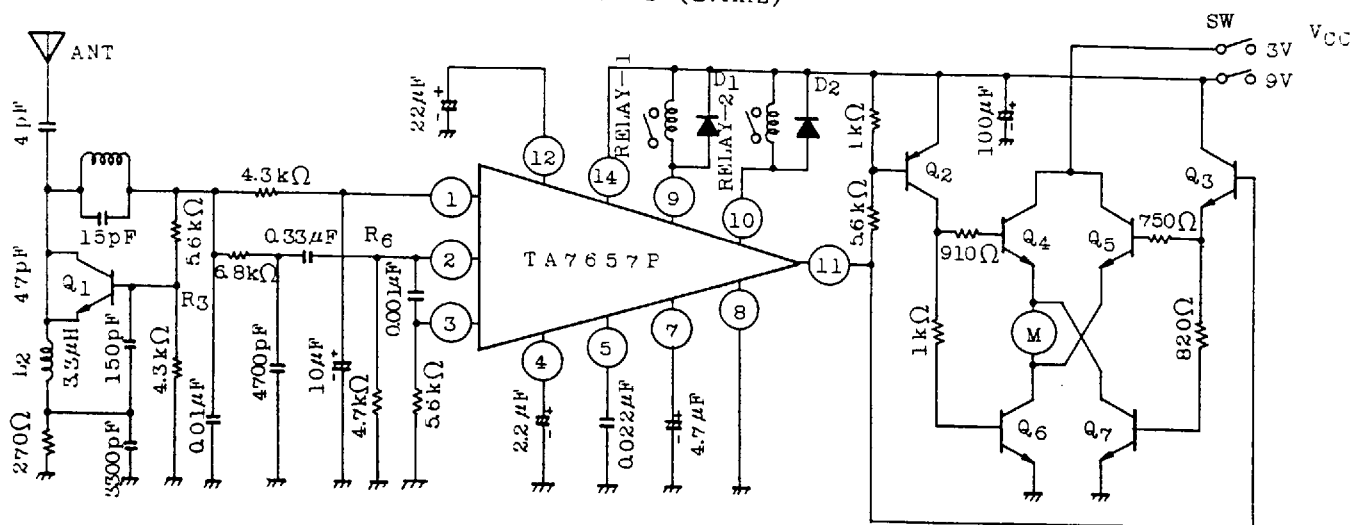
TEST No.	INPUT WAVE SHAPE	V <sub>IN</sub> (mVp-p)	LED			CORESPONDING TA733P SITUATION
			1	2	3	
1		2	-	-	-	
2		10	ON	-	-	SW <sub>R</sub> ON
3		10	-	ON	-	SW <sub>L</sub> ON
4		10	-	-	ON	SW <sub>L</sub> ON, SW <sub>R</sub> ON

2. G<sub>V</sub>



APPLICATION CIRCUIT

1. 4 ACTION RADIO CONTROL RECEIVER CIRCUIT (27MHz)



- D1, D2 : 1S1555                      Q1 : 2SC380-Y  
 Q2 : 2SA1015-0,Y                    Q3 : 2SC1815-GR, BL  
 Q4, Q5, Q6, Q7 : 2SC2500-A,B,C

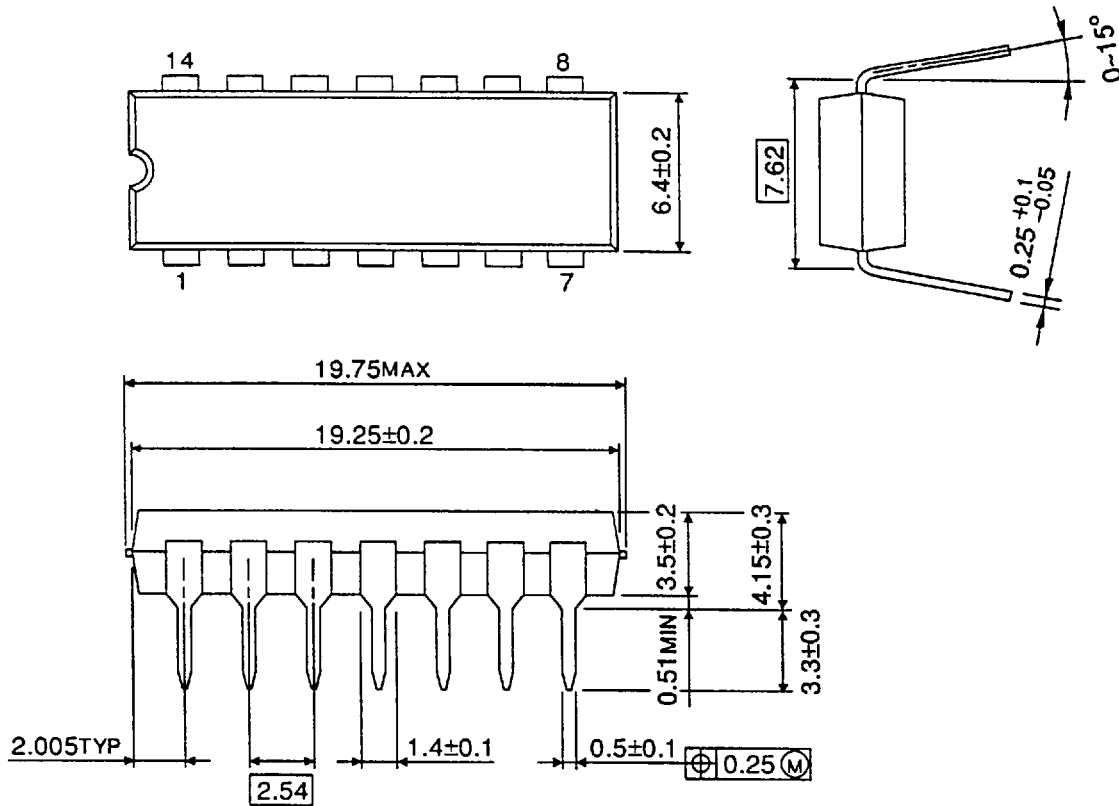
4 Kind of control is done in this application circuit.

INPUT WAVE SHAPE AT 2 PIN	OPERATING EXPLANATION	TA7333P SITUATION
1. No Signal	When a power supply switch is turned on, a motor starts to turn. (The motor drive current route: VCC(3V) → Q5 → Motor → Q7 → GND)	Carrier only (no modulation) SWR : OFF SWL : OFF
2.	. The motor turning direction is same as case of no signal. . A relay - 1 is on	SWR : ON SWL : OFF
3.	. The motor turning direction is same as case of no signal. . A relay - 2 is on	SWR : OFF SWL : ON
4.	11 pin voltage is low, Q2 is on and Q3 is off, therefore the motor turning direction is reverse. (motor drive current route : VCC(3V) → Q4 → Motor → Q6 → GND)	SWR : ON SWL : ON



**OUTLINE DRAWING**  
DIP14-P-300

Unit in mm



Weight : 1.0g (Typ.)