

TR3/TR3C Remote Controller With Two Functions

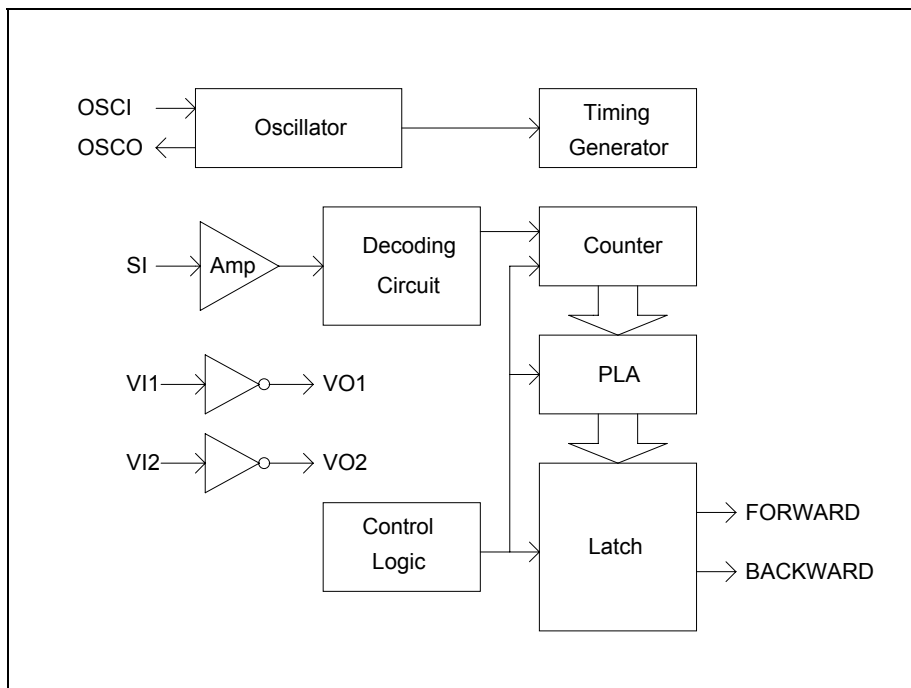
Features

- Wide operating voltage range 2.5V to 5.5V
- 2 functions remote controller including forward/backward
- Few external components are needed
- Oscillator built-in 120KΩ resistor. (Bonding option)

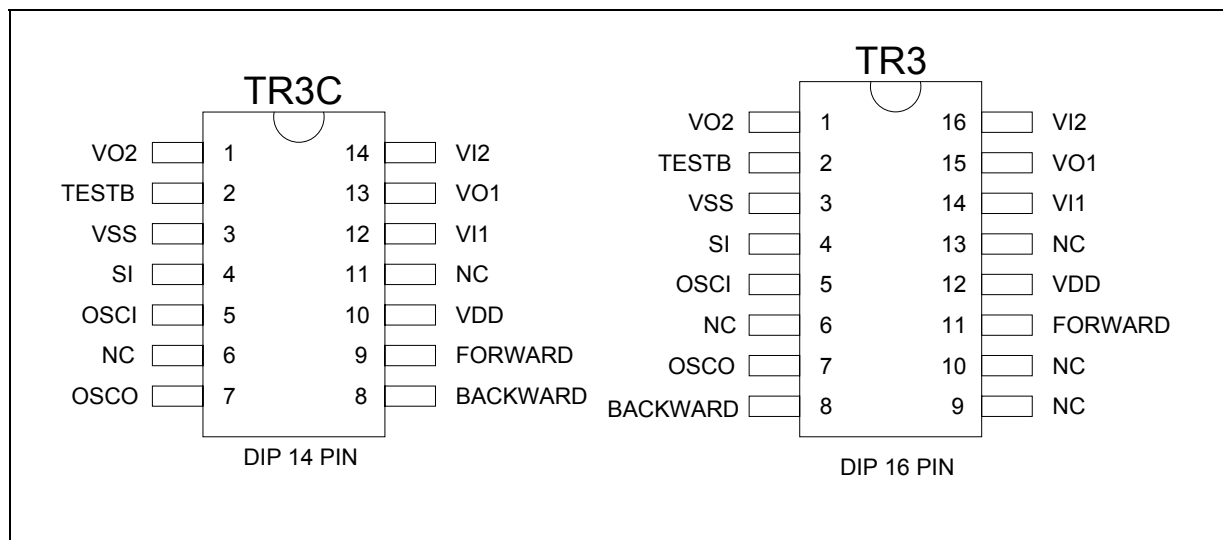
General Description

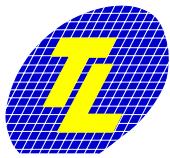
The TR3/TR3C is a CMOS LSIs designed for remote controlled car applications. The TR3 can use two key with 3 states, The TR3C can use one key with 3 states (i.e.forward, backward and stop)

Block Diagram

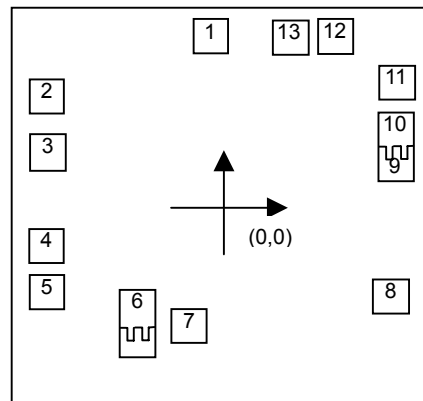


Pin Assignment





Pad Assignment



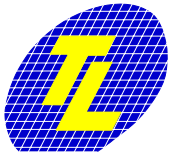
CHIP SIZE : 1165 X 1107 μm^2

Pad Coordinates

Pad No.	Pad Name	Coordinate	
		X	Y
1	VO2	-24.75	468.27
2	TESTB	-488.04	300.63
3	GND	-483.48	143.67
4	SI	-488.04	-125.31
5	OSCI	-488.04	-254.85
6	OSCO	-230.49	-298.29
7	BACKWARD	-87.24	-345.54
8	FORWARD	481.98	-267.06
9	MODE	498.75	92.61
10	VDD	498.75	205.38
11	VI1	498.75	340.26
12	VO1	326.52	468.27
13	VI2	200.04	468.27

Pad Description

Pin No.	Designation	Description
1	VO2	Inverter 2 output pin for power amplification
2	TESTB	For IC testing
3	GND	Negative power supply
4	SI	Input pin of the encoding signal
5	OSCI	Oscillator input pin
6	OSCO	Oscillator output pin
7	BACKWARD	Backward output pin
8	FORWARD	Forward output pin
9	MODE	One key or two key trigger selection pin
10	VDD	Positive power supply
11	VI1	Inverter 1 input pin for power amplification
12	VO1	Inverter 1 output pin for power amplification
13	VI2	Inverter 2 input pin for power amplification



Electrical Characteristics

TR3/TR3C

(VDD=6V, FOSC=76KHz, TA=25 , unless otherwise specified.)

Parameter	Symbol	Min.	Typ.	Max.
Operating Voltage	Vdd	2.2V	6.0V	12V
Operating Current	Idd	-	9mA	-
O/P driving Current	Idrive	-	5mA	-
O/P sinking Current	Isink	-	5mA	-
Effect Decoding Frequency Variation	Ftolemnce	-20%	-	20%

Functional Description

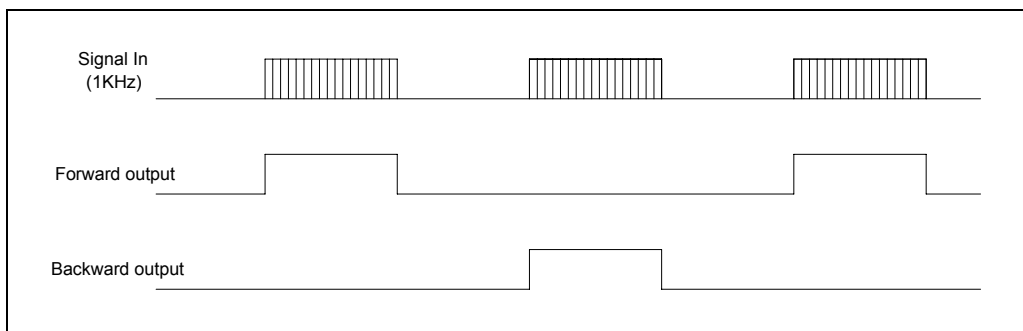
1. TR3C (MODE=VDD)

Sequential Toggle function

When the TR3C receives the 1KHz signal, FORWARD will be output high level and it will keep high level until no 1KHz signal is received.

However, when the TR3C receives the 1KHz signal again, BACKWARD will be output high level. Also, it will keep high level until no 1KHz signal received.

Therefore, the FORWARD/BACKWARD output is alternately changed if the TR3C receives the 1KHz signal.



2. TR3 (MODE=Floating)

When the TR3 receives the 1KHz signal, FORWARD will be output high level and it will keep high level until no 1KHz signal is received.

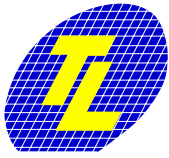
However, when the TR3 receives the 250Hz signal, BACKWARD will be output high level. Also, it will keep high level until no 250Hz signal received.

Data Format

Forward signal = F1 → 1KHz

Backward signal = F2 → 250Hz

F1 = 2F2 or F1 = 4F2(Mask option)

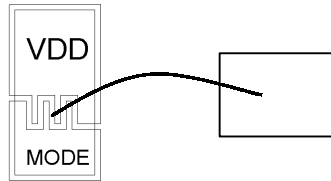


Bonding Option

1. Mode Selection

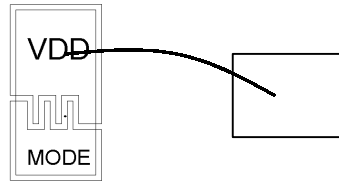
a. TR3C

One key trigger



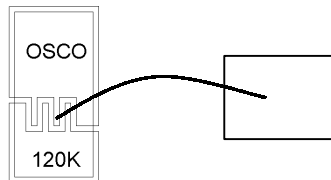
b. TR3

Two key trigger

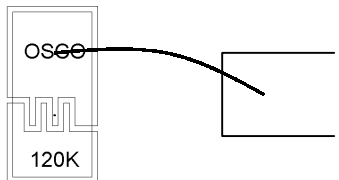


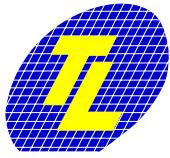
2. Oscillator

a. Use built-in 120KΩ resistor



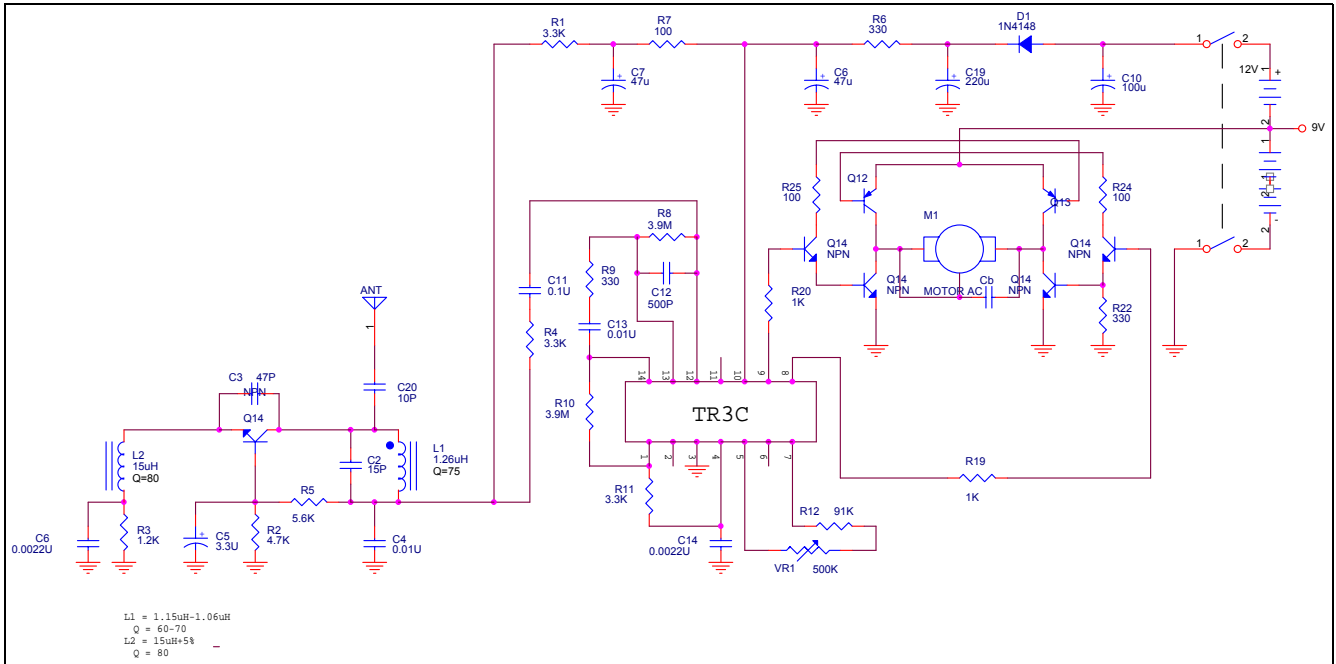
b. Use external resistor



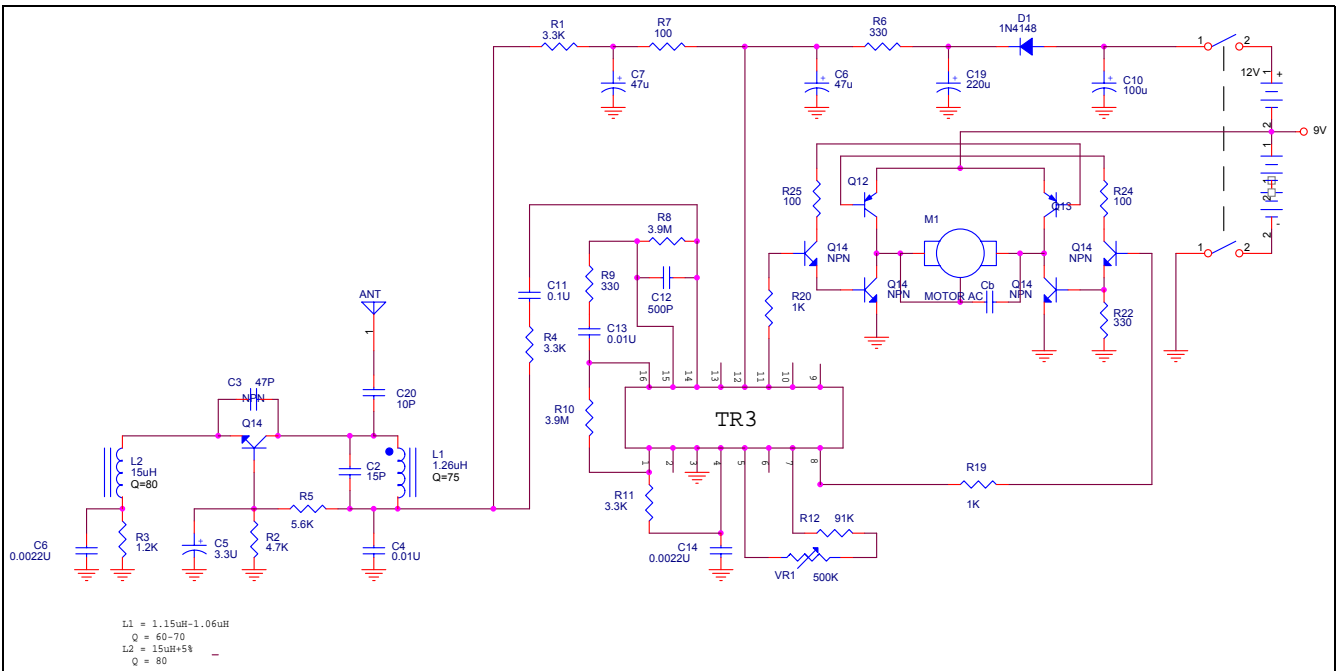


Application Circuit

1. TR3C



2. TR3



* 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)