



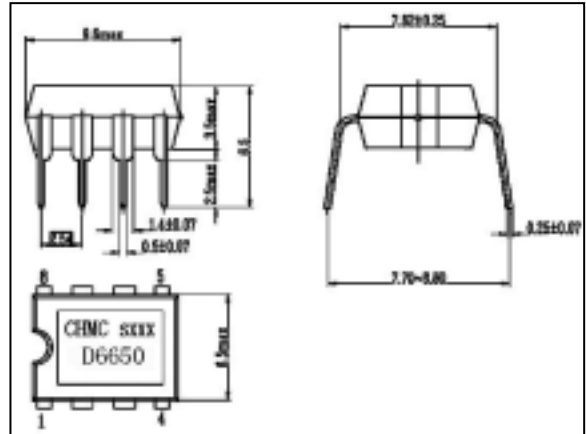
## MOTOR SPEED CONTROL CIRCUIT D6650

### GENERAL DESCRIPTION

The D6650 is a monolithic integrated circuit designed for the tape recorder.

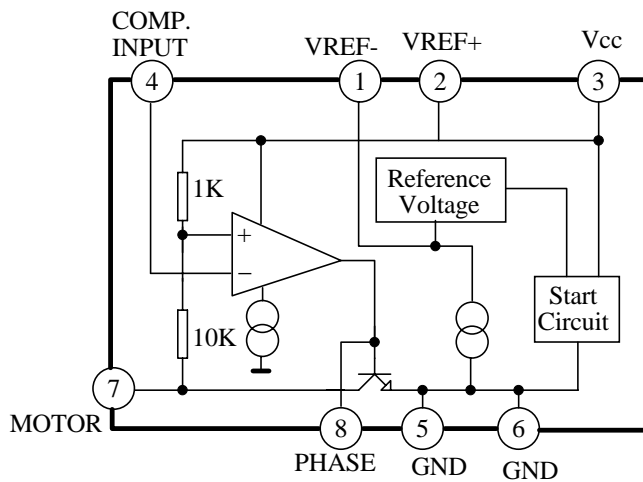
### FEATURES

- Wide operating supply voltage :  $V_{cc}=1.8V\sim 7V$
- Few external components
- Easy Speed control mode

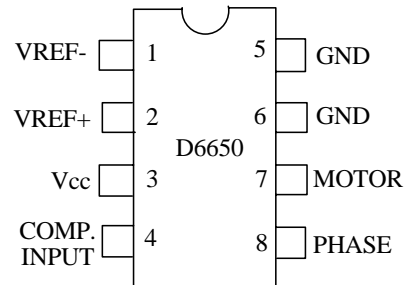


Outline Drawing

### BLOCK DIAGRAM



### PINNING



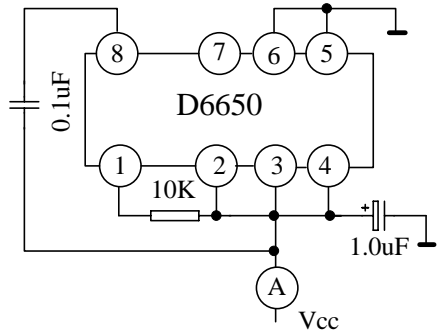
**MAXIMUM RATINGS**

Characteristics	Symbol	Value	Unit
Supply Voltage	V <sub>cc</sub>	7.5	V
Terminal Voltage	V <sub>n</sub> (n=1,2,3,4)	-0.5~7.5	V
Terminal 8 Voltage	V <sub>8</sub>	-0.5~1	V
Supply Current	I <sub>cc</sub>	1000	mA
Terminal 7 Current	I <sub>7</sub>	1000	mA
Power Dissipation	P <sub>D</sub>	750	mW
Operating Temperature Range	T <sub>opr</sub>	-20~70	°C
Storage Temperature Range	T <sub>stg</sub>	-40~150	°C

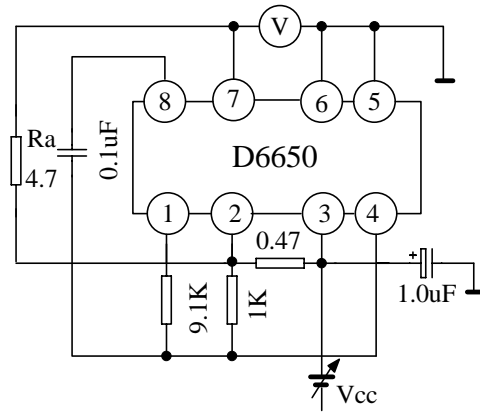
**ELECTRICAL CHARACTERISTICS**(Unless otherwise specified V<sub>cc</sub>=6V, T<sub>amb</sub>=25°C, f=1kHz)

Characteristic	Symbol	Test Condition	Test Circuit	Min.	Typ.	Max.	Unit
Quiescent Circuit Current	I <sub>cc</sub>	V <sub>cc</sub> =3V	1	-	2	3	mA
Reference Voltage	V <sub>REF</sub>	V <sub>cc</sub> =3V, R <sub>2-1</sub> >10kΩ	4	1.20	1.28	1.35	V
Start Voltage	V <sub>cc(s)</sub>	30mA current flow to R <sub>a</sub>	2		1.0	1.2	V
Saturation Voltage	V <sub>sat</sub>	V <sub>cc</sub> =1.8V, R <sub>a</sub> =4.7Ω	2		0.2	0.5	V
Reference Voltage Characteristics	$\frac{\Delta V_{REF}}{V_{REF}} / \Delta V_{CC}$	V <sub>cc</sub> =1.8V~7.0V	1	-1.25	0.1	1.25	%/V
Output Voltage Characteristics	$\frac{\Delta V_A}{V_A} / \Delta V_{CC}$	V <sub>cc</sub> =1.8V~7.0V	3	-1.2	0.1	1.2	%/V
Reference Voltage Current Characteristics	$\frac{\Delta V_{REF}}{V_{REF}} / \Delta I_7$	I <sub>7</sub> =1mA~20mA	4	-0.2	0.01	0.2	%/mA
Reference Voltage Temperature Characteristics	$\frac{\Delta V_{REF}}{V_{REF}} / \Delta T_a$	T <sub>a</sub> =-20~60°C, V <sub>cc</sub> =3.0V	4		0.01		%/°C

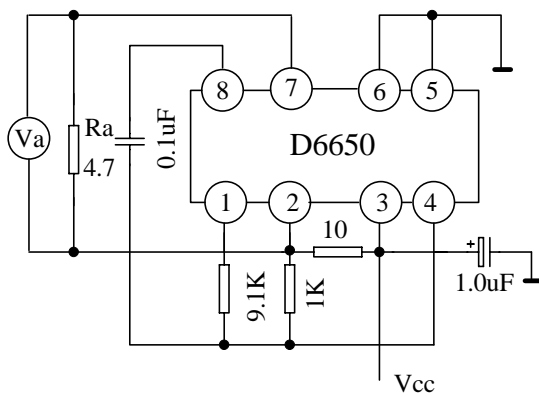
## TEST CIRCUIT



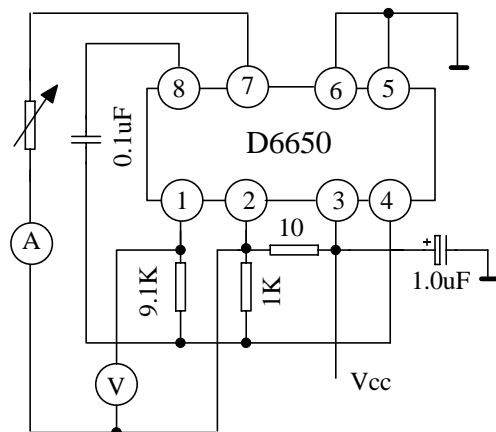
**Fig.1**



**Fig.2**



**Fig.3**



**Fig.4**

## Application Circuit

