

# UTC6650

# LINEAR INTEGRATED CIRCUIT

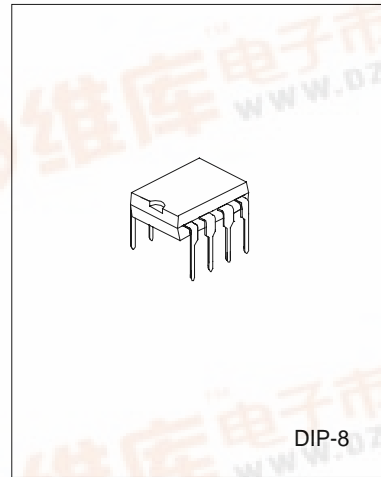
## MOTOR SPEED CONTROL CIRCUIT

### DESCRIPTION

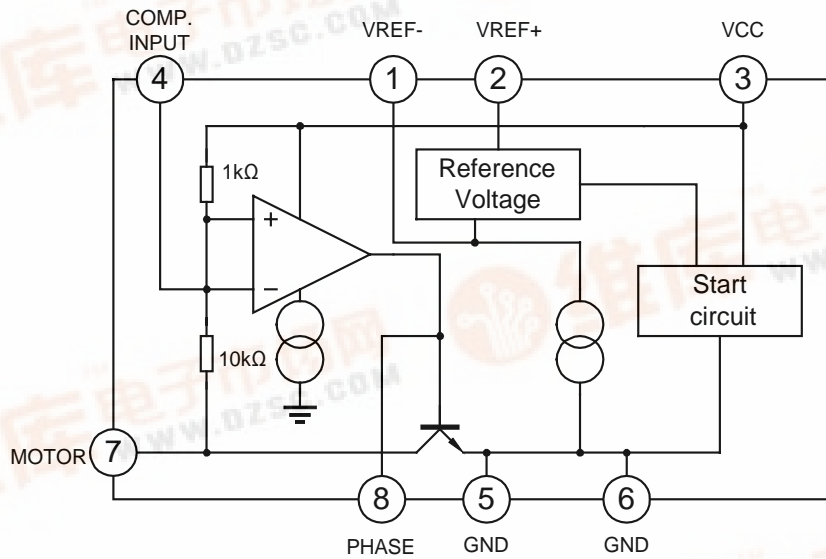
The UTC6650 is a monolithic integrated circuit designed for the tape recorder.

### FEATURES

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



### BLOCK DIAGRAM



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

Characteristic	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	T <sub>opr</sub>	-20 ~ +70	°C
Storage Temperature	T <sub>stg</sub>	-40 ~ +150	°C

**ELECTRICAL CHARACTERISTICS**(T<sub>a</sub>=25°C, V<sub>CC</sub>=6V, f=1kHz, unless otherwise specified)

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

TEST CIRCUIT

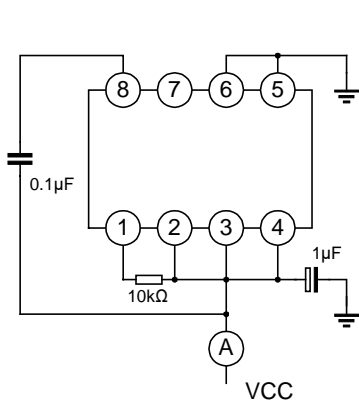


Fig.1

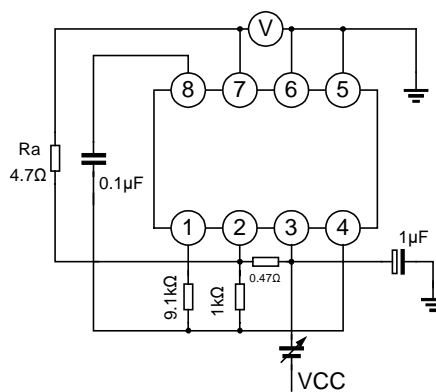


Fig.2

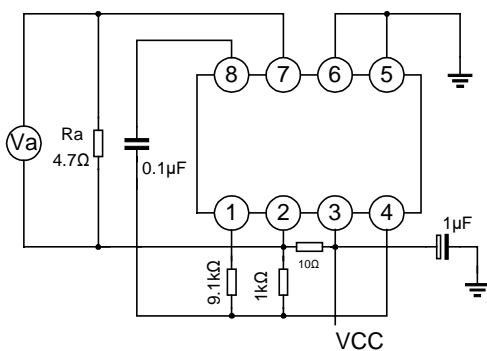


Fig.3

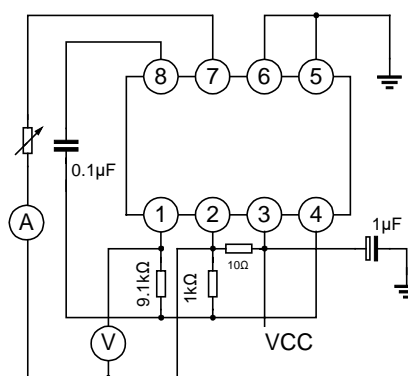


Fig.4

APPLICATION CIRCUIT

