



# AN6650

## LINEAR INTEGRATED CIRCUIT

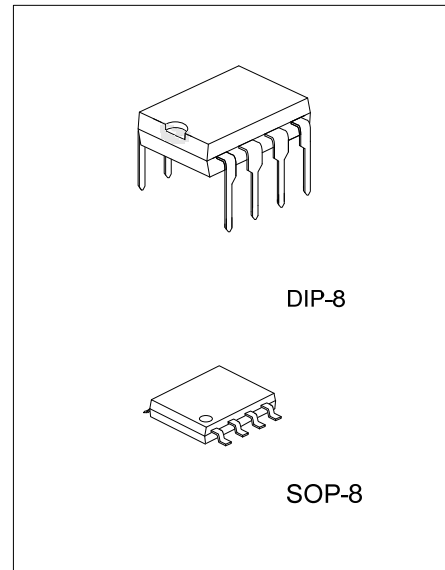
### MOTOR SPEED CONTROL CIRCUIT

■ DESCRIPTION

The UTC **AN6650** 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

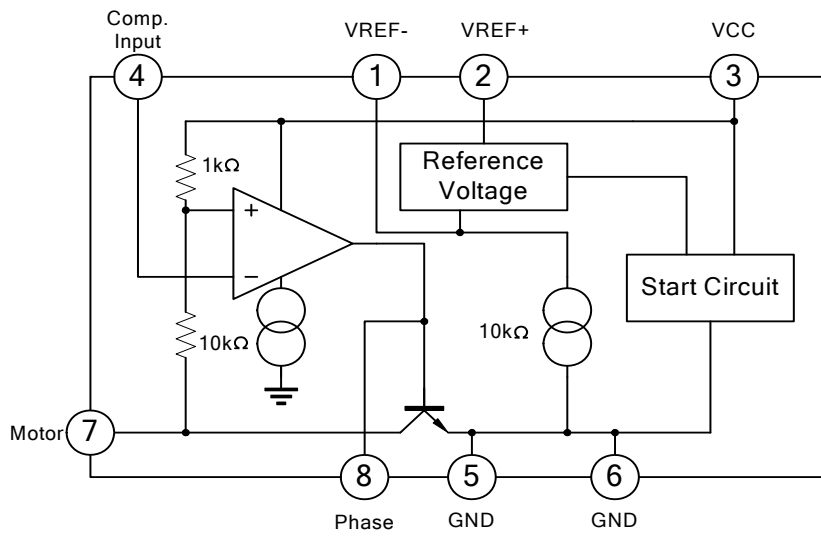


■ ORDERING INFORMATION

Ordering Number			Package	Packing
Normal	Lead Free	Halogen Free		
AN6650-S08-R	AN6650L-S08-R	AN6650G-S08-R	SOP-8	Tape Reel
AN6650-D08-T	AN6650L-D08-T	AN6650G-D08-T	DIP-8	Tube

<p>AN6650L-S08-R</p> <p>(1)Packing Type (2)Package Type (3)Lead Free</p>	<p>(1) R: Tape Reel, T: Tube (2) D08: DIP-8, S08: SOP-8 (3) L: Lead Free, Blank: Pb/Sn, G: Halogen Free</p>
----------------------------------------------------------------------------------	---------------------------------------------------------------------------------------------------------------------

## ■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER		SYMBOL	RATINGS	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> (Note)	1000	mA
Terminal 7 Current		I <sub>7</sub>	1000	mA
Power Dissipation	DIP-8	P <sub>D</sub>	750	mW
	SOP-8		360	
Operating Temperature		T <sub>OPR</sub>	-20 ~ +85	°C
Storage Temperature		T <sub>STG</sub>	-40 ~ +150	°C

Note: Test Time<5μs

■ ELECTRICAL CHARACTERISTICS (Ta=25°C, Vcc=6V, f=1KHz, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITIONS	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, R2-1>10kΩ	4	1.20	1.28	1.35	V
Start Voltage	V <sub>CC(S)</sub>	30mA current flow to Ra	2		1.0	1.2	V
Saturation Voltage	V <sub>(SAT)</sub>	V <sub>CC</sub> =1.8V, Ra=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

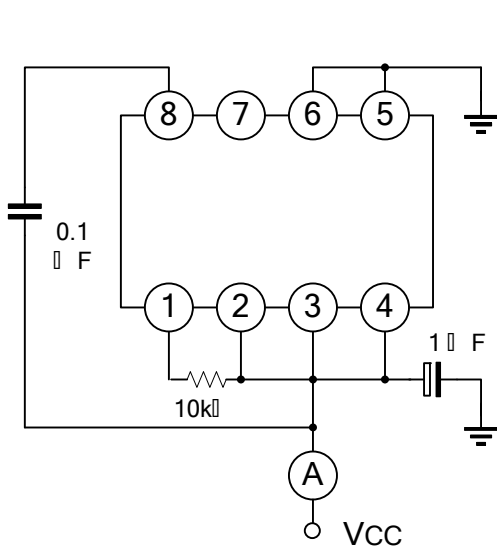


Fig.1 ( $I_{CC}, \frac{\Delta V_{REF}}{V_{REF}} / \Delta V_{CC}$ )

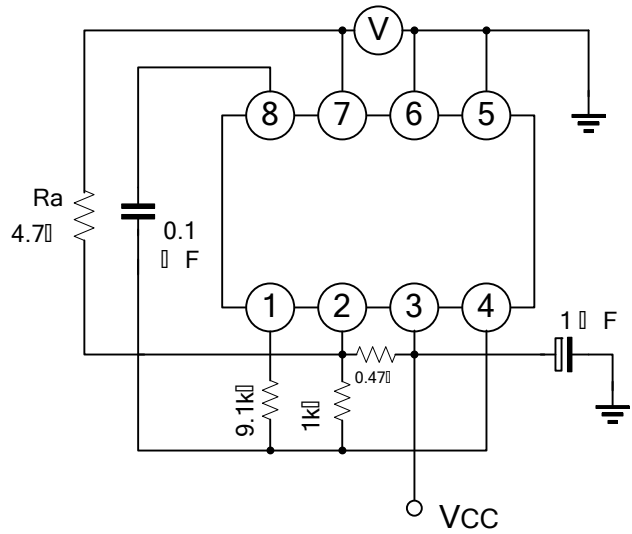


Fig.2 ( $V_{CC(s)}, V_{SAT}$ )

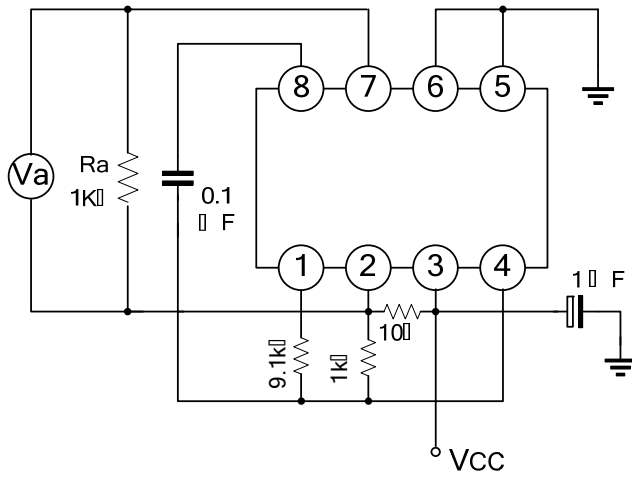


Fig.3 ( $\frac{\Delta V_A}{V_A} / \Delta V_{CC}$ )

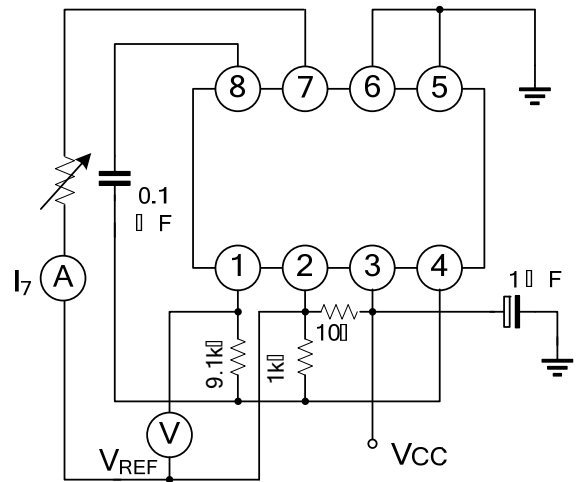


Fig.4 ( $\frac{\Delta V_{REF}}{V_{REF}} / \Delta I_7, \frac{\Delta V_{REF}}{V_{REF}} / \Delta T_A$ )

UTC assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all UTC products described or contained herein. UTC products are not designed for use in life support appliances, devices or systems where malfunction of these products can be reasonably expected to result in personal injury. Reproduction in whole or in part is prohibited without the prior written consent of the copyright owner. The information presented in this document does not form part of any quotation or contract, is believed to be accurate and reliable and may be changed without notice.