

AN6607NS

DC Motor Forward/Reverse Dual Speed Electronic Governor

Overview

The AN6607NS is an electronic governor which incorporates the forward/reverse rotation and double speed controls of the DC motors used for radio/cassette tape recorder, and the functions such as fast forward, rewind, brake, and pause.

Features

- Operating supply voltage range : $V_{CC}=8V$ to $16V$
- Stable reference voltage ($1.27V$) and easy speed adjustment
- Large starting torque and maximum control torque
- Good secular drift because of external power transistor
- High-density mounting allowed by the SO package
- Forward/reverse constant speed and double speed controls, and fast forward, brake, and pause functions available by 3-bit input

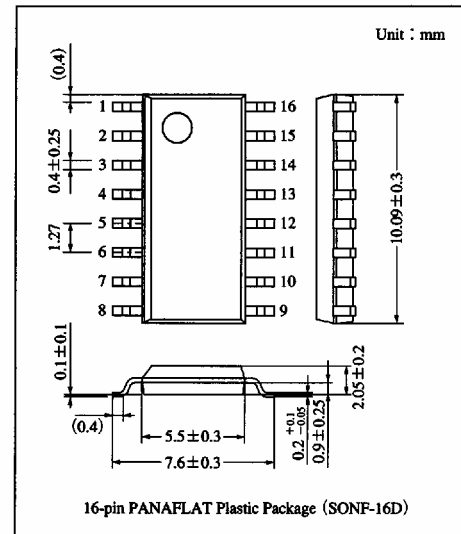
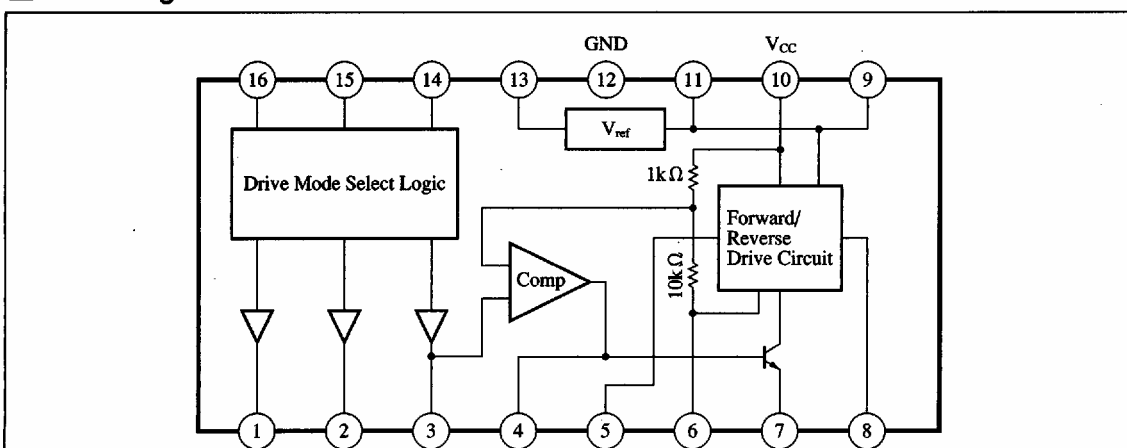
Applications

Cassette decks, radio/cassette tape recorders, car cassette tape players, DC motor control such as DAT, tape loading motor control

Pin Name

Pin No.	Pin name	Pin No.	Pin name
1	Double speed setting	9	Load characteristic setting
2	FF setting	10	V_{CC}
3	Speed adjustment	11	To pin ⑨
4	Phase correction	12	GND
5	Motor drive $\oplus$	13	Reference voltage $\ominus$
6	Collector connection	14	Logic input
7	Base connection	15	Logic input
8	Motor drive $\ominus$	16	Logic input

Block Diagram



■ Absolute Maximum Ratings ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	18	V
Supply current	I_C	20	mA
Power dissipation	P_D	450	mW
Operating ambient temperature	T_{opr}	-20 to +70	$^{\circ}\text{C}$
Storage temperature	T_{sg}	-55 to +125	$^{\circ}\text{C}$

■ Recommended Operating Range ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Range
Operating supply voltage	V_{CC}	8V to 16V

■ Electrical Characteristics ($T_a=25^{\circ}\text{C}$)

Parameter	Symbol	Condition	min	typ	max	Unit
Bias current at no load	I_{bias}	$V_{CC}=12\text{V}$	—	7	15	mA
Reference voltage	V_{ref}	$V_{CC}=12\text{V}$	1.15	1.27	1.4	mV
Rated load start voltage	$V_{CC(s)}$	Supply voltage at which rotation starts	6.5	—	—	V
Rated r.p.m.	N_L	$V_{CC}=12\text{V}$, $N=1600\text{rpm}$	-8.75	—	8.75	%
R.p.m. characteristics on load change	ΔN_L	$V_{CC}=8\text{V}$, $I_L=55\text{mA}$ to 120mA	-20	—	20	rpm
R.p.m. characteristics on voltage change	ΔN_V	$V_{CC}=8\text{V}$ to 16V , $N=1600\text{rpm}$	-22	0	22	rpm
FF/REW r.p.m. difference	ΔN_{Logi}	$V_{CC}=12\text{V}$, $N=5300\text{rpm}$	-3	0	3	%
Output saturation voltage 1	$V_{SAT(1)}$	$V_{CC}=8\text{V}$, $I_O=1\text{A}$	—	—	2	V
Output saturation voltage 2	$V_{SAT(2)}$	$V_{CC}=8\text{V}$, $I_O=1\text{A}$	—	—	1.5	V
R.p.m. characteristics on temperature change	ΔN_A	$V_{CC}=12\text{V}$, $T_a=-10^{\circ}\text{C}$ to $+60^{\circ}\text{C}$	—	100	—	ppm/ $^{\circ}\text{C}$

ICs for
Motor

■ Application Circuit

