

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

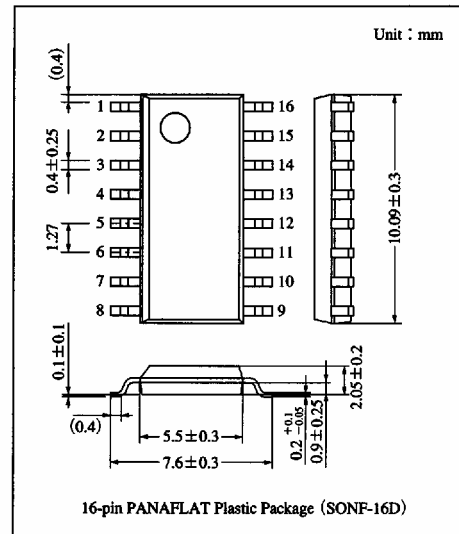
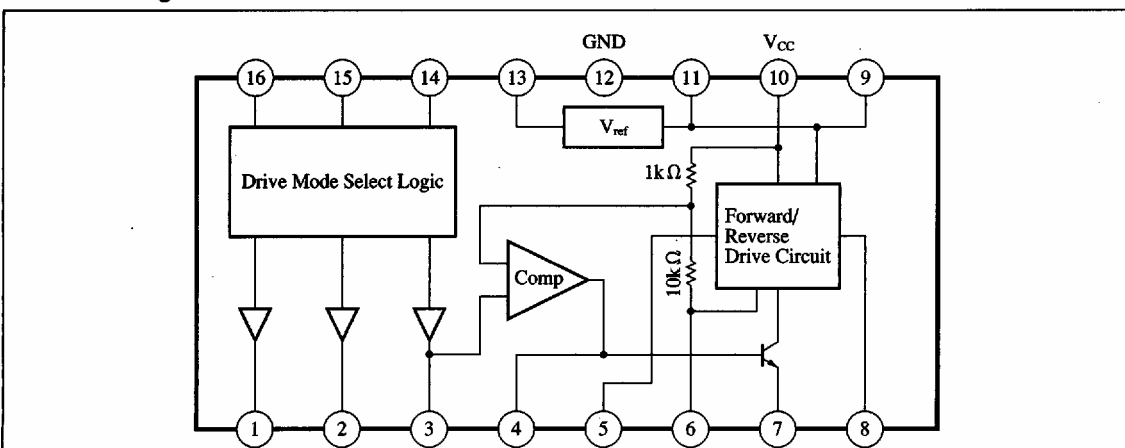
Applications

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 (Ta=25°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	°C
Storage temperature	T _{sg}	-55 to +125	°C

Recommended Operating Range (Ta=25°C)

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

Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Bias current at no load	I _{bias}	V _{CC} =12V	—	7	15	mA
Reference voltage	V _{ref}	V _{CC} =12V	1.15	1.27	1.4	mA
Rated load start voltage	V _{CC(s)}	Supply voltage at which rotation starts	6.5	—	—	V
Rated r.p.m.	N _L	V _{CC} =12V, N=1600rpm	-8.75	—	8.75	%
R.p.m. characteristics on load change	ΔN _L	V _{CC} =8V, I _L =55mA to 120mA	-20	—	20	rpm
R.p.m. characteristics on voltage change	ΔN _V	V _{CC} =8V to 16V, N=1600rpm	-22	0	22	rpm
FF/REW r.p.m. difference	ΔN _{Logi}	V _{CC} =12V, N=5300rpm	-3	0	3	%
Output saturation voltage 1	V _{SAT (1)}	V _{CC} =8V, I _O =1A	—	—	2	V
Output saturation voltage 2	V _{SAT (2)}	V _{CC} =8V, I _O =1A	—	—	1.5	V
R.p.m. characteristics on temperature change	ΔN _A	V _{CC} =12V, Ta=-10°C to +60°C	—	100	—	ppm/°C



Application Circuit

