Panasonic

AN6668NS

DC Motor Forward/Reveres Rotation Drive IC

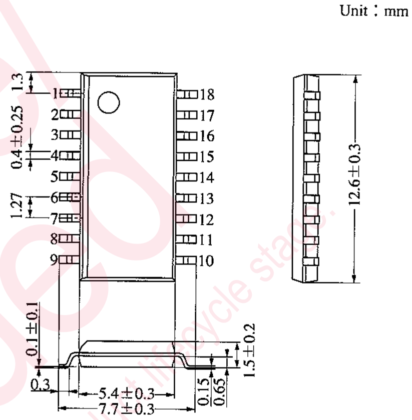
■ Overview

The AN6668NS is an IC for driving the stepping motor which incorporates the decoder. For its low voltage saturation drive characteristics, it is suitable for shutter drive or lens drive of optical camera.

■ Features

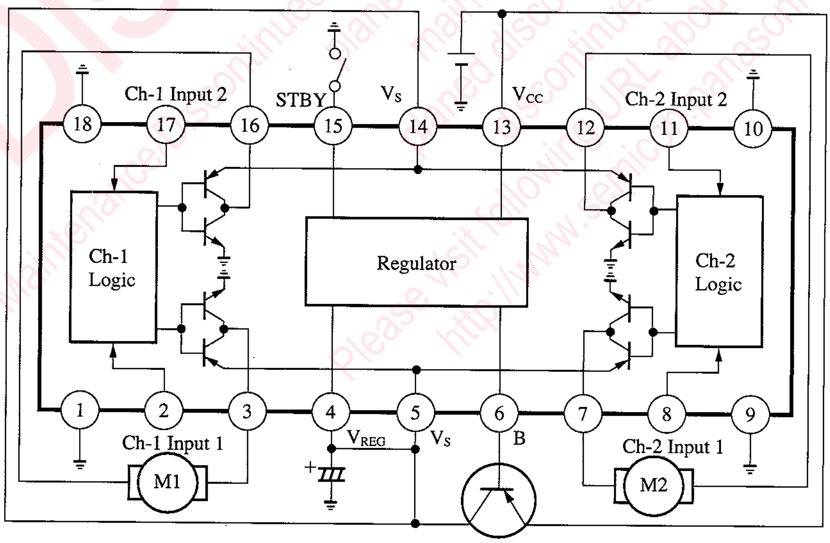
- Low saturation voltage output transistor built-in
- Decoder circuit built-in (forward/reverse mode, brake/standby mode)
- Back electromotive voltage absorption diode built-in

Unit : mm



18-pin SOP Package (SOP018-P-0300)

■ Block Diagram



ICs for Motor

■ Pin Descriptions

Pin No.	Pin name	Pin No.	Pin name
1	GND terminal (1)	10	GND terminal (3)
2	CH-1 input terminal (1)	11	CH-2 input terminal (2)
3	CH-1 output terminal (1)	12	CH-2 output terminal (2)
4	Regulator output terminal	13	Power supply voltage terminal (1)
5	Power supply voltage terminal (2)	14	Power supply voltage terminal (2)
6	Regulator control terminal	15	Stand-by terminal
7	CH-2 output terminal (1)	16	CH-1 output terminal (2)
8	CH-2 input terminal (1)	17	CH-1 input terminal (2)
9	GND terminal (2)	18	GND terminal (4)

■ Absolute Maximum Rating (Ta=25 ℃)

Parameter	Symbol	Rating	Unit
Supply voltage 1	V_{CC}	4.5	V
Supply voltage 2	V_S	4.5	V
Supply current 1	I_{CC}	300	mA
Supply current 2	I_S	600	mA
Output applied voltage	V_{OUT}	−0.3 to V_S +0.6	V
Input applied voltage	Vin	−0.3 to V_{CC} +0.6	V
Power dissipation Note)	P_D	210	mW
Operating ambient temperature	T_{opr}	−20 to +75	℃
Storage temperature	T_{stg}	−55 to +125	℃

Note) Package power dissipation under free air and operating ambient temperature Ta of 75℃

■ Allowable Operating Range (Ta=25 ℃)

Parameter	Symbol	Rating	Unit
Supply voltage (1) Note 1)	V_{CC}	1.8 to 4.0	V
Supply voltage (2)	V_S	1.8 to 4.0	V
Input (H) level voltage Note 2)	V_{IH}	2.0 to 4.6	V
Input (L) level voltage	V_{IL}	−0.3 to 0.7	V
Stand-by (H) level voltage Note 3)	$V_{ST(H)}$	V_{CC}−0.5 to V_{CC}	V
Stand-by (L) level voltage Note 3)	$V_{ST(L)}$	−0.3 to 0.4	V

Note 1) For the external discrete transistor, use the 2SB956 or its equivalent.
The regulator operates under V_{CC} over 2.5 V.

Note 2) It should operate normally even when the input voltage is higher than V_{CC}.

Note 3) (H) level, or open for stand-by mode. (L) level for active mode.

■ Electrical Characteristics (V_{CC}=3.0V, Ta=25±2℃)

Parameter	Symbol	Condition	min	typ	max	Unit
Output saturation voltage (lower+higher)	Vsat(1)	IL=200mA Normal rotation mode	—	0.2	0.4	V
Output saturation voltage (lower+higher)	Vsat(2)	IL=200mA Reverse rotation mode	—	0.2	0.4	V
Supply current	$I_{CC}1$(ON)	Iout=200mA (One Ch. on)	—	—	250	mA
Supply current	$I_{CC}2$(ON)	Iout=200mA (Both Ch. on)	—	—	500	mA
Input current (one ch. on)	$I_{IN(H)}$	V IN (H) =3.0V	—	250	300	μA
Power Supply						
Stand-by consumption current	I_{CS}	Stand-by terminal H or Open	—	—	10	μA
Stand-by terminal drawing-out current	I_{ST}	Stand-by terminal VST=0 V	20	65	130	μA
V REG terminal output voltage	V_{REG}	Stand-by terminal VST=0 V	2.1	2.2	2.3	V
V REG control current	I_{CTL}		5.0	8.0	—	mA

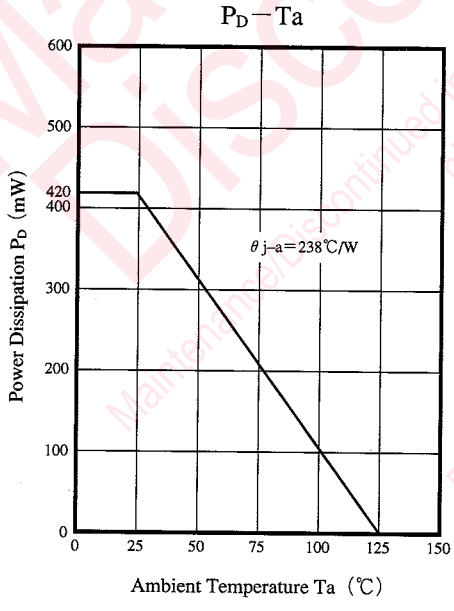
Note) For the external transistor, use the 2SB956 or its equivalent.

■ Electrical Characteristics (Design Reference Values) (V_{CC}=3.0V, Ta=25±2℃)

Parameter	Symbol	Condition	min	typ	max	Unit
V REG voltage temperature coefficient	V RT	V RT=ΔVo/ΔTa I_o=200mA, Ta=−20 to 75℃	—	−0.8	—	mV/℃
Ripple rejection ratio	V RR	VR=100mV_{P-P} f=100Hz	—	35	—	dB
Output noise voltage	V NO		—	−85	—	dBv

Note 1) For the above characteristics, the values specified are design reference values, but not guaranteed ones.
Note 2) For the external transistor, use the 2SB956 or its equivalent.

■ Package Power Dissipation



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