

AN6660, AN6660K

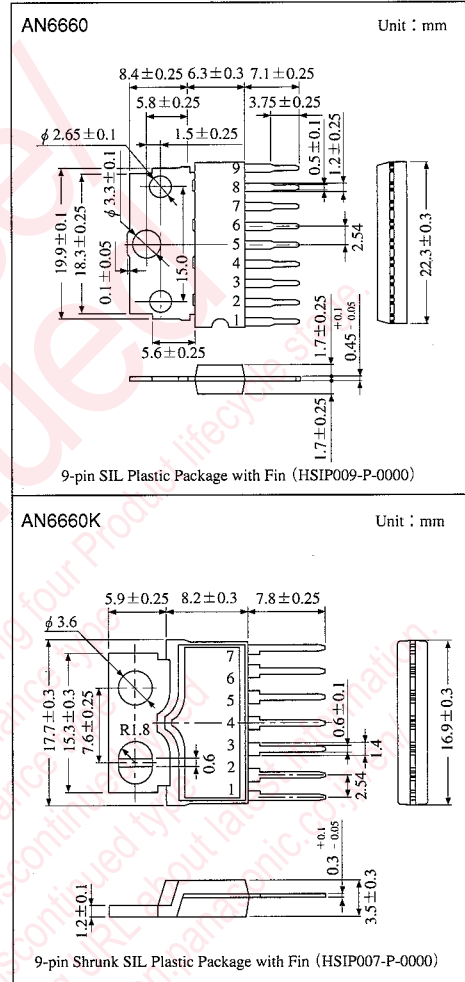
Forward/Reverse Motor Drivers

Overview

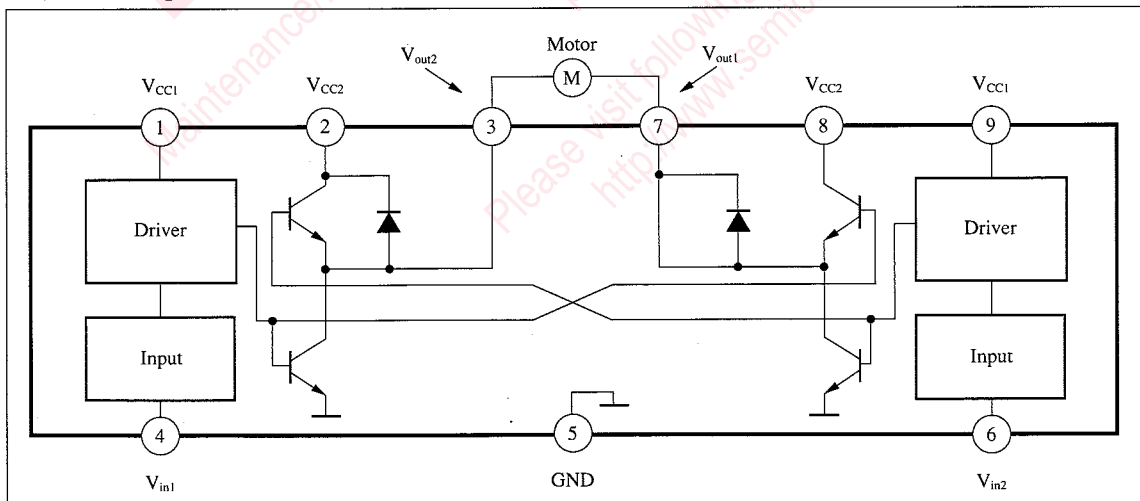
The AN6660 and the AN6660K are the integrated circuits designed for forward/reverse direction select driver for a motor with brush. It also assures four types of outputs ; forward, reverse, brake and stop due to input logic and is suitable for VCR loading, reel and cylinder, or a reel driver for tape deck. Since individual power supplies for motor drive and IC are provided, servo can be applied.

Features

- Wide range of operating supply voltage
: $V_{CC(opr)} = 4V$ to $20V$
- Independent power supplies can be used for IC and motor drive, respectively
- Low V_{CC} saturation type output transistor built-in
- Diode to absorb counter EMF built-in



Block Diagram



Pin Descriptions

Pin No.	Pin name
1	Supply voltage
2	Output supply voltage
3	Output (2)
4	Input (1)
5	GND
6	Input (2)
7	Output (1)
8	Output supply voltage
9	Supply voltage

Absolute Maximum Ratings (Ta=25°C)

Parameter	Symbol	Rating	Unit
Supply voltage (1)	V _{CC1}	-0.5 to +16	V
Supply voltage (2) *1	V _{CC2}	-0.5 to +20	V
Supply current	I _{CC}	650	mA
Output supply voltage	V _{CC}	-0.5 to V _{CC}	V
Input voltage	V _I	0 to V _{CC}	V
Motor rush allowable current *2	I _{OP}	2.0	A
Motor ordinary current (1)	I _{O(1)}	-330 to +330	mA
Motor ordinary current (2) *1	I _{O(2)}	-600 to +600	mA
Power dissipation	AN6660	P _D	W
	AN6660K		
Operating ambient temperature	T _{opr}	-20 to +75	°C
Storage temperature	T _{stg}	-55 to +150	°C

*1 When a heat sink is in use

*2 $t_{op} = 10 \mu s$, cycle time $> 5s$, $V_{CC} < 12V$

*3 When an infinite heat sink is in use

ICs for
Motor

Recommended Operating Conditions (Ta=25°C)

Parameter	Symbol	min	typ	max	Unit
Supply voltage	V _{CC}	4	—	15	V
Output current	I _O	—	—	±300	mA
High level input voltage	V _{IH}	2	—	V _{CC}	V
Low level input voltage	V _{IL}	—	—	0.5	V
Forward-to-reverse inhibiting time	t _{OFF}	10	—	—	μs

Truth Table

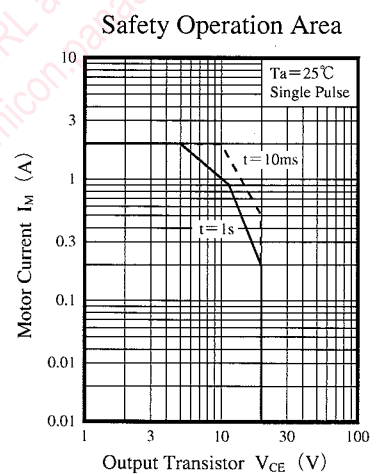
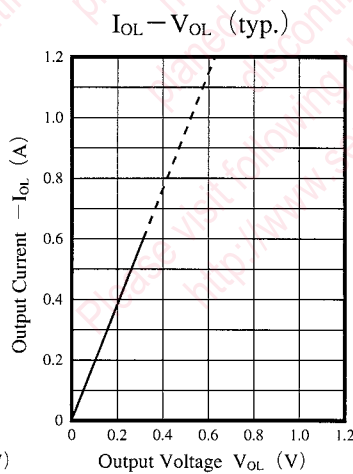
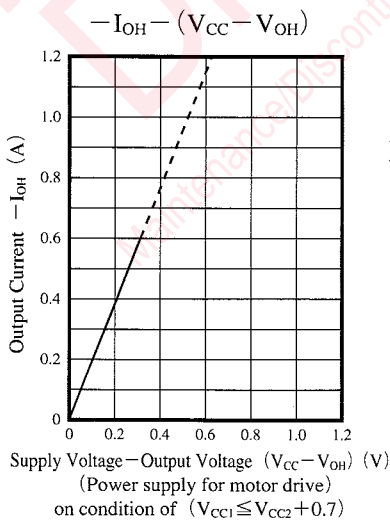
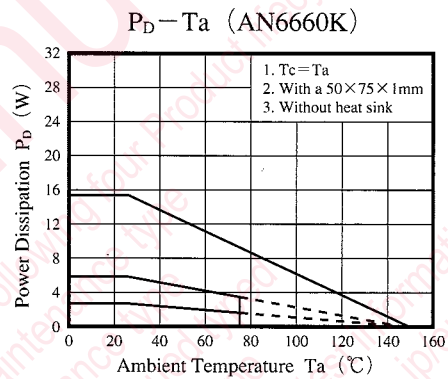
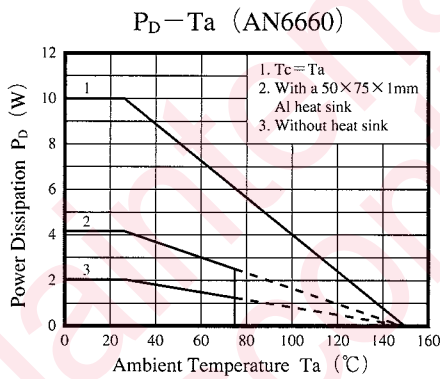
Input		Output		Note
1	2	1	2	
0	0	OFF State	OFF State	IC not operating
1	0	1	0	Motor forward
0	1	0	1	Motor reverse
1	1	0	0	Brake

"0" = "L"
"1" = "H"

■ Electrical Characteristics (Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Supply current	I_{CC1}	$V_{CC}=V_{CC'}=16V, V_{I1}=3V, V_{I2}=0V$	—	—	40	mA
	I_{CC2}	$V_{CC}=V_{CC'}=16V, V_{I1}=V_{I2}=3V$	—	—	50	
Output leak current	$I_{O(Leak)}$	$V_{CC}=V_{CC'}=20V, V_O=20V$	—	—	100	μA
	$-I_{O(Leak)}$	$V_{CC}=V_{CC'}=20V, V_O=0V$	—	—	100	
High level output voltage	V_{OH}	$V_{CC}=V_{CC'}=12V, I_{OH}=-300mA$	10.8	—	—	V
		$V_{CC}=V_{CC'}=12V, I_{OL}=-500mA$	10.7	—	—	
Low level output voltage	V_{OL}	$V_{CC}=V_{CC'}=12V, I_{OH}=300mA$	—	—	0.4	V
		$V_{CC}=V_{CC'}=12V, I_{OL}=500mA$	—	—	0.65	
Output (1) - (2) Voltage	$V_{O1}-V_{O2}$	$V_{CC}=V_{CC'}=12V, I_O=\pm 300mA$	10.3	—	—	V
High level output voltage	V_{OH}	$V_{CC}=12V, V_{CC'}=5V, I_{OH}=-300mA$	4.6	—	—	V
Input impedance	Z_i	$V_{CC}=16V, V_i=2V\rightarrow 3V$	10	—	20	k Ω

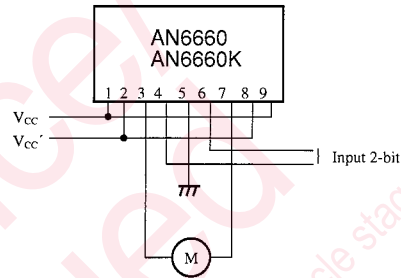
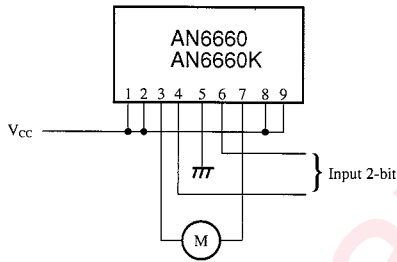
■ Characteristics Curve



■ Basic Circuits

- With single power supply

- With 2 power supplies for IC and Motor drive



V_{cc} : ICs power supply
 V_{cc'} : Power supply for motor drive

Maintenance/Discontinued includes following four Product lifecycle stage.
 planned maintenance type
 maintenance type
 planned discontinued type
 discontinued type
 Please visit following URL about latest information.
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ICs for
 Motor

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