

1-MOTOR DRIVER FOR VTR

The DBL2084 is a monolithic integrated circuit designed to perform bi-directional DC Motor driving, braking and speed control for VCRs. Speed of the motor can be controlled by adjusting the external voltage of the motor speed control pin.

FEATURES

- Stable braking characteristics by built-in braking function.
- Stable driving direction change.
- Built-in element to absorb dash current derived from changing motor direction and braking motor driving.
- CMOS logic level compatible input level.
- Built-in external motor speed control pin.

APPLICATION

- VTR
- CDP
- TOY

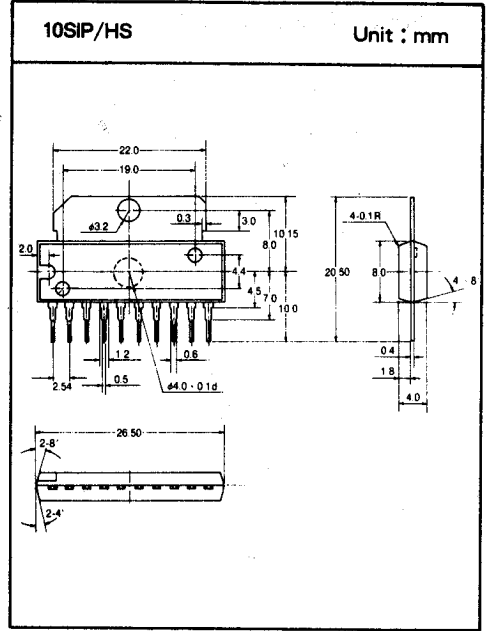
MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Characteristics	Symbol	Ratings	Unit
Supply Voltage	V_{CC}	18	V
Input Voltage	V_{IN}	$-0.3 \sim V_{CC}$	V
Output Current	I_o	1600	mA
Allowable Power Dissipation	P_D	2200	mW
Operating Temperature	T_{opr}	$-25 \sim 75$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-55 \sim 125$	$^\circ\text{C}$

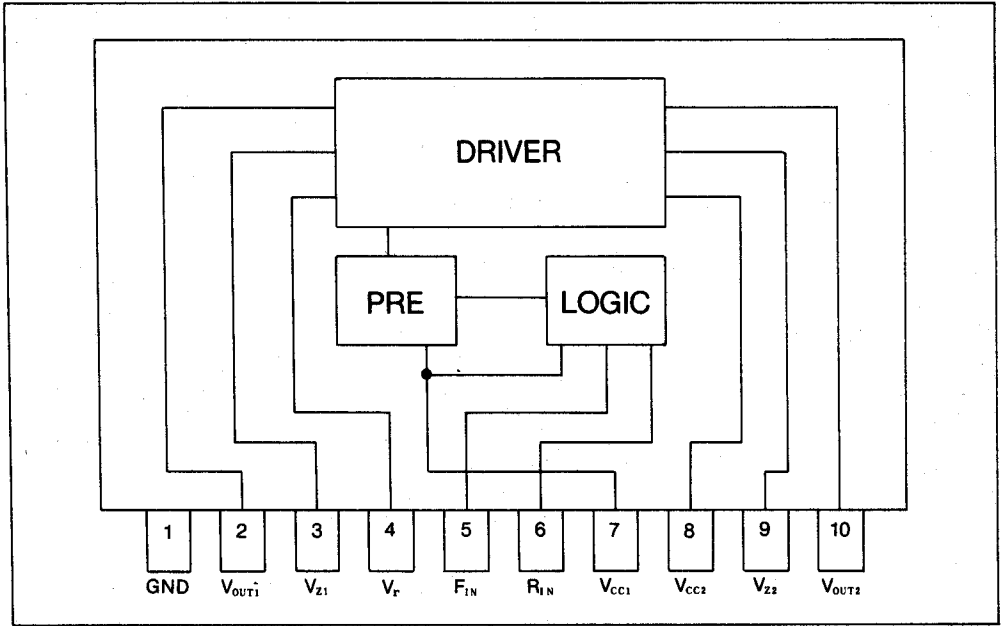
OPERATING CONDITIONS

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

Characteristic	Symbol	Min	Typ	Max	Unit
Supply Voltage	V_{CC}	8.0	12.0	16.0	V



BLOCK DIAGRAM



LOGIC TRUTH TABLE

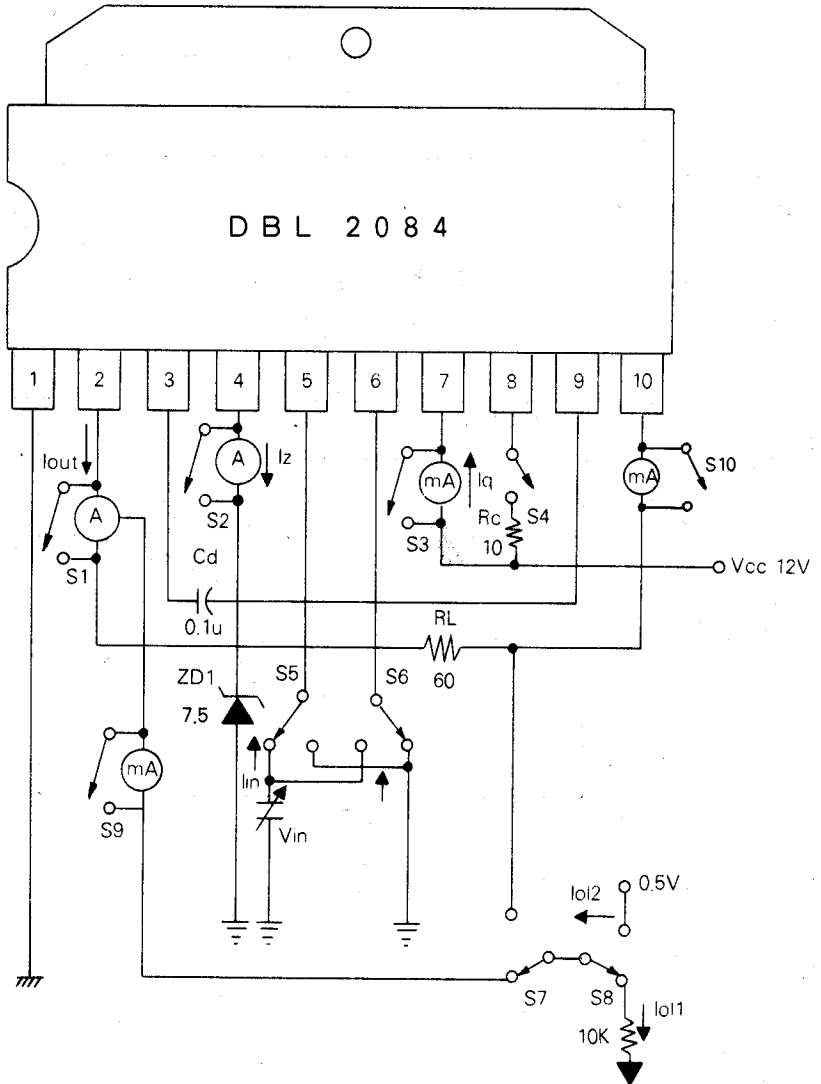
Input		Output		Motor Mode
IN1	IN2	OUT1	OUT2	
L	L	L	L	Braking
H	L	H	L	Forward(Reverse) Driver
L	H	L	H	Reverse(Forward) Driver
H	H	L	L	Braking

* "H" > 2.0V, "L" < 0.7V

ELECTRICAL CHARACTERISTICS ($V_{CC} = 12V, T_a = 25^\circ C$)

Characteristic	Symbol	Condition	MIN	TYP	MAX	UNIT
Quiescent Current	I_{CCQ}	Pin5, 6 : GND, $R1 = \infty$	3	5.5	10	mA
Minimum Input on Current 1	I_{in1}	$RL = \infty$, Pin5 : in 1, Pin6 : L	—	10	50	μA
Minimum Input on Current 2	I_{in2}	$RL = \infty$, Pin5 : L, Pin6 : in2	—	10	50	μA
Input Threshold Voltage 1	V_{in1}	$RL = \infty$, Pin5 : Vinth1, Pin6 : L	0.7	1.3	2.0	V
Input Threshold Voltage 2	V_{in2}	$RL = \infty$, Pin5 : L, Pin6 : Vinth2	0.7	1.3	2.0	V
Output Leakage Current 1	I_{ol1}	$RL = \infty$, Pin5, 6 : GND	—	—	1	mA
Output Leakage Current 2	I_{ol2}	$RL = \infty$, Pin5, 6 : GND	—	—	1	mA
Zener Current 1	I_{z1}	Pin5 : H, Pin6 : L, $RL = \infty$	—	0.85	1.5	mA
Zener Current 2	I_{z2}	Pin6 : L, Pin6 : H, $RL = \infty$	—	0.85	1.5	mA
Output Voltage 1	V_{o1}	Pin5 : H, Pin6 : L, $RL = 60\text{ohm}$	6.6	7.2	7.6	V
Output Voltage 2	V_{o2}	Pin5 : L, Pin6 : H, $RL = 60\text{ohm}$	6.6	7.1	7.6	V
Saturation Voltage Pin 10-1	V_{cc10-1}	ISINK = 100mA Pin5 : H, Pin6 : L, $RL, RC = \infty$	—	0.83	1.5	V
Saturation Voltage Pin 2-1	V_{cc2-1}	ISINK = 100mA Pin5 : L, Pin6 : H, $RL, RC = \infty$	—	0.83	1.5	V
Saturation Voltage Pin 8-2	V_{cc8-2}	ISOURCE = 100mA Pin5 : H, Pin6 : L, $RL, RC = \infty$	—	0.83	1.5	V
Saturation Voltage Pin 8-10	V_{cc8-10}	ISOURCE = 100mA Pin5 : L, Pin6 : H, $RL, RC = \infty$	—	0.83	1.5	V

□ TEST CIRCUIT



- lout : Output current
- lz : Zener current
- lq : Quiescent current
- lol1, lol2 : Output Leakage current

DBL 2084

□ APPLICATION CIRCUIT

