

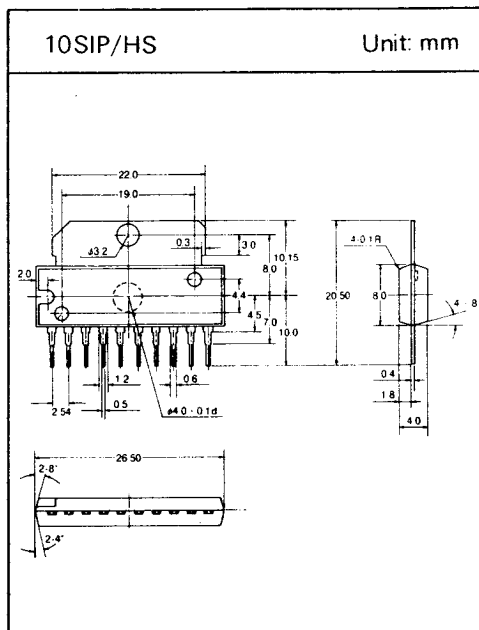
# DBL 2018-C

## 2 MOTOR DRIVER FOR A VTR

The DBL 2018-C is a monolithic integrated circuit designed to perform bi-directional DC Motor driving.

### 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.
- C<sup>2</sup> MOS logic level compatible input level.

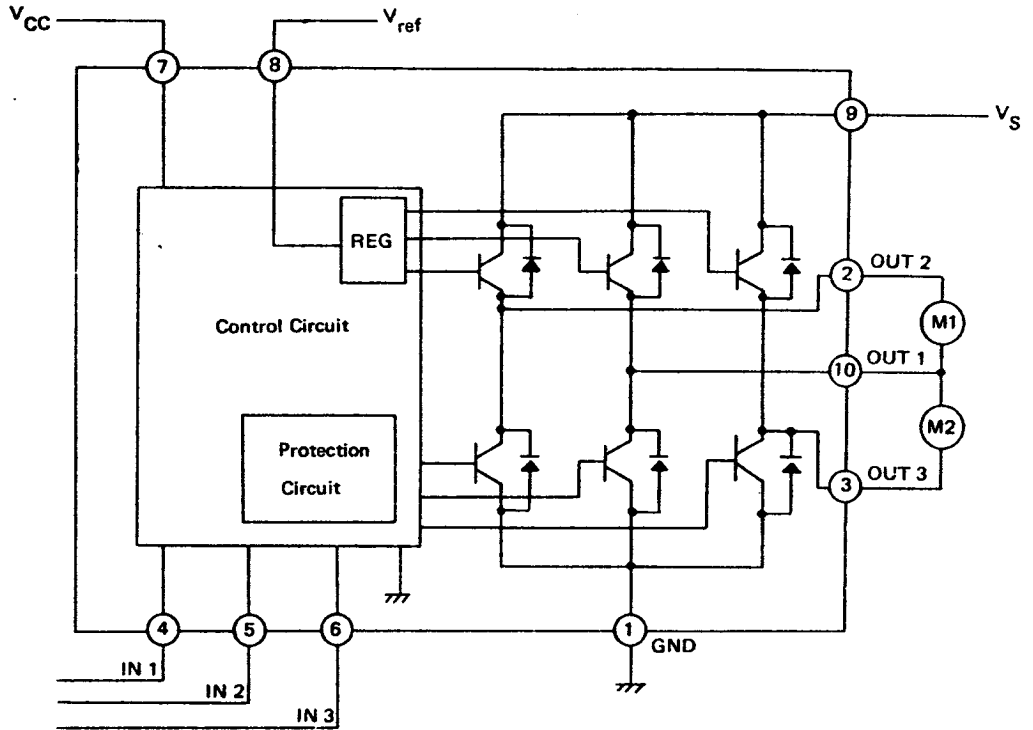


### MAXIMUM RATINGS(T<sub>a</sub>=25°C)

Characteristics	Symbol	Rating	Unit
Supply Voltage	V <sub>CC</sub>	25	V
Input Voltage	V <sub>IN</sub>	V <sub>CC</sub>	V
Output Current	Peak	I <sub>O</sub> (peak)	2
	Ave.	I <sub>O</sub> (Ave)	1
Allowable Power Dissipation	P <sub>D</sub>	12.5	W
Operating Temperature	T <sub>opr</sub>	-30 ~ +75	°C
Storage Temperature	T <sub>stg</sub>	-55 ~ +150	°C

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BLOCK DIAGRAM



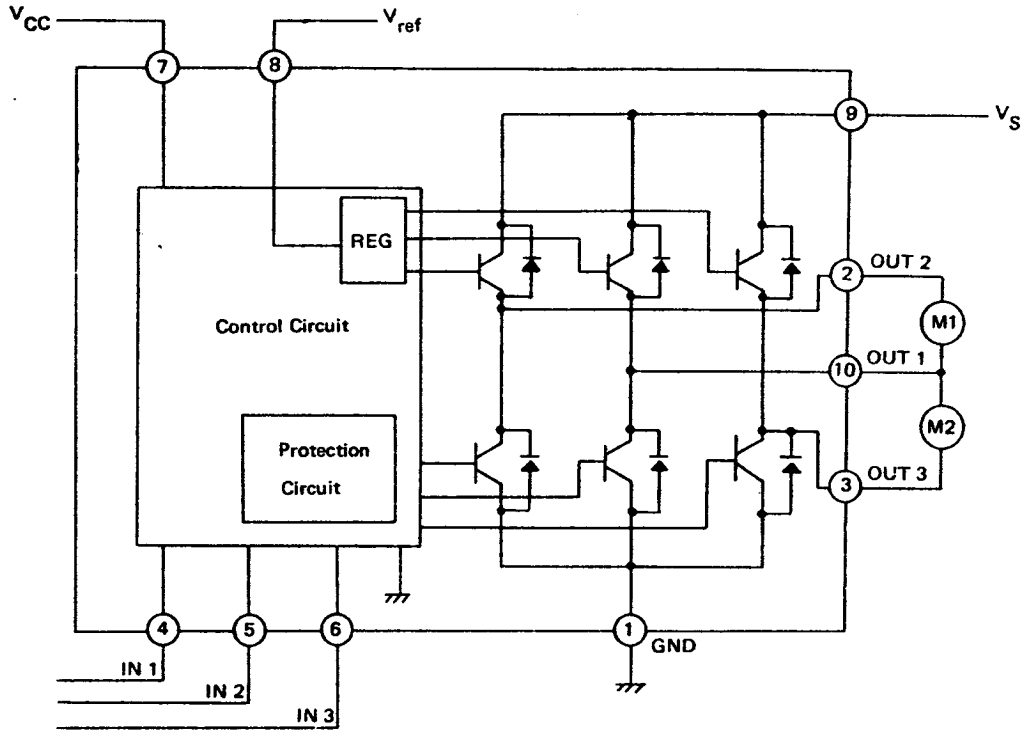
LOGIC TRUTH TABLE

INPUT			OUTPUT			MODE	
IN 1	IN 2	IN 3	OUT 1	OUT 2	OUT 3	M 1	M 2
0	0	1/0	L	L	L	BRAKE	BRAKE
1	0	0	H	L	$\infty$	CW/CCW	STOP
1	0	1	L	H	$\infty$	CCW/CW	STOP
0	1	0	H	$\infty$	L	STOP	CW/CCW
0	1	1	L	$\infty$	H	STOP	CCW/CW
1	1	1/0	L	L	L	BRAKE	BRAKE

$\infty$  : High Impedance      Input Level 'H' : Active

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LOGIC TRUTH TABLE

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IN 1	IN 2	IN 3	OUT 1	OUT 2	OUT 3	M 1	M 2
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1	0	0	H	L	$\infty$	CW/CCW	STOP
1	0	1	L	H	$\infty$	CCW/CW	STOP
0	1	0	H	$\infty$	L	STOP	CW/CCW
0	1	1	L	$\infty$	H	STOP	CCW/CW
1	1	1/0	L	L	L	BRAKE	BRAKE

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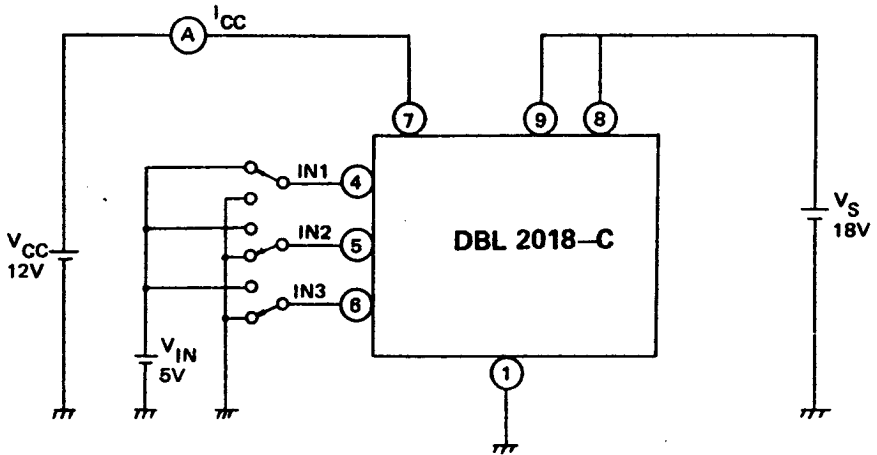
□ ELECTRICAL CHARACTERISTICS ( $V_{CC} = 12V$ ,  $V_S = 18V$ ,  $T_a = 25^\circ C$ )

Characteristic		Symbol	Test Circuit	Test Conditions	Min.	Typ.	Max.	Unit
Supply Current		$I_{CC1}$	1	Output Off CW/CCW	—	17	30	mA
		$I_{CC2}$	1	Output off brake	—	13	25	mA
Input Voltage	1(High)	$V_{IN1}$	2	Pin 4,5,6	3.5	—	5.5	V
	2(Low)	$V_{IN2}$	2	Pin 4,5,6	GND	—	0.8	V
Input Current		$I_{IN}$	2	Sink $V_{IN} = 3.5V$	—	5	20	$\mu A$
Input Hysteresis Range		$\Delta V_T$	2		—	0.7	—	V
Saturation Voltage	Upper	$V_{SATU-1}$	3	$V_{ref} : V_S$ Short; Output $-V_S$ $I_O = 0.2A$	—	0.9	1.3	V
	Lower	$V_{SATL-1}$	3	$V_{ref} : V_S$ Short; Output $-GND$ $I_O = 0.2A$	—	1.1	1.4	V
	Upper	$V_{SATU-2}$	3	$V_{ref} : V_S$ Short; Output $-V_S$ $I_O = 0.1A$	—	1.8	2.3	V
	Lower	$V_{SATL-2}$	3	$V_{ref} : V_S$ Short; Output $-GND$ $I_O = 0.1A$	—	2.4	2.9	V
Output Voltage		$V_{O1}$	3	$V_{ref} = 10V$ , $I_O = 0.5A$	10.7	11	11.8	V
		$V_{O2}$	3	$V_{ref} = 10V$ , $I_O = 1.0A$	10.4	10.7	11.5	V
Output Tr.	Upper	$I_{LU}$		$V_S = 25V$	—	—	50	$\mu A$
Leakage Current	Lower	$I_{LL}$		$V_S = 25V$	—	—	50	$\mu A$
Diode Forward Voltage	Upper	$V_{FU}$	4	$I_F = 1A$	0.7	2.2	2.7	V
	Lower	$V_{FL}$	4	$I_F = 1A$	0.1	1.4	2	V
Control Supply Current		$I_{ref}$	2	$V_{ref} = 10V$ Source type	—	5	30	$\mu A$

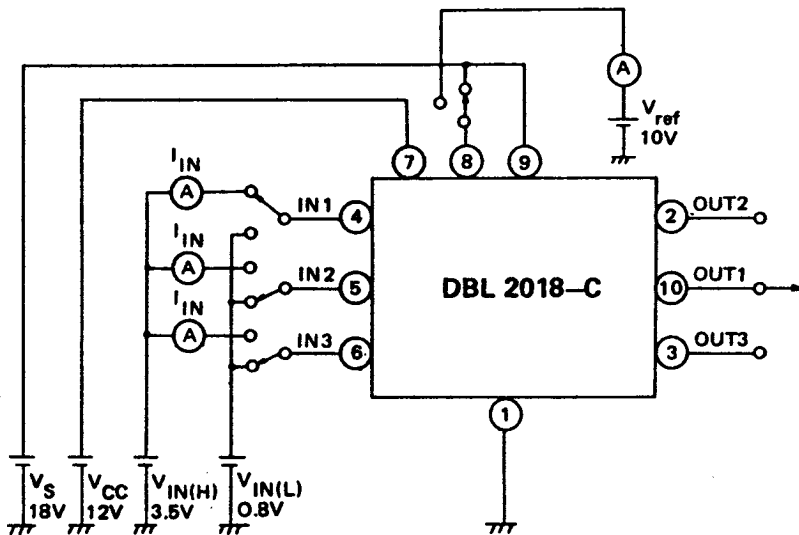
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## □ TEST CIRCUITS

1.



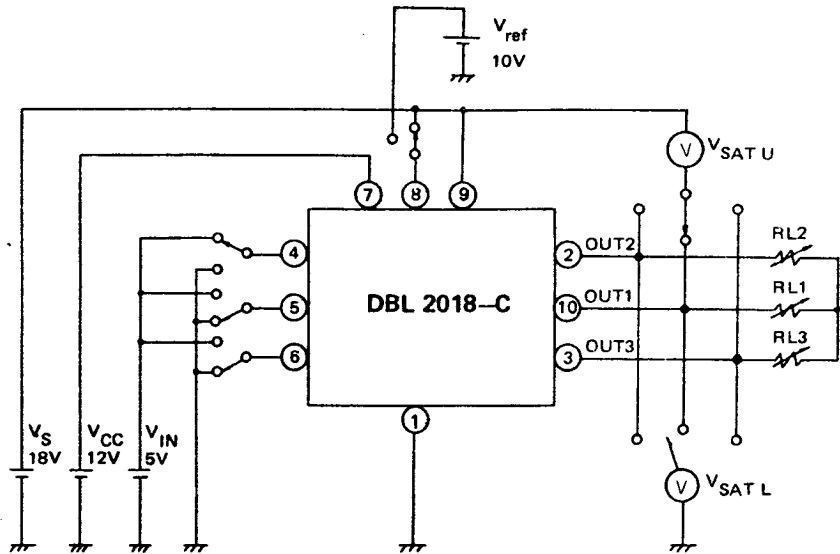
2.



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## □ TEST CIRCUITS(Continued)

3.



Adjust  $R_{L1}$ ,  $R_{L2}$ ,  $R_{L3}$  so that  $I_{out}$  may be 0.2A or 1.0A.

4.

