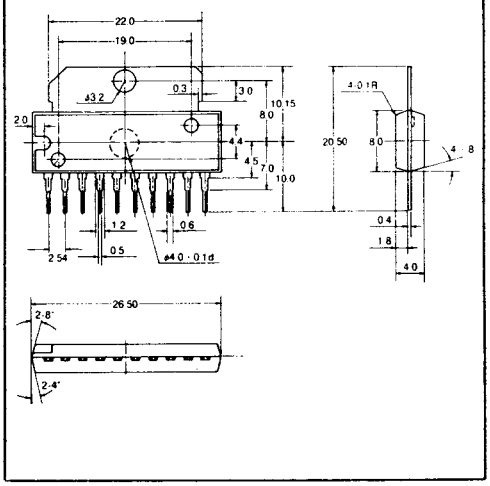
DBL 2018-C

2 MOTOR DRIVER FOR A VTR

10SIP/HS Unit: mm



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

☐ FEATURES

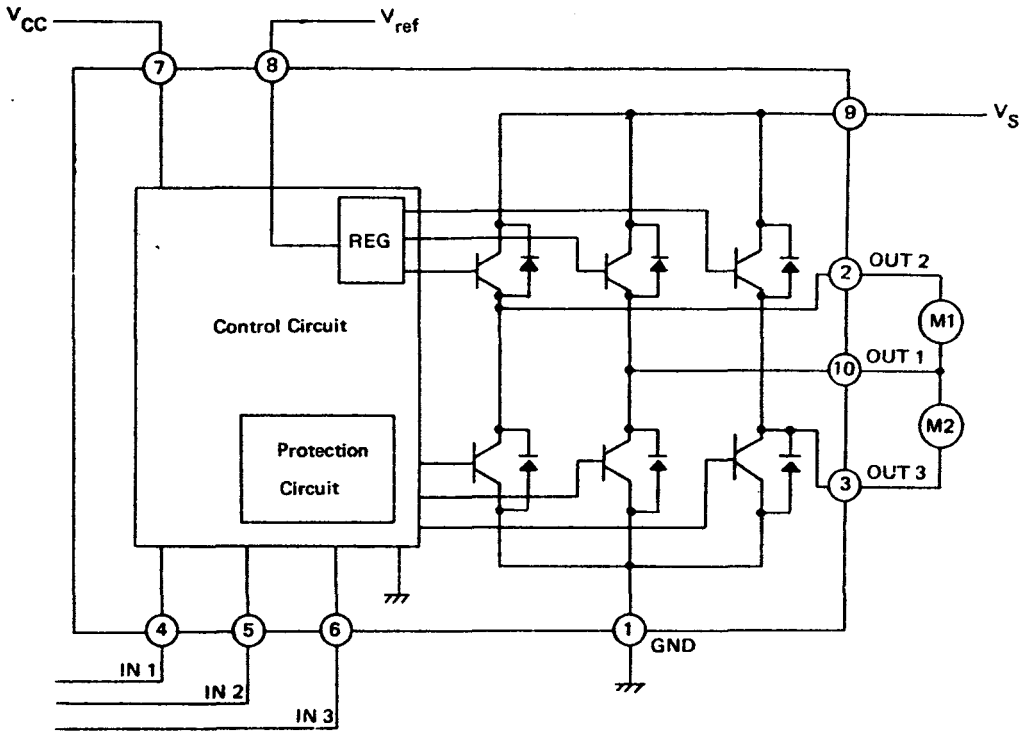
- ○ Stable braking characteristics by built-in braking function.
- ○ Stable driving direction change.
- ○ Built-in element to absorb dash current derived from changing motor direction and braking motor driving.
- ○ C^2 MOS logic level compatible input level.

☐ MAXIMUM RATINGS(Ta=25°C)

Characteristics		Symbol	Rating	Unit
Supply Voltage		V_{CC}	25	V
Input Voltage		V_{IN}	V_{CC}	V
Output Current	Peak	I_O(peak)	2	A
	Ave.	I_O(Ave)	1	A
Allowable Power Dissipation		P_D	12.5	W
Operating Temperature		T_{opr}	−30～+75	°C
Storage Temperature		T_{stg}	−55～+150	°C

DBL 2018-C

☐ BLOCK DIAGRAM



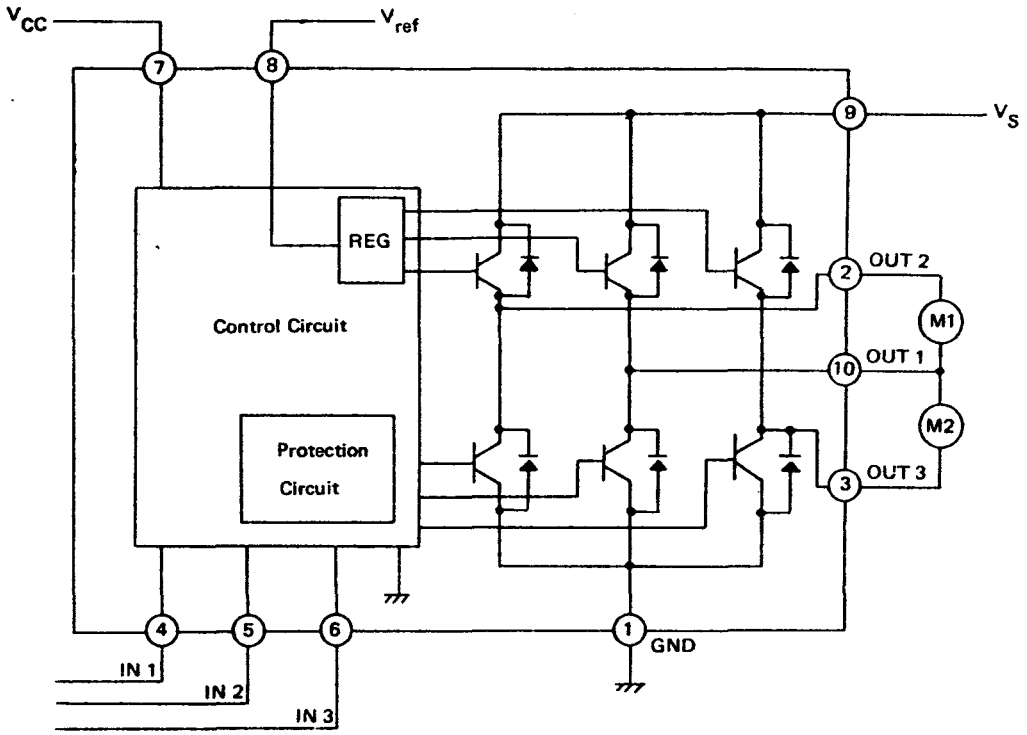
☐ LOGIC TRUTH TABLE

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	∞	CW/CCW	STOP
1	0	1	L	H	∞	CCW/CW	STOP
0	1	0	H	∞	L	STOP	CW/CCW
0	1	1	L	∞	H	STOP	CCW/CW
1	1	1/0	L	L	L	BRAKE	BRAKE

∞ : High Impedance Input Level 'H' : Active

DBL 2018-C

☐ BLOCK DIAGRAM



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1	0	1	L	H	∞	CCW/CW	STOP
0	1	0	H	∞	L	STOP	CW/CCW
0	1	1	L	∞	H	STOP	CCW/CW
1	1	1/0	L	L	L	BRAKE	BRAKE

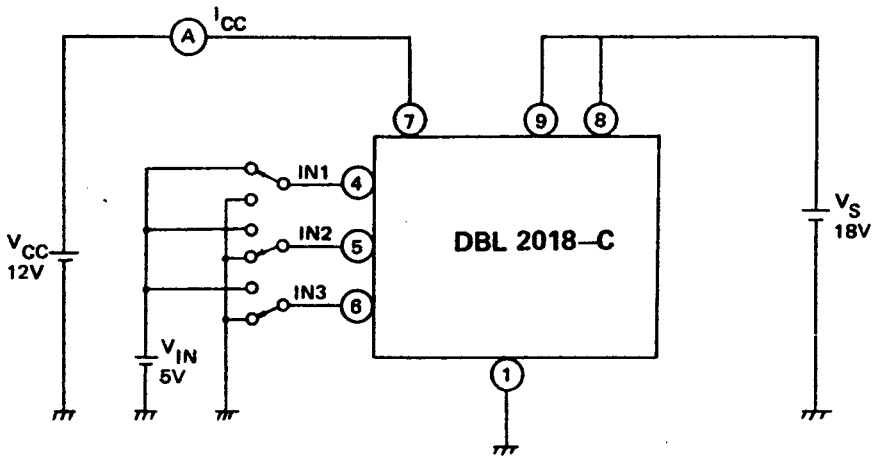
∞ : High Impedance Input Level 'H' : Active

☐ ELECTRICAL CHARACTERISTICS(V_{CC} =12V, V_S =18V, Ta=25°C)

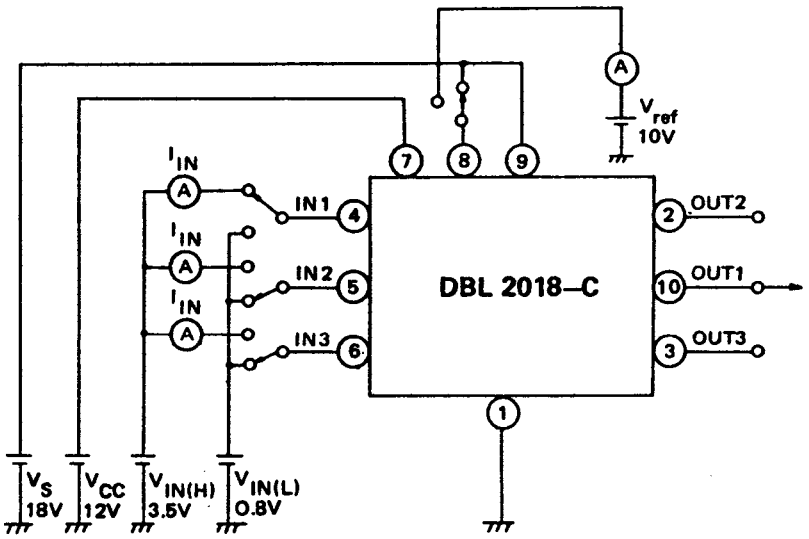
Characteristic		Symbol	Test Circuit	Test Conditions	Min.	Typ.	Max.	Unit
Supply Current		I_{CC1}	1	Output Off CW/CCW	—	17	30	mA
		I_{CC2}	1	Output off brake	—	13	25	mA
Input Voltage	1(High)	V_{IN1}	2	Pin 4,5,6	3.5	—	5.5	V
	2(Low)	V_{IN2}	2	Pin 4,5,6	GND	—	0.8	V
Input Current		I_{IN}	2	Sink V_{IN} =3.5V	—	5	20	μA
Input Hysteresis Range		$\triangle V_T$	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_{01}	3	V_{ref} =10V, I_O =0.5A	10.7	11	11.8	V
		V_{02}	3	V_{ref} =10V, I_O =1.0A	10.4	10.7	11.5	V
Output Tr. Leakage Current	Upper	I_{LU}		V_S =25V	—	—	50	μA
	Lower	I_{LL}		V_S =25V	—	—	50	μA
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	μA

☐ TEST CIRCUITS

1.

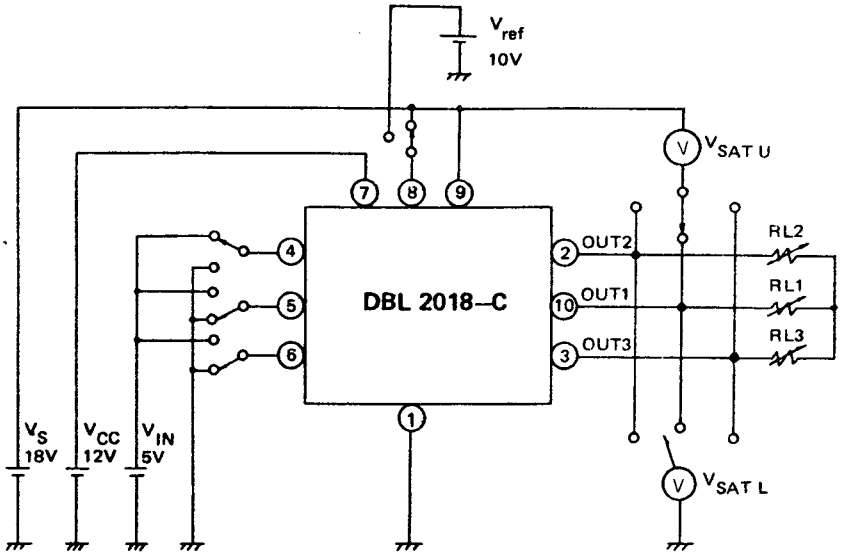


2.



☐ TEST CIRCUITS(Continued)

3.



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

4.