

SANYO

No.863E

LB8050Intermittent Windshield
Wiper Controller**Applications**

Intermittent window wiper, seat belt warning lamp, ajar door warning lamp, timer, Schmitt circuit

Features

Performs all functions required for intermittent wipers.

- Any intermittent time settable
- Delayed wipe coupled with washer operation
- 1 to 2 wipes immediately after turning on intermittent switch
- Relay direct driving capability (500mA peak)
- Wide operating voltage range : 8.0 to 16.0V

Absolute Maximum Ratings at Ta = 25°C

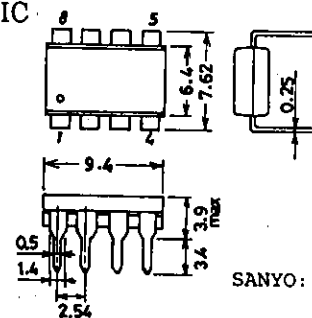
			unit
Maximum Supply Voltage	V _{CC} max	16	V
Maximum Output Voltage	V _{OUT} max	18	V
Maximum Output Current	I _O max1	Output : Darlington connection	See Fig.A.
	I _O max2	Output : Not Darlington connection	See Fig.B.
Output Surge Current	I _O surge	Pulse width : 5msec. or less, repeat cycle : 1sec. or more, V _{CC} = 8 to 16V, Ta = -30 to +80°C	1000 mA
Allowable Power Dissipation	P _d max	See Fig.C.	690 mW
Storage Temperature	T _{opr}	-50 to +125	°C
Operating Temperature	T _{opg}	-30 to +80	°C

Allowable Operating Range at Ta = 25°C

		unit
Operating Voltage Range	V _{CC}	12 ± 4 V

Electrical Characteristics at Ta = 25°C, V_{CC} = 16V

			Test				
unless otherwise specified			Circuit	min	typ	max	unit
Output Current	I _{OH1}	V _{IN} = 5V, V _{WA} = 2V, V _{WI} = 0V, V _{OH} = 16V	1			100	μA
	I _{OH2}	V _{IN} = 5V, V _{WA} = 2V, V _{WI} = 0V, V _{OH} = 16V	1			100	μA
Output 'L'-Level	V _{OL1}	V _{CC} = 6.4V, I _{O1} = 0.3A, I _{O2} = 4mA, V _{WA} = 0V, V _{WI} = 0V	2			2.1	V
	V _{OL2}	V _{CC} = 6.4V, I _{O1} = 0.3A, I _{O2} = 4mA, V _{WA} = 0V, V _{WI} = 0V	2			1.6	V

Package Dimensions 3001B-D8IC
(unit: mm)

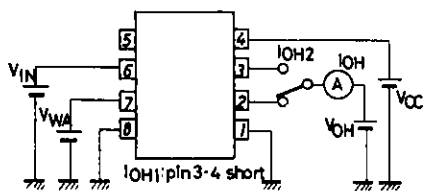
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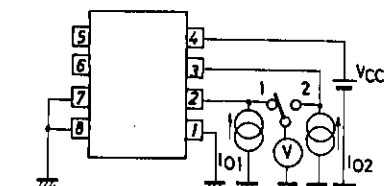
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			Test Circuit	min	typ	max	unit
Input 'H'-Level	V_{IH1}	$I_{WA} = 50\mu A, V_{WI} = 0V$	3	4.7		6.8	V
	V_{IH2}	$I_{IN} = -1mA, V_{WA} = V_{WI} = 0V$	4	13.2		15.4	V
	V_{IH3}	$I_{IN} = -1mA, V_{WI} = 2V, V_{WA} = 0V$	5	13.2		15.4	V
	V_{IH4}	$I_{IN} = -1mA, V_{WA} = V_{WI} = 2V$	6	5.6		8.6	V
Input Current	I_{IH1}	$V_{IN} = 7V, V_{WA} = 2V, V_{WI} = 0V$	7			20	μA
	I_{IH2}	$V_{CC} = 6.4V, V_{IN} = 2.2V, V_{WI} = 0V$	8			2	μA
	I_{WA}	$V_{WA} = 10V$	9	5		10	mA
	I_{WI}	$V_{WI} = 10V$	10	5		10	mA
Supply Current	$I_{CC1 ON}$	$V_{WA} = V_{WI} = 0V$	11	5		13	mA
	$I_{CC2 OFF}$	$V_{WA} = V_{WI} = 2V$	12	4		9	mA
	$I_{CC3 OFF}$	$V_{WA} = 2V, V_{WI} = 0V$	13	4		8.5	mA

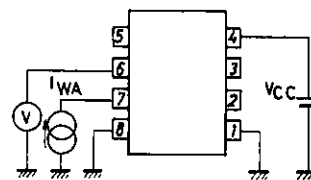
Test Circuits



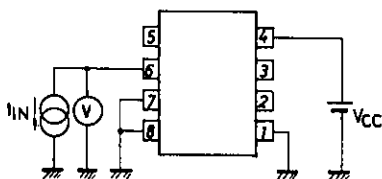
Test Circuit 1 : I_{OH1}, I_{OH2}



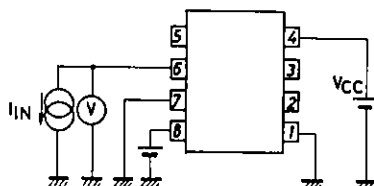
Test Circuit 2 : $V_{OL1}, V_{OL2}, SW_1, SW_2$



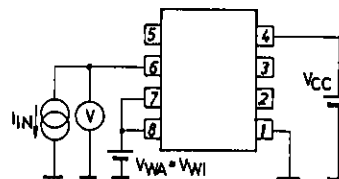
Test Circuit 3 : V_{IH1}



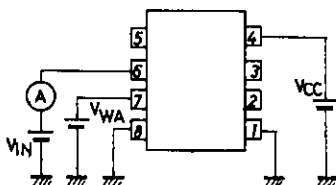
Test Circuit 4 : V_{IH2}



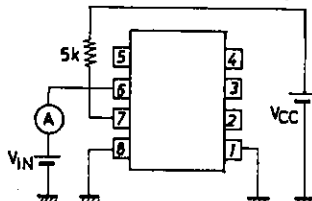
Test Circuit 5 : V_{IH3}



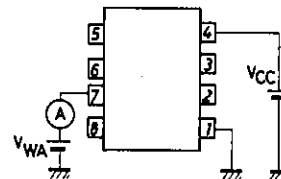
Test Circuit 6 : V_{IH4}



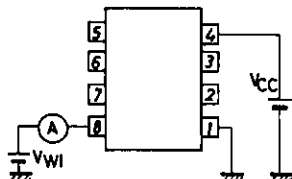
Test Circuit 7 : I_{IH1}



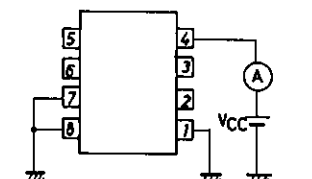
Test Circuit 8 : I_{IH2}



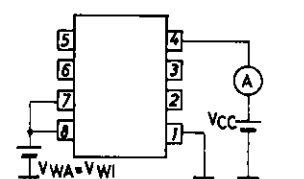
Test Circuit 9 : I_{WA}



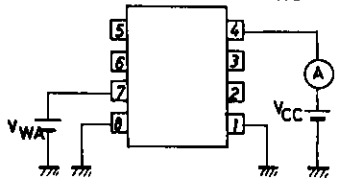
Test Circuit 10 : I_{WI}



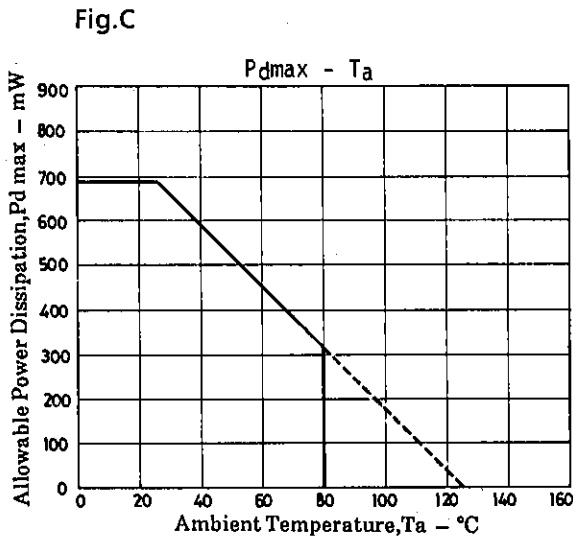
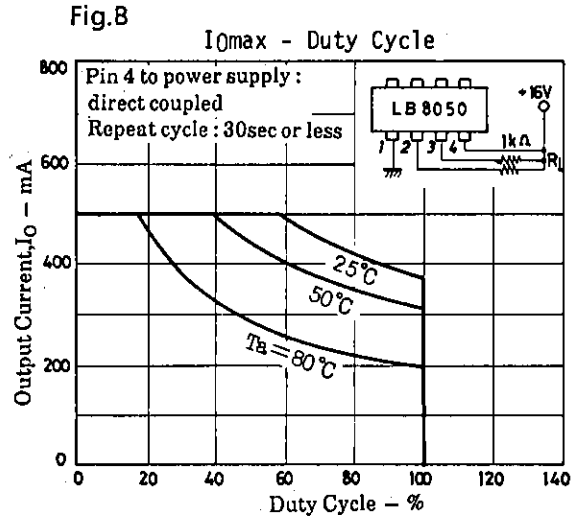
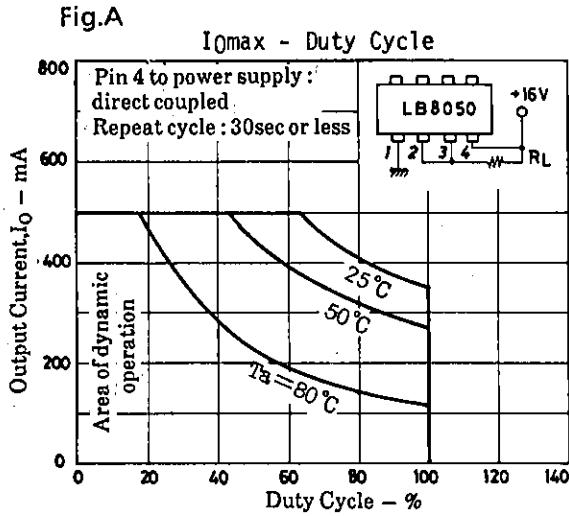
Test Circuit 11 : $I_{CC1 ON}$



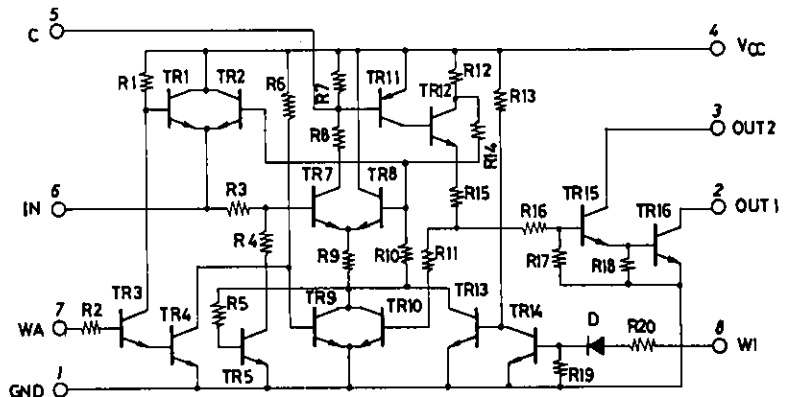
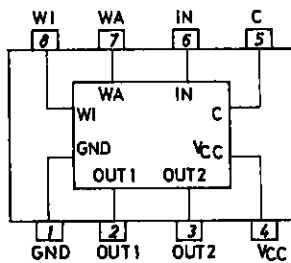
Test Circuit 12 : $I_{CC2 OFF}$



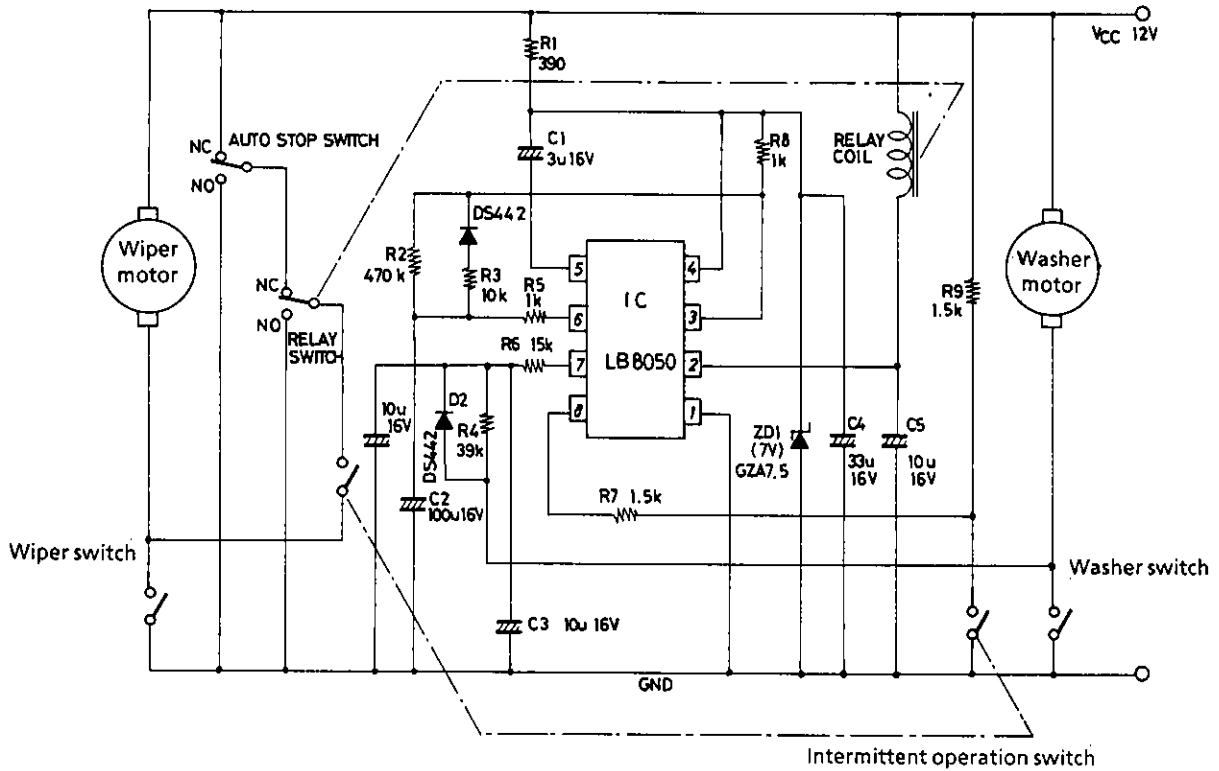
Test Circuit 13 : $I_{CC3 OFF}$



Equivalent Circuit and Block Diagram



Sample Application Circuit : Asynchronous intermittent wiper control



Unit (resistance: Ω , capacitance: F)

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