

<b>SANYO</b>	No.2061B	LB1475M
	2-Wire Type Wired Remote Controller	

**Features**

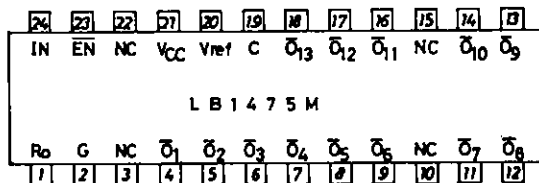
- . Capable of performing remote controls of 13 kinds due to 13 control outputs
- . Only 2 wires required between set and remote control box
- . On-chip one-shot multivibrator to reject chattering at the time of switch changeover (One-shot time constant is varied externally.)
- . Even if 2 or more switches are pushed simultaneously, first pushed switch's input only is effective because of internal memory.
- . Only one adjustment required
- . Capable of outputting with  $\overline{EN}$  (enable) pin at all times ( $\overline{EN}=0V$ . If one-shot time constant is not required, C pin=0V.)
- . Usable in indicator applications because of output capable of driving LED sufficiently

Absolute Maximum Ratings at $T_a=25^\circ C$		Pin No.	unit
Maximum Supply Voltage	$V_{CC}$	21	-0.3 to +18 V
Output Current $\overline{O1}$ to $\overline{O13}$	$I_{OL\overline{O1}}$ to $\overline{O13}$	4 to 9 11 to 14 16 to 18	Output ON 30 mA
Output Current C	$I_{OLC}$	19	Output ON 10 mA
Allowable Power Dissipation	$P_{d\max}$		$T_a=75^\circ C$ 250 mW
Operating Temperature	$T_{opr}$		-30 to +75 $^\circ C$
Storage Temperature	$T_{stg}$		-40 to +125 $^\circ C$

Allowable Operating Conditions at $T_a=25^\circ C$		Pin No.	unit
Supply Voltage Range	$V_{CC}$	21	Sample Application Circuit 1 8.5 to 16 V (8.0)*
			Sample Application Circuit 2 8.0 to 16 V

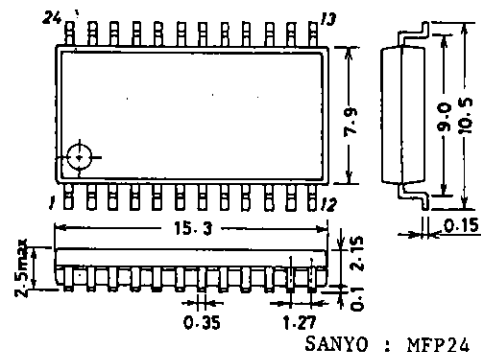
\*:  $V_{CC}=8V$  applies in case where adjustment is made with semifixed resistor so that  $V_{RO}=7.6$  is obtained at  $V_{CC}=9V$  in Sample Application Circuit 1.

**Pin Assignment**



**Package Dimensions 3045B**

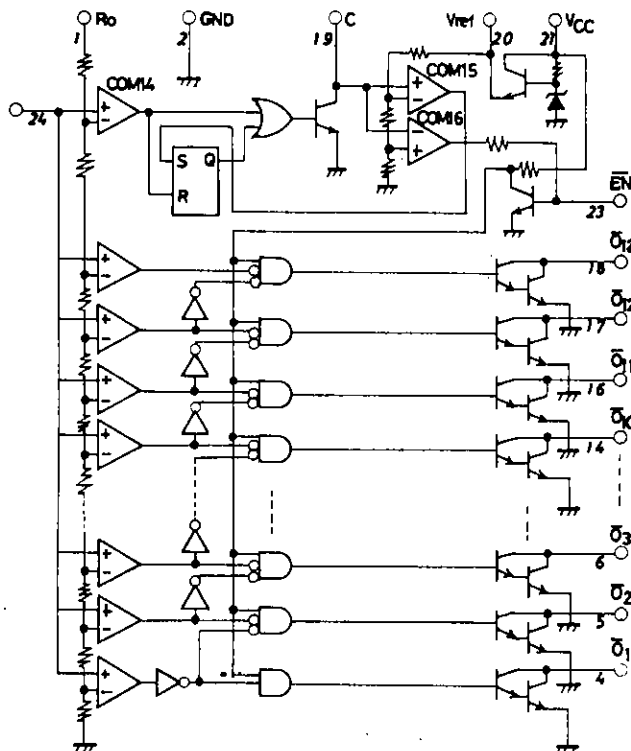
unit: mm



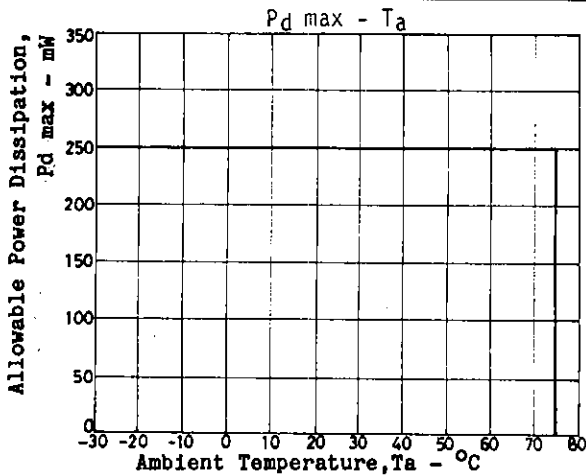
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Electrical Characteristics at $V_{CC}=9V, T_a=25^{\circ}C$	Pin No.	min	typ	max	unit
Input Bias Current $I_{IN}$	24 $V_{IN}=0V$	-1		0	$\mu A$
Output Saturation Voltage $V_{sat}$	$\bar{O}1$ to $\bar{O}13$ $V_{sat\bar{O}1}$ to $\bar{O}13$		1.2	1.7	V
"	"				
Output Leakage Current $I_{OFF}$	$\bar{O}1$ to $\bar{O}13$ $I_{OFF\bar{O}1}$ to $\bar{O}13$		0	10	$\mu A$
Comparator Level	$\bar{O}1$ $V_{TO1}$	4 $V_{RO}=7.6V$	1.515	1.6	1.685 V
"	$\bar{O}2$ $V_{TO2}$	5 "	1.915	2.0	2.085 V
"	$\bar{O}3$ $V_{TO3}$	6 "	2.32	2.4	2.48 V
"	$\bar{O}4$ $V_{TO4}$	7 "	2.72	2.8	2.88 V
"	$\bar{O}5$ $V_{TO5}$	8 "	3.125	3.2	3.275 V
"	$\bar{O}6$ $V_{TO6}$	9 "	3.525	3.6	3.675 V
"	$\bar{O}7$ $V_{TO7}$	11 "	3.93	4.0	4.07 V
"	$\bar{O}8$ $V_{TO8}$	12 "	4.33	4.4	4.47 V
"	$\bar{O}9$ $V_{TO9}$	13 "	4.735	4.8	4.865 V
"	$\bar{O}10$ $V_{TO10}$	14 "	5.135	5.2	5.265 V
"	$\bar{O}11$ $V_{TO11}$	16 "	5.54	5.6	5.66 V
"	$\bar{O}12$ $V_{TO12}$	17 "	5.94	6.0	6.06 V
"	$\bar{O}13$ $V_{TO13}$	18 "	6.345	6.4	6.455 V
Comparator Level Fall Reference Voltage $V_{TC14}$	$V_{TC14}$	$V_{RO}=7.6V$	6.7	6.8	6.9 V
One-shot Multivibrator Threshold Voltage	$V_{TC1}$	$V_{ref}=7.2V$	0.617	1.055	V
"	$V_{TC2}$	"	3.97	5.03	V
Output Leakage Current C $I_{offC}$	19 $V_C=3V$	-5		5	$\mu A$
Output Saturation Voltage C $V_{satC}$	19 $I_{OLC}=100\mu A$			30	mA
$\bar{EN}$ Pin Threshold Voltage $V_{TEN}$	23 $V_{IN}=9V$	0.4	0.6	0.9	V
$\bar{EN}$ Pin Flow-out Current $I_{OHEN}$	23 $V_{RO}=7.6V$		40	80	$\mu A$
Internal Resistance $R_O$	1	6.5	9.5	12.5	kohm
Current Dissipation $I_{CC}$	21		5	9	mA

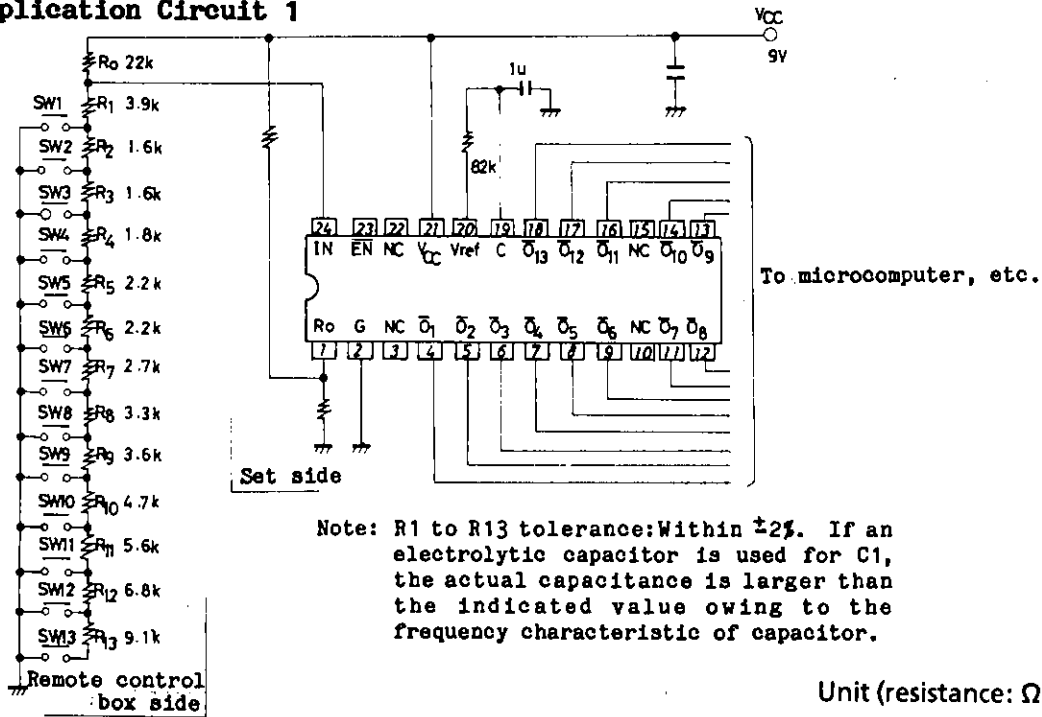
Equivalent Circuit Block Diagram



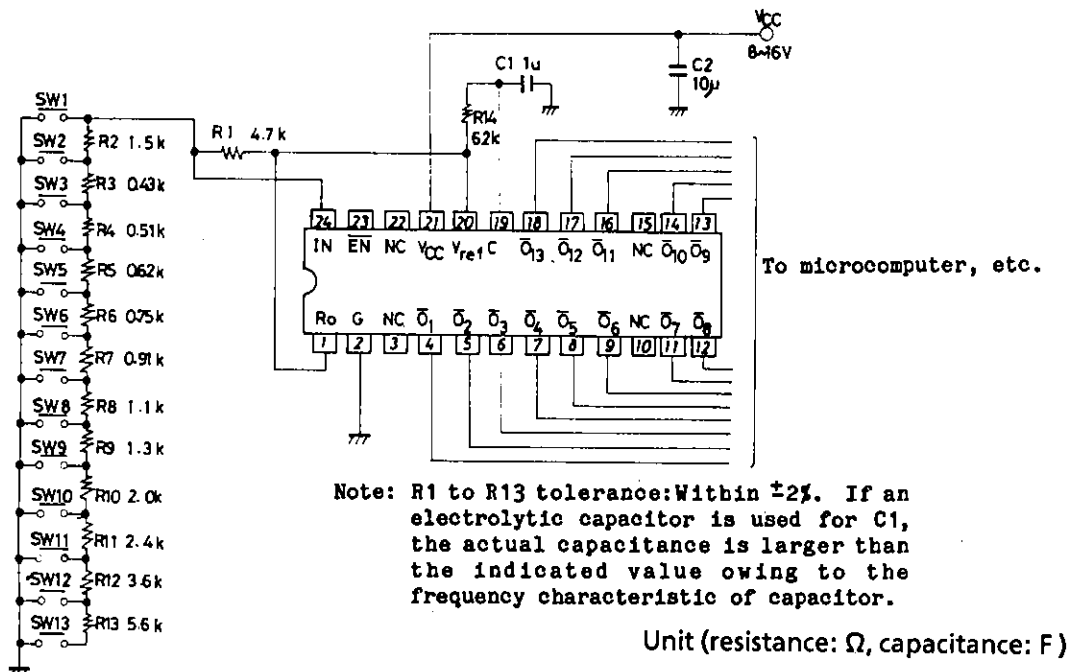
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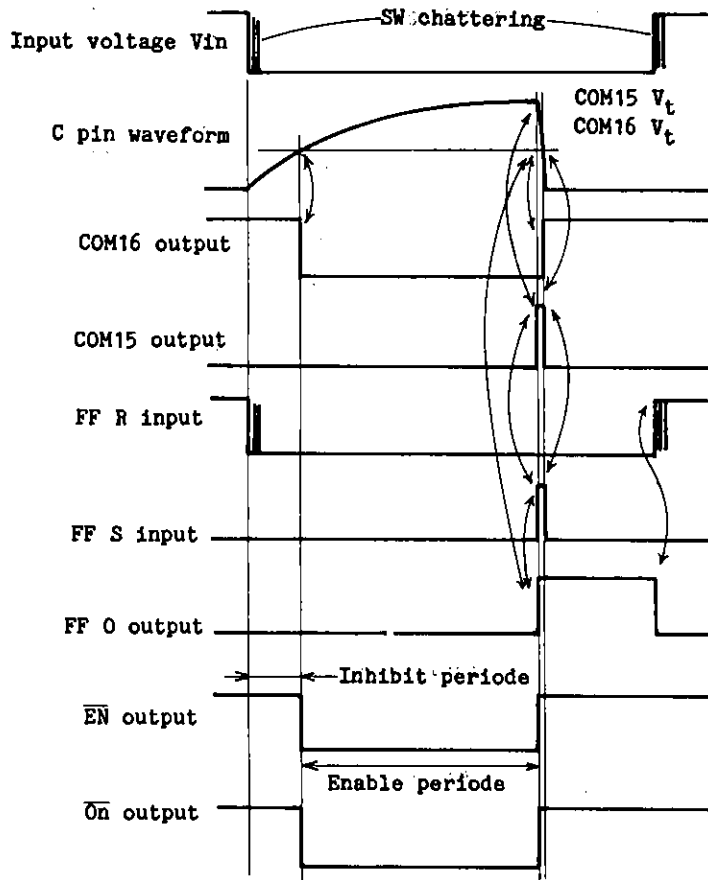
Sample Application Circuit 1



Sample Application Circuit 2



## LB1475M Timing Chart



Note: Chattering and switch input not covered by enable period do not appear at output  $\bar{O}n$ . In other words, chattering and switch input covered by enable period appear at output  $\bar{O}n$ .

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