

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

**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 Ta=25°C**

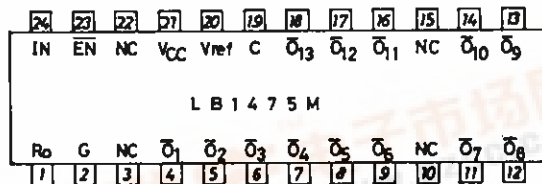
		Pin No.		unit
Maximum Supply Voltage	$V_{CC}$	21	-0.3 to +18	V
Output Current $\overline{O1}$ to $\overline{O13}$	$I_{OL\overline{O1}}$ to $\overline{O13}$	4 to 9 11 to 14 16 to 18	Output ON	30 mA
Output Current C	$I_{OLC}$	19	Output ON	10 mA
Allowable Power Dissipation	$P_d \max$		Ta=75°C	250 mW
Operating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

**Allowable Operating Conditions at Ta=25°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

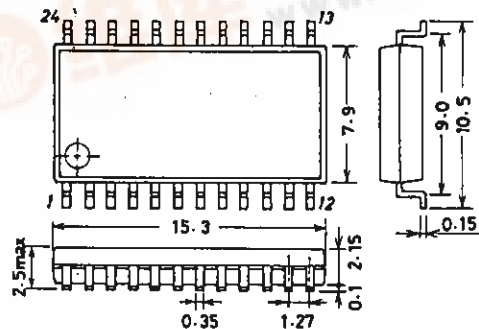
\*:  $V_{CC}=8V$  applies in case where adjustment is made with semifixed resistor so that  $V_{RO}=7.6$  is obtained at  $V_{CC}=9V$  in Sample Application Circuit 1.

**Pin Assignment**



**Package Dimensions 3045B**

unit: mm



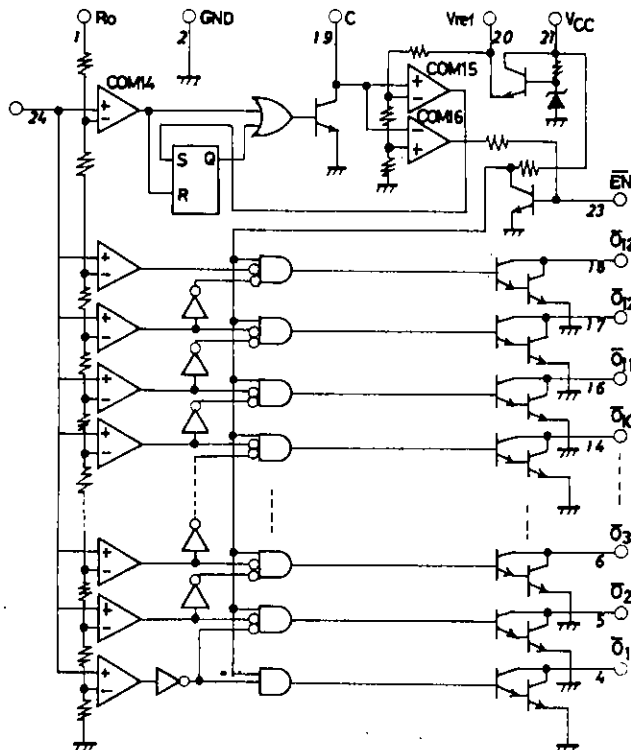
SANYO : MFP24



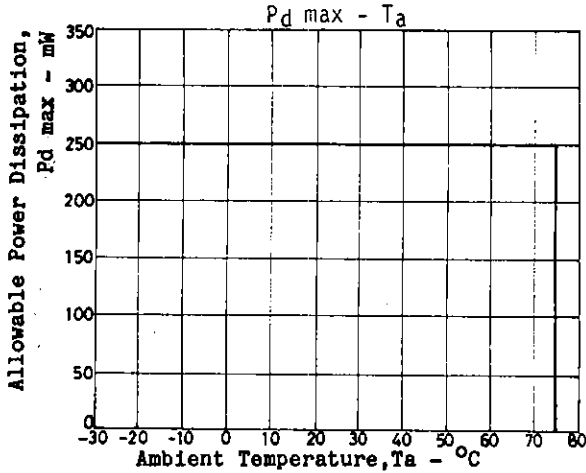
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Electrical Characteristics at $V_{CC}=9V, T_a=25^{\circ}C$		Pin No.	min	typ	max	unit
Input Bias Current	$I_{IN}$	24 $V_{IN}=0V$	-1		0	$\mu A$
Output Saturation Voltage	$V_{sat01}$ to $013$	4 to 9 Output ON 11 to 14 $I_{OLon}=30mA$ 16 to 18		1.2	1.7	V
"	"	"		0.8	1.2	V
Output Leakage Current	$I_{OFF01}$ to $013$	" Output OFF	0		10	$\mu A$
Comparator Level	$01$ $V_{T01}$	4 $V_{RO}=7.6V$	1.515	1.6	1.685	V
"	$02$ $V_{T02}$	5 "	1.915	2.0	2.085	V
"	$03$ $V_{T03}$	6 "	2.32	2.4	2.48	V
"	$04$ $V_{T04}$	7 "	2.72	2.8	2.88	V
"	$05$ $V_{T05}$	8 "	3.125	3.2	3.275	V
"	$06$ $V_{T06}$	9 "	3.525	3.6	3.675	V
"	$07$ $V_{T07}$	11 "	3.93	4.0	4.07	V
"	$08$ $V_{T08}$	12 "	4.33	4.4	4.47	V
"	$09$ $V_{T09}$	13 "	4.735	4.8	4.865	V
"	$010$ $V_{T010}$	14 "	5.135	5.2	5.265	V
"	$011$ $V_{T011}$	16 "	5.54	5.6	5.66	V
"	$012$ $V_{T012}$	17 "	5.94	6.0	6.06	V
"	$013$ $V_{T013}$	18 "	6.345	6.4	6.455	V
Comparator Level Fall Reference Voltage	$V_{TC14}$ $V_{ref}$	20 $V_{RO}=7.6V$	6.7 5.6	6.8 6.3	6.9 7.0	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
$\overline{EN}$ Pin Threshold Voltage	$V_{TEN}$	23 $V_{IN}=9V$ $V_{RO}=7.6V$	0.4	0.6	0.9	V
$\overline{EN}$ Pin Flow-out Current	$I_{OHEN}$	23 "	40	80	160	$\mu A$
Internal Resistance	$R_O$	1	6.5	9.5	12.5	kohm
Current Dissipation	$I_{CC}$	21		5	9	mA

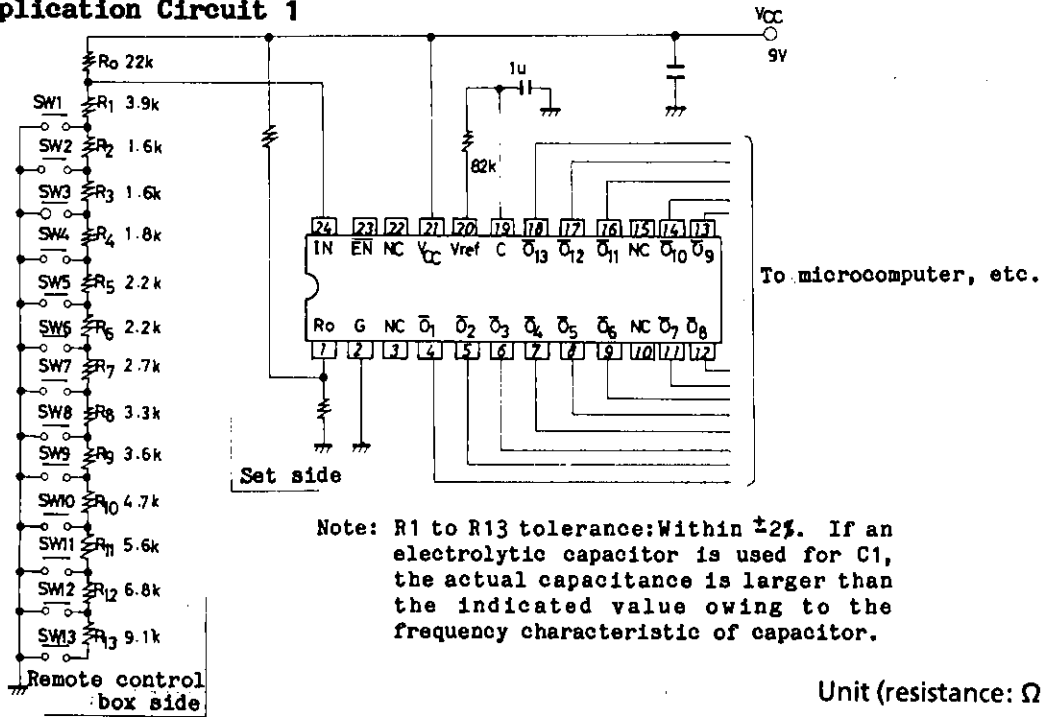
Equivalent Circuit Block Diagram



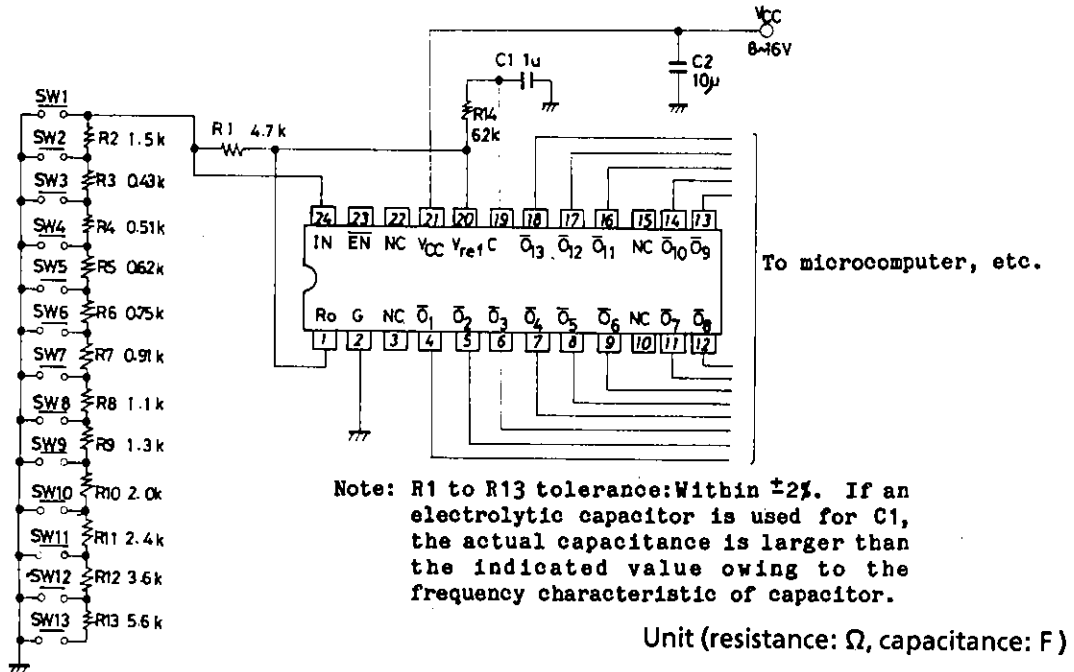
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**Sample Application Circuit 1**

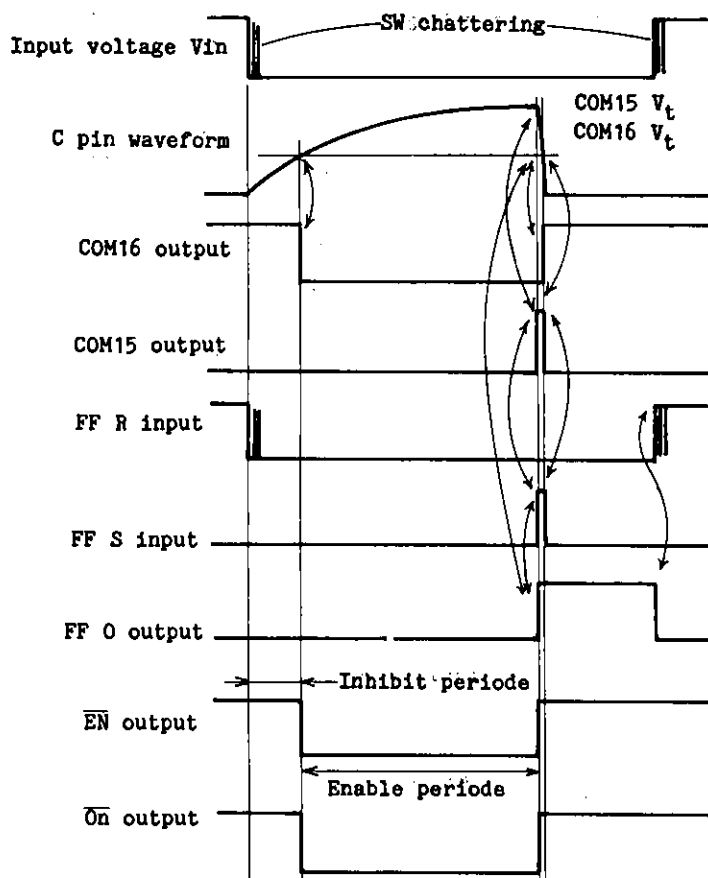


**Sample Application Circuit 2**



# LB1475M

## LB1475M Timing Chart



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

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