Ordering number: EN 2061B

Monolithic Digital IC

SANYO 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 Ta=25°C

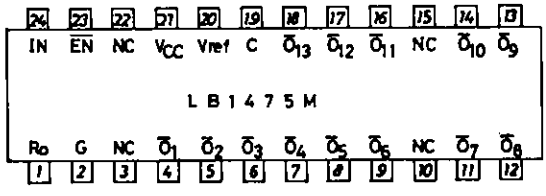
		Pin No.			unit
Maximum Supply Voltage	V_{CC}	21		-0.3 to +18	V
Output Current $\overline{O1}$ to $\overline{O13}$	$I_{OL\overline{O1}}$ to $\overline{O13}$	4 to 9 11 to 14 16 to 18	Output ON	30	mA
Output Current C	I_{OLC}	19	Output ON	10	mA
Allowable Power Dissipation	Pd max		Ta=75°C	250	mW
Operating Temperature	Topr			-30 to +75	°C
Storage Temperature	Tstg			-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 (8.0)*	V
			Sample Application Circuit 2	8.0 to 16	V

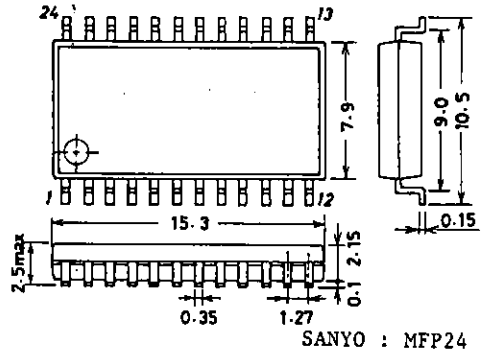
*: V_{CC}=8V applies in case where adjustment is made with semifixed resistor so that V_{RO}=7.6 is obtained at V_{CC}=9V in Sample Application Circuit 1.

Pin Assignment



Package Dimensions 3045B

unit: mm

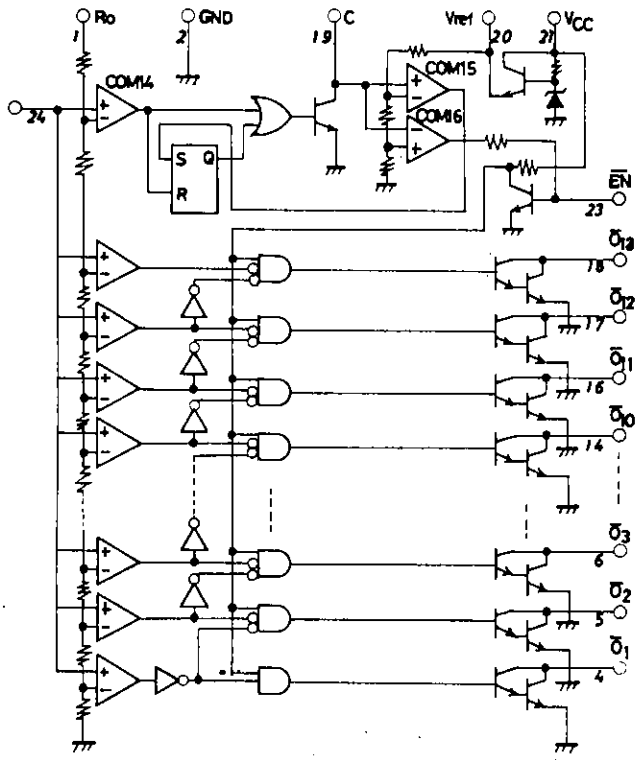


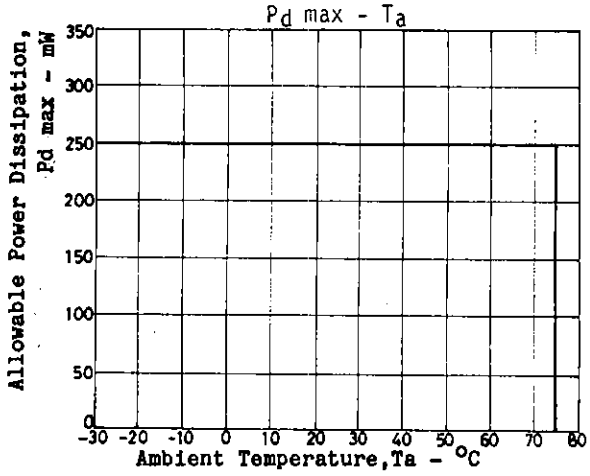
SANYO : MFP24

Electrical Characteristics at V_{CC}=9V, Ta=25°C

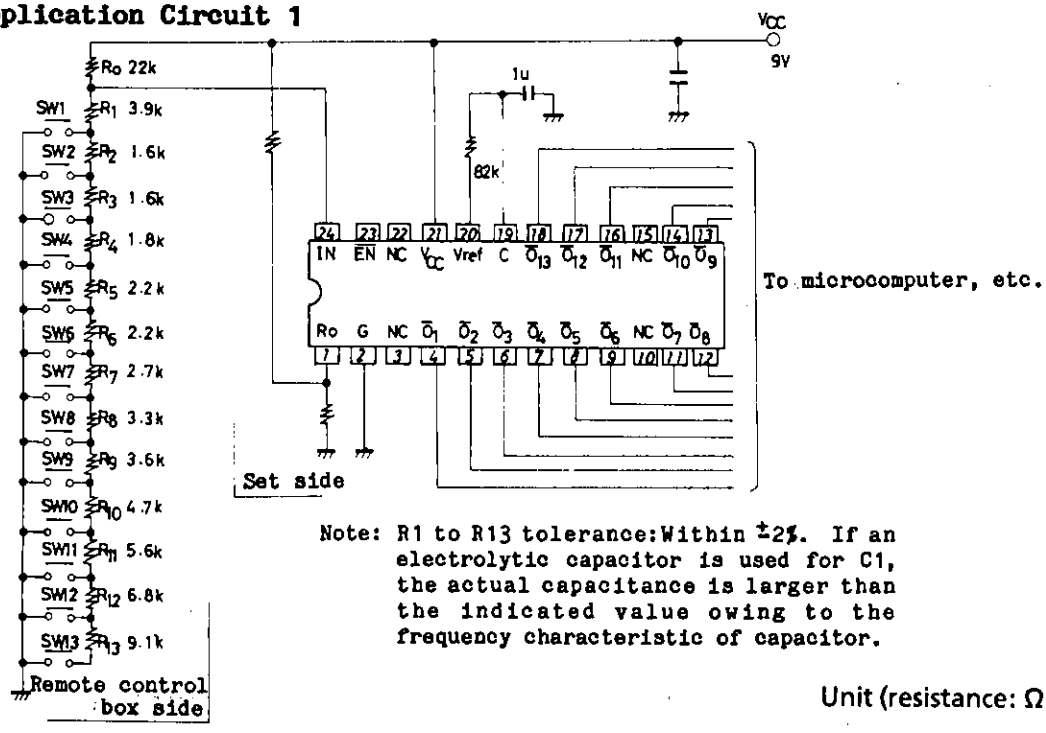
			Pin No.		min	typ	max	unit
Input Bias Current		I_{IN}	24	V_{IN}=0V	-1		0	μA
Output Saturation Voltage	$\overline{01}$ to $\overline{013}$	$V_{sat\overline{01}}$ to $\overline{013}$	4 to 9, 11 to 14, 16 to 18	Output ON, $I_{OL\overline{on}}$=30mA		1.2	1.7	V
"		"	"	Output ON, $I_{OL\overline{on}}$=2mA		0.8	1.2	V
Output Leakage Current	$\overline{01}$ to $\overline{013}$	$I_{OFF\overline{01}}$ to $\overline{013}$	"	Output OFF	0		10	μA
Comparator Level		$V_{T\overline{01}}$	4	V_{RO}=7.6V	1.515	1.6	1.685	V
"		$V_{T\overline{02}}$	5	"	1.915	2.0	2.085	V
"		$V_{T\overline{03}}$	6	"	2.32	2.4	2.48	V
"		$V_{T\overline{04}}$	7	"	2.72	2.8	2.88	V
"		$V_{T\overline{05}}$	8	"	3.125	3.2	3.275	V
"		$V_{T\overline{06}}$	9	"	3.525	3.6	3.675	V
"		$V_{T\overline{07}}$	11	"	3.93	4.0	4.07	V
"		$V_{T\overline{08}}$	12	"	4.33	4.4	4.47	V
"		$V_{T\overline{09}}$	13	"	4.735	4.8	4.865	V
"		$V_{T\overline{010}}$	14	"	5.135	5.2	5.265	V
"		$V_{T\overline{011}}$	16	"	5.54	5.6	5.66	V
"		$V_{T\overline{012}}$	17	"	5.94	6.0	6.06	V
"		$V_{T\overline{013}}$	18	"	6.345	6.4	6.455	V
Comparator Level Fall		V_{TC14}		V_{RO}=7.6V	6.7	6.8	6.9	V
Reference Voltage		Vref	20		5.6	6.3	7.0	V
One-shot Multivibrator Threshold Voltage		V_{TC1}		Vref=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	μA
Output Saturation Voltage C		V_{satC}	19	I_{OLC}=100μA			30	mA
$\overline{EN}$ Pin Threshold Voltage		$V_{T\overline{EN}}$	23	V_{IN}=9V, V_{RO}=7.6V	0.4	0.6	0.9	V
$\overline{EN}$ Pin Flow-out Current		$I_{OH\overline{EN}}$	23	"	40	80	160	μA
Internal Resistance		R_O	1		6.5	9.5	12.5	kohm
Current Dissipation		I_{CC}	21			5	9	mA

Equivalent Circuit Block Diagram





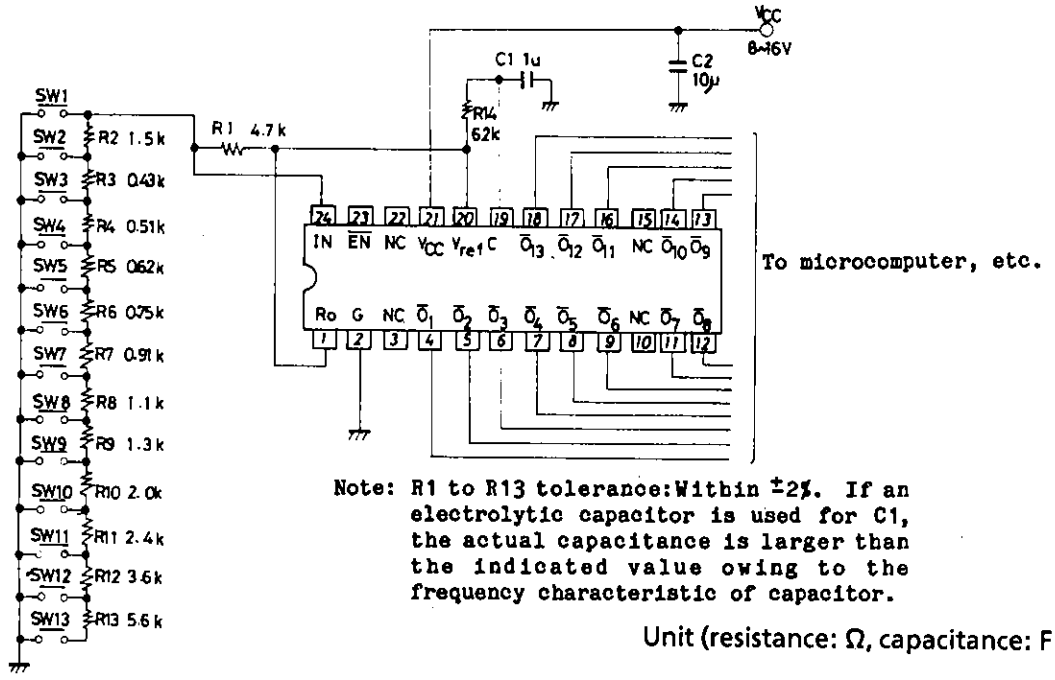
Sample Application Circuit 1



Note: R1 to R13 tolerance: Within ±2%. If an electrolytic capacitor is used for C1, the actual capacitance is larger than the indicated value owing to the frequency characteristic of capacitor.

Unit (resistance: Ω)

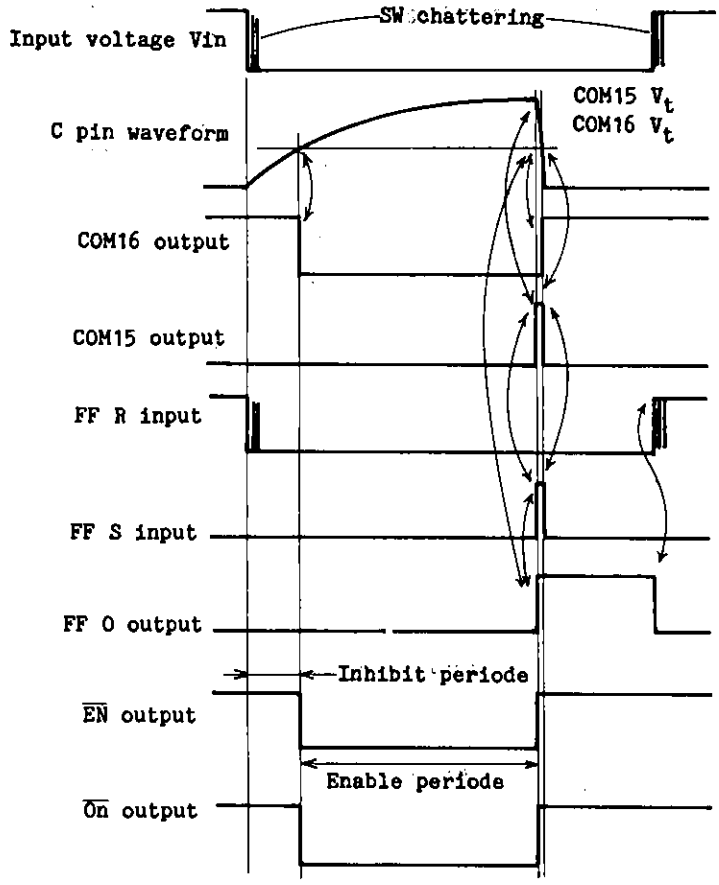
Sample Application Circuit 2



Note: R1 to R13 tolerance: Within ±2%. If an electrolytic capacitor is used for C1, the actual capacitance is larger than the indicated value owing to the frequency characteristic of capacitor.

Unit (resistance: Ω, capacitance: F)

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 $\overline{On}$.