

**LB1450****LED Tuning Indicator****Use**

Indicates tuning condition of FM receiver by means of 5 mode – 3 LEDs.

Features

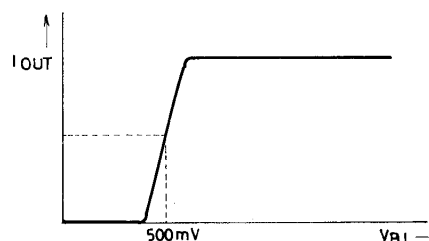
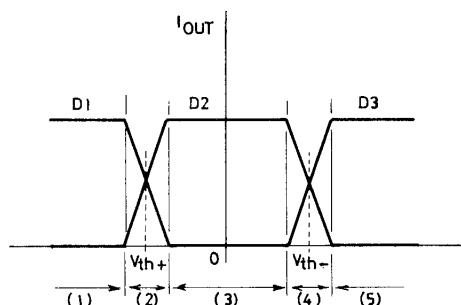
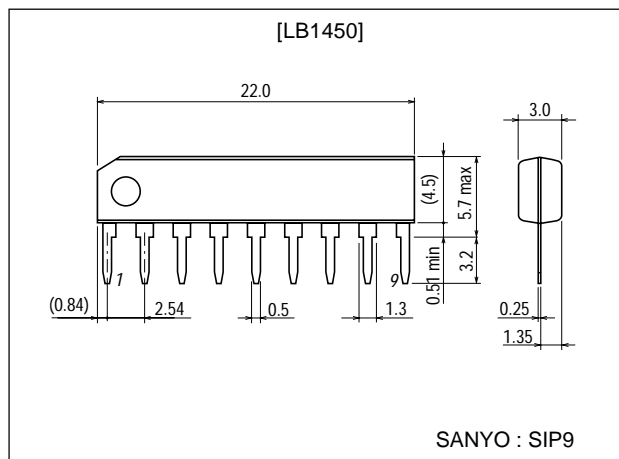
- 3 LEDs display 5 mode tuning condition.
Since the LEDs are driven under constant current supply, the LED current varies as shown below when two LEDs are lighted on simultaneously. This causes their brightness to vary, and enables the dynamic indication.
- Desired tuning width can be set as the threshold width of window comparator is variable externally.
- No switching radiation can be made as LED current changes over linearly.
- Blanking at station interval and AM reception is easy to set by blanking pin.
- Direct interface can be made to IF IC using quadrature detector (ex. LA1231, LA1140, etc.)
- Single-ended 9 pin package with small mounting area.

mode	LED light- ing mode	tuning condition
(1)	▶ ○ ◁	(-) detuned
(2)	▨ ● ◁	semituned
(3)	▷ ● ▷	tuned
(4)	▷ ● ▨	semi tuned
(5)	▷ ○ ◁	(+) detuned
(6)	▷ ○ ◁	lighted off

Package Dimensions

unit:mm

3017D-SIP9



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SANYO Electric Co.,Ltd. Semiconductor Company

TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110-8534 JAPAN

22801TN (KT)/20295HK/7097KI/7213KI/D190KI No.730-1/4

Specifications

Absolute Maximum Ratings at $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC\text{ max}}$		18	V
Maximum input voltage	V_{INR}	$V_{CC} > V_{INR}$	-0.3 to +16	V
	V_{IN}	$V_{CC} > V_{IN}$	-0.3 to +16	V
	V_{cont}		-0.3 to +4	V
	V_{BL}	$V_{CC} > V_{BL}$	-0.3 to +16	V
Maximum output voltage	V_{OUT}	Pin 2, 3, 4	16	V
Allowable power dissipation	$P_d\text{ max}$	$T_a = 60^{\circ}\text{C}$	500	mW
Operating temperature	T_{opr}		-20 to +70	$^{\circ}\text{C}$

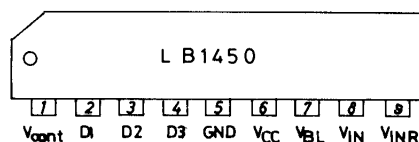
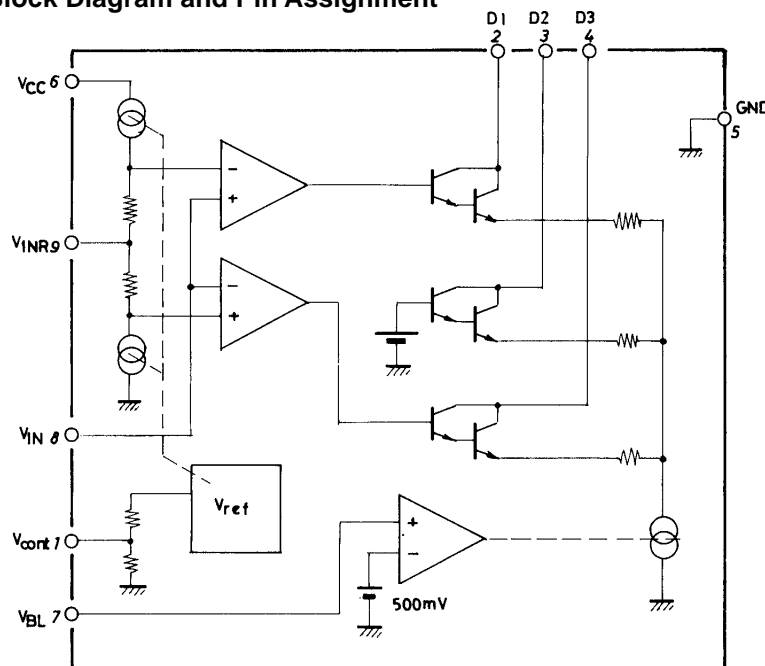
Allowable Operating Ranges at $T_a = 25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		8 to 16	V
Tuning indicaiton voltage width	V_T		200	mV

Electrical Characteristics at $T_a = 25^{\circ}\text{C}$, $V_{CC} = 12\text{V}$

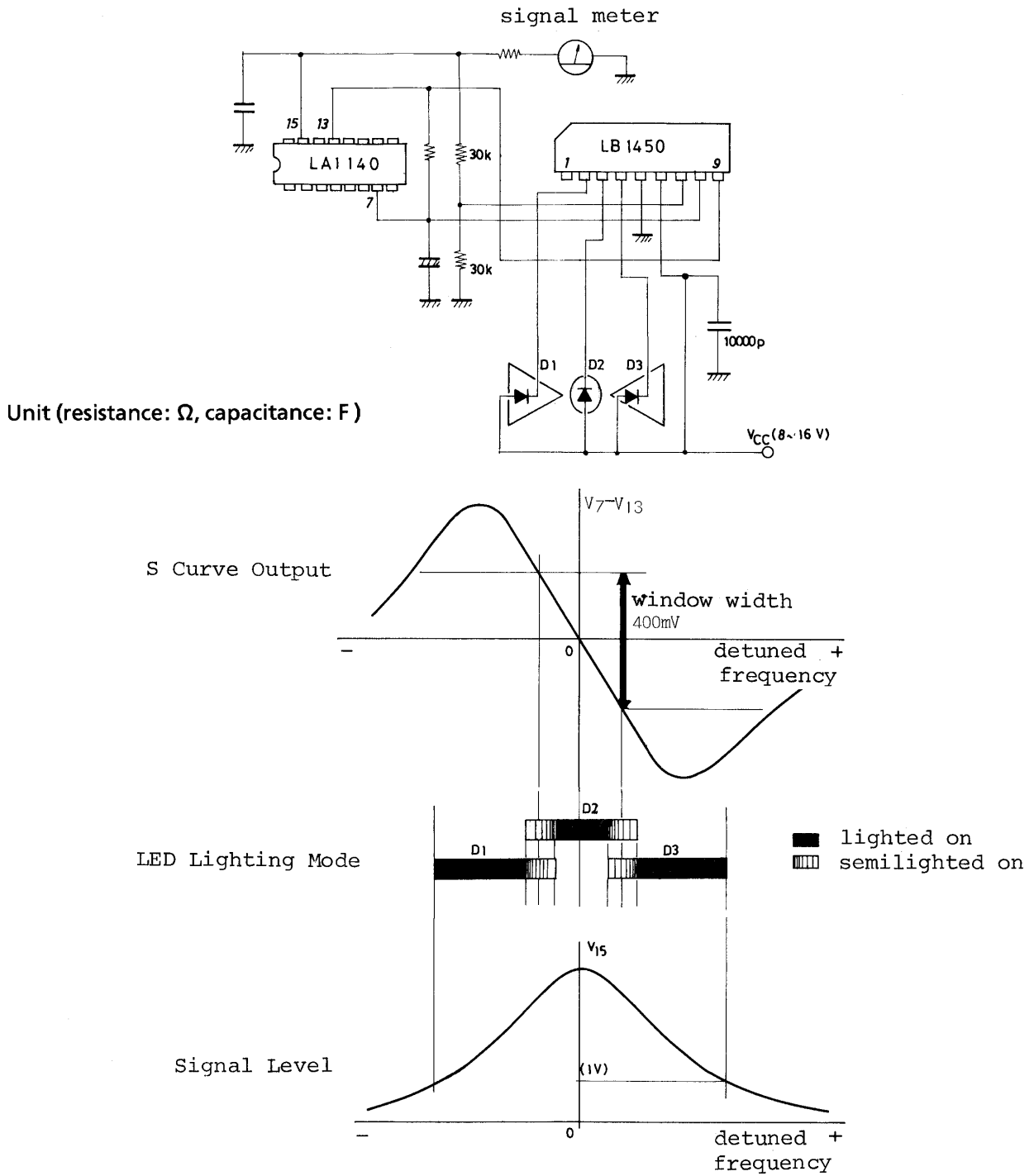
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Input bias current	I_{IN}		-2		0	μA
	I_{INR}		-20		+20	μA
	I_{INBL}		-2		0	μA
Threshold voltage	V_{th+}	$V_{IN} - V_{INR}$	150	200	250	mV
	V_{th-}	$V_{IN} - V_{INR}$	-250	-200	-150	mV
Simultaneous lighting width	V_w		30	50	100	mV
Output current	$I_{OUT1},$ $I_{OUT2},$ I_{OUT3}		11	18	25	mA
	$V_{BL(L)}$		360	430	500	mV
	$V_{BL(H)}$		410	500	550	mV
Output leak current	I_{OFF}				10	μA
Current drain	I_{CC}	LED current excluded	3.0	3.8	5.6	mA

Equivalent Circuit Block Diagram and Pin Assignment



LB1450

Application : The case of window width 400mV typ. ($\pm 200\text{mV}$) and interstation blanking.



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