

**LB1408****Level Meter**

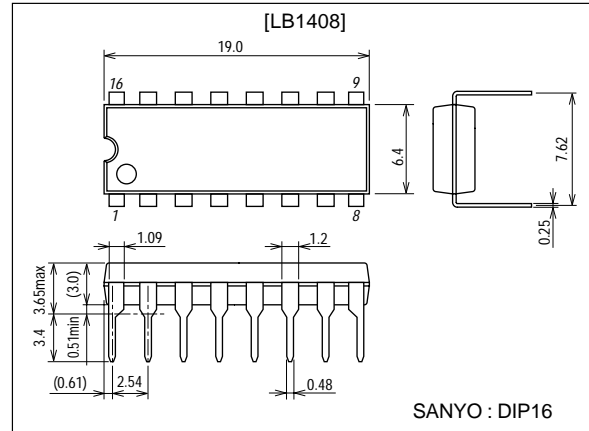
Features

- An input amplifier is built in.
- Minimum number of external parts required.
- Low current dissipation because of series connection of LED's.

Package Dimensions

unit:mm

3006C-DIP16



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max	(Pin 3)	-0.3 to +18.0	V
Maximum input voltage	V_{IN} max	(Pin 2)	-0.3 to V_{CC}	V
D pin output current	I_D max	Output transistor ON	0 to +30	mA
D pin output voltage	V_D max		-0.3 to V_{CC}	V
Reference flow-out current	I_{ref} max	(Pin 4)	-0.3 to 0	mA
Allowable power dissipation	P_d max		1.2	W
Operating temperature	T_{opr}		-30 to +80	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +125	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings	Unit
Supply voltage	V_{CC}		6.7 to 16.0	V

Electrical Characteristics at $T_a = 25^\circ\text{C}$

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current drain	I_{CC}	Quiescent, pin 3 3.3k Ω across I_{LED1} and V_{ref}		4	8	mA
Input bias current	I_{IN}	Pin 2	-10		0	μA
Reference voltage	V_{ref}	Pin 4	4.40	4.85	5.30	V

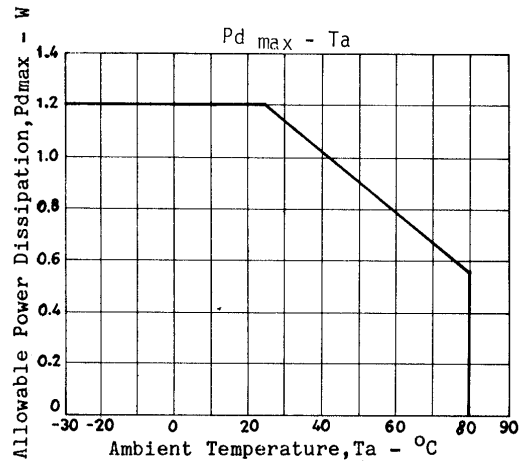
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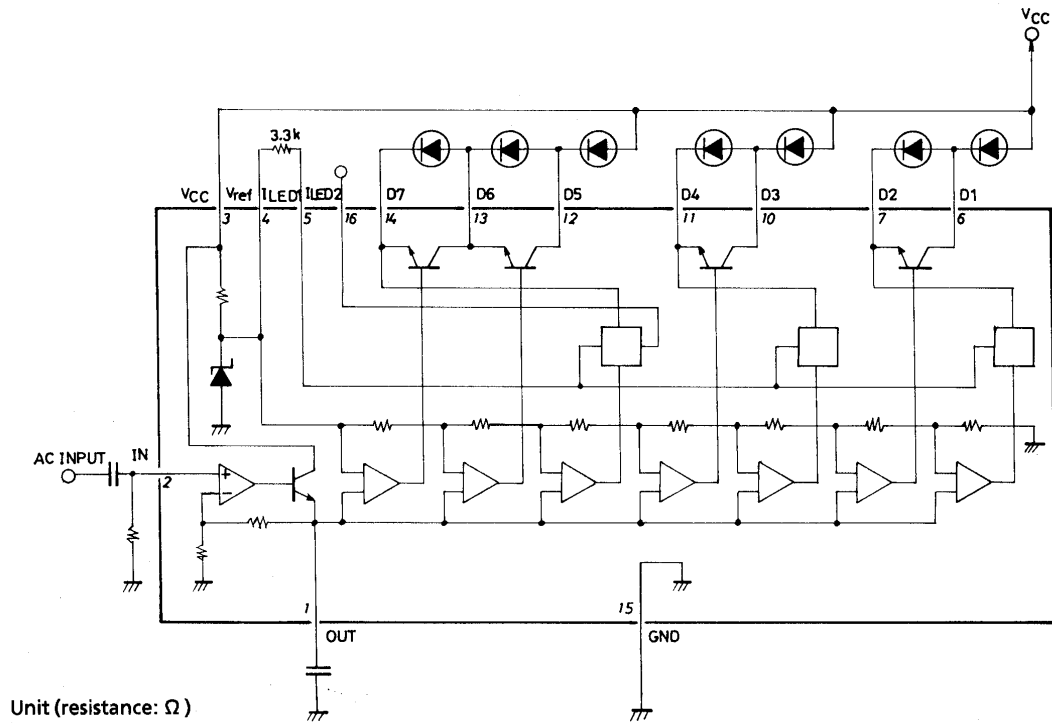
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Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
D pin current 1	$I_{D2, 4, 7}$	3.3k Ω across I_{LED1} and Vref I_{LED2} =GND, pins 7, 11, 14	12	16	19	mA
Output saturation voltage	V_{satD} 1, 3, 5, 6	I_{LED2} =GND, pins 6, 10, 12, 13		1.0	1.3	V
D pin current 2	$I_{D2, 4, 7}$	I_{LED2} =GND, V_{CC} =6.7V, $V_{D1, 3, 6}$ =0.9V, pins 7, 11, 14	12		19	mA
Out pin impedance	R_{OUT}	Pin 1	8	12	16	k Ω
Input sensitivity	V_{IN5}	Input voltage at which LED of D5 is lighted	119	132	145	mV
Comparator level						
D1	V_{T1}	Input voltage at which LED of D5 is lighted is taken as 0dB.	-26	-20	-14	dB
D2	V_{T2}	Input voltage at which LED of D5 is lighted is taken as 0dB.	-12	-10	-8	dB
D3	V_{T3}	Input voltage at which LED of D5 is lighted is taken as 0dB.	-7	-6	-5	dB
D4	V_{T4}	Input voltage at which LED of D5 is lighted is taken as 0dB.	-3.5	-3.0	-2.5	dB
D5	V_{T5}	Input voltage at which LED of D5 is lighted is taken as 0dB.	0	0	0	dB
D6	V_{T6}	Input voltage at which LED of D5 is lighted is taken as 0dB.	2.5	3.0	3.5	dB
D7	V_{T7}	Input voltage at which LED of D5 is lighted is taken as 0dB.	5	6	7	dB
Output leakage current	$I_{DL1, 3, 5}$	V_{IN} =0V, pins 6, 10, 12	0		10	μ A
D pin current 3	I_{D7}	3.3k Ω across I_{LED1} and Vref I_{LED2} =open, pin14	4.5	6.0	8.0	mA
D pin current 4	I_{D7}	I_{LED2} =open, pin14, V_{CC} =6.7V, V_{D6} =0.7V, pin14	4.5		8.0	mA



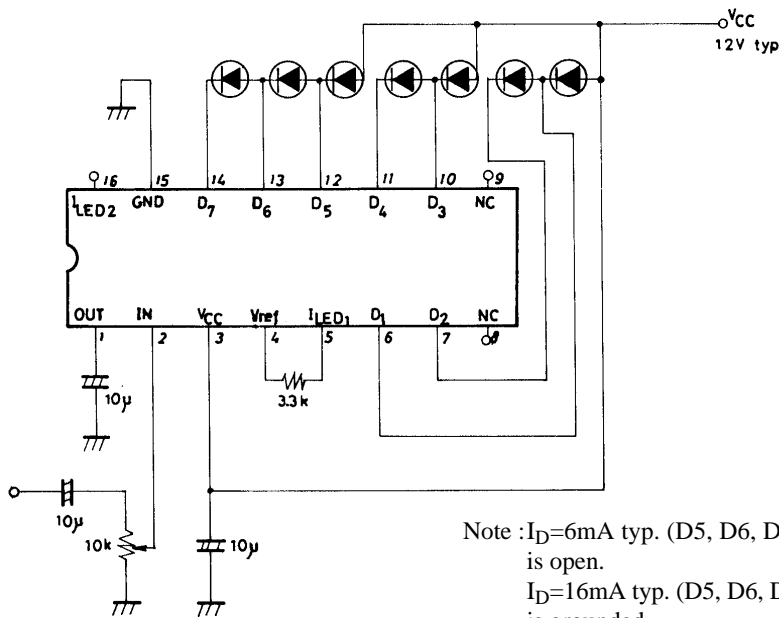
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Equivalent Circuit Block Diagram and Sample Peripheral Circuit



Sample Application Circuit

Unit (resistance: Ω , capacitance: F)



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