Ordering number:ENN1507C

Monolithic Digital IC

LB1408

Level Meter

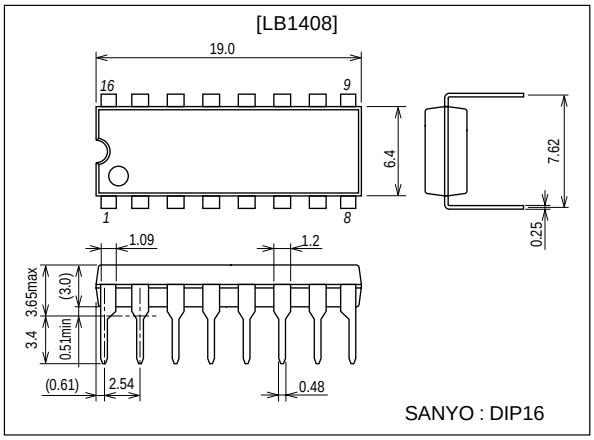
Features

- 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 Ta = 25˚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	Iref max	(Pin 4)	–0.3 to 0	mA
Allowable power dissipation	Pd max		1.2	W
Operating temperature	Topr		–30 to +80	˚C
Storage temperature	Tstg		–40 to +125	˚C

Allowable Operating Ranges at Ta = 25˚C

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

Electrical Characteristics at Ta = 25˚C

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

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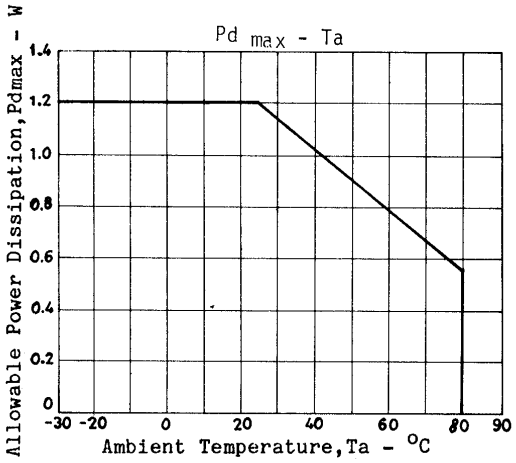
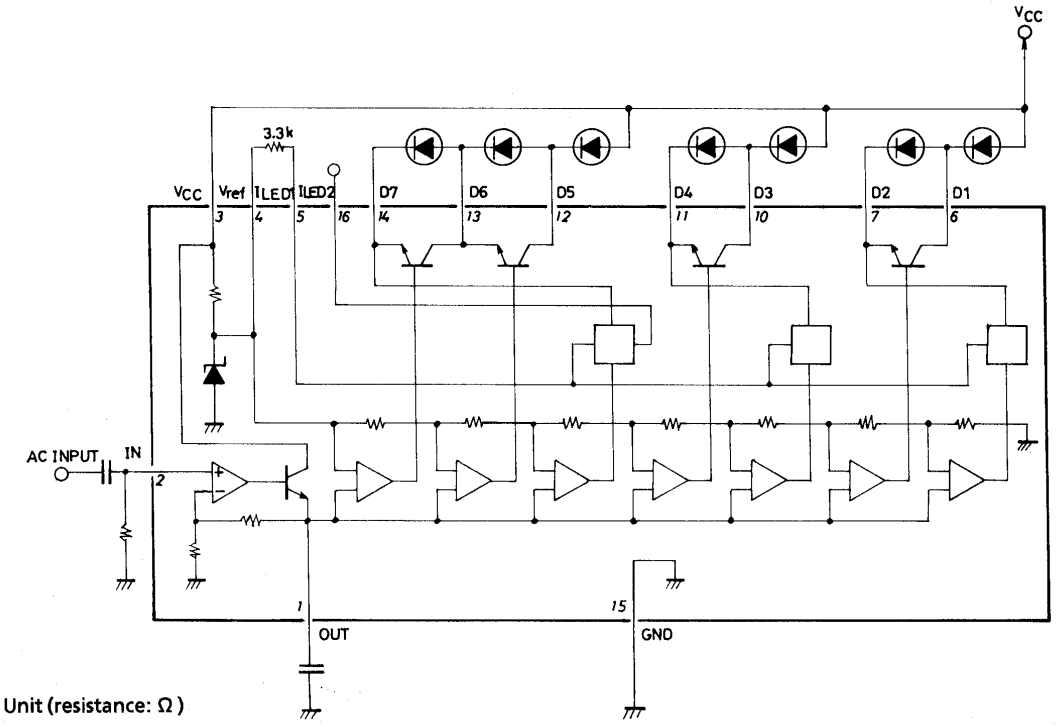
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
D pin current 1	$I_{D2, 4, 7}$	3.3kΩ across I_{LED1} and Vref I_{LED2}=GND, pins 7, 11, 14	12	16	19	mA
Output saturation voltage	VsatD 1, 3, 5, 6	I_{LED2}=GND, pins 6, 10, 12, 13		1.0	1.3	V
D pin current 2	$I_{D2, 4, 7}$	I_{LED2}=GND, V_{CC}=6.7V, V_{D}1, 3, 6=0.9V, pins 7, 11, 14	12		19	mA
Out pin impedance	R_{OUT}	Pin 1	8	12	16	kΩ
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	μA
D pin current 3	I_{D7}	3.3kΩ 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

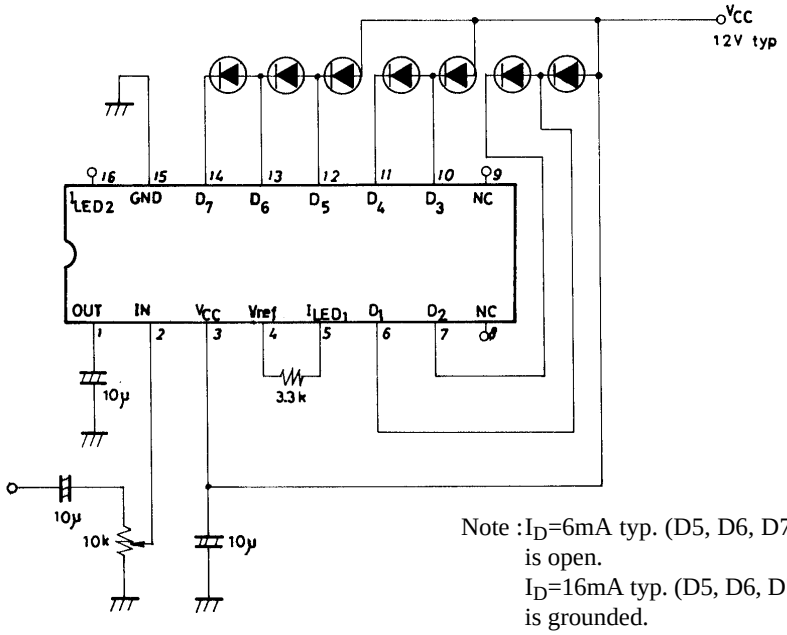


Equivalent Circuit Block Diagram and Sample Peripheral Circuit



Sample Application Circuit

Unit (resistance: Ω, capacitance: F)



Note : I_D=6mA typ. (D5, D6, D7) when $I_{LED}2$ (pin 16) is open.
I_D=16mA typ. (D5, D6, D7) when $I_{LED}2$ (pin 16) is grounded.