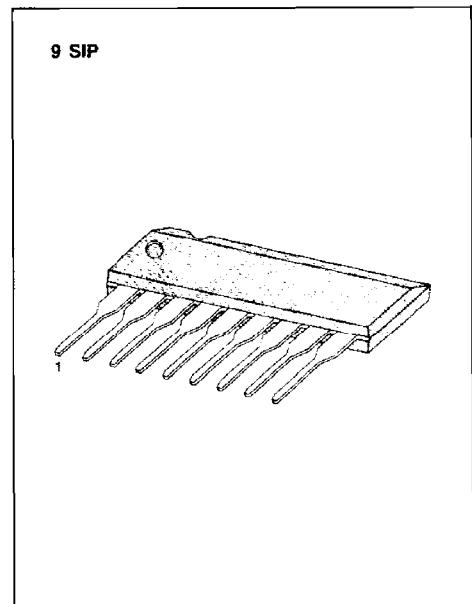


5-DOT DUAL LED LEVEL METER DRIVER

The KA2284/KA2285 are a monolithic integrated circuits designed for 5-dot LED level meter drivers with a built-in rectifying amplifier; it is suitable for AC/DC level meters such as VU meters or signal meters.

FEATURES

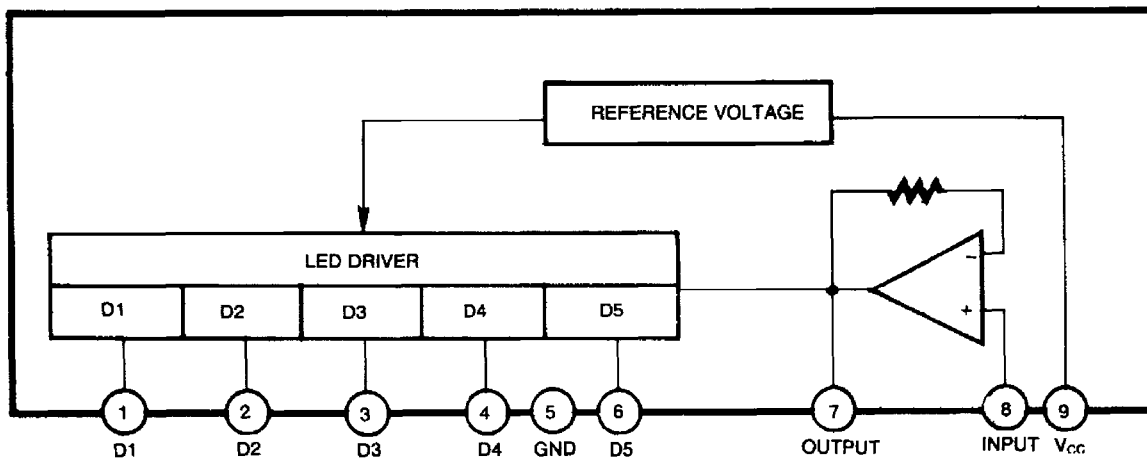
- High gain rectifying amplifier included ($G_v = 26\text{dB}$).
- Low radiation noise when LED turns on.
- Logarithmic indicator for 5-dot LED of bar type. ($-10, -5, 0, 3, 6\text{dB}$)
- Constant current output.
KA2284: $I_o = 15\text{mA Typ.}$
KA2285: $I_o = 7\text{mA Typ.}$
- Wide operating supply voltage range: $V_{cc} = 3.5\text{V} \sim 16\text{V}$
- Minimum number of external parts required.



ORDERING INFORMATION

Device	Package	Operating Temperature	I_o
KA2284	9 SIP	$-20^\circ\text{C} \sim +80^\circ\text{C}$	15 mA
KA2285			7 mA

BLOCK DIAGRAM



*Capacitor to be omitted when used as a DC input signal meter

Fig. 1

ABSOLUTE MAXIMUM RATINGS ($T_a = 25^\circ\text{C}$)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	18	V
Amp Input Voltage	$V_{I(8-5)}$	$-0.5 \sim V_{CC}$	V
Pin 7 Voltage	V_{7-5}	6	V
D Terminal Output Voltage	V_D	18	V
Circuit Current	I_{CC}	12	mA
D Terminal Output Current	I_D	20	mA
Power Dissipation	P_D	1100	mW
Operating Temperature	T_{OPR}	$-20 \sim +80$	$^\circ\text{C}$
Storage Temperature	T_{STG}	$-40 \sim +125$	$^\circ\text{C}$

-11mW/ $^\circ\text{C}$ is decreased at higher temperature than $T_a = 25^\circ\text{C}$.

ELECTRICAL CHARACTERISTICS

($T_a = 25^\circ\text{C}$, $V_{CC} = 6\text{V}$, $f = 1\text{KHz}$, unless otherwise specified)

Characteristic		Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current		I_{CCQ}	$V_i = 0\text{V}$		6	8.5	mA
D Output Current	KA2284	I_D	$V_i = 0.15\text{V}$	11	15	18.5	mA
	KA2285			5	7	9.5	
Input Bias Current		I_{BIAS}		-1		0	μA
Amp Gain		G_V	$V_i = 0.1\text{V}$	24	26	28	dB
Comparator ON Level	$V_{CL(ON)}$	$V_{CL(ON)1}$		-12	-10	-8	dB
		$V_{CL(ON)2}$		-6	-5	-4	
		$V_{CL(ON)3}$			0		
		$V_{CL(ON)4}$		2.5	3	3.5	
		$V_{CL(ON)5}$		5	6	7	

* Definition of 0dB: input voltage level when $V_{CL(ON)3}$ turn ON. (50mV)

TEST CIRCUIT

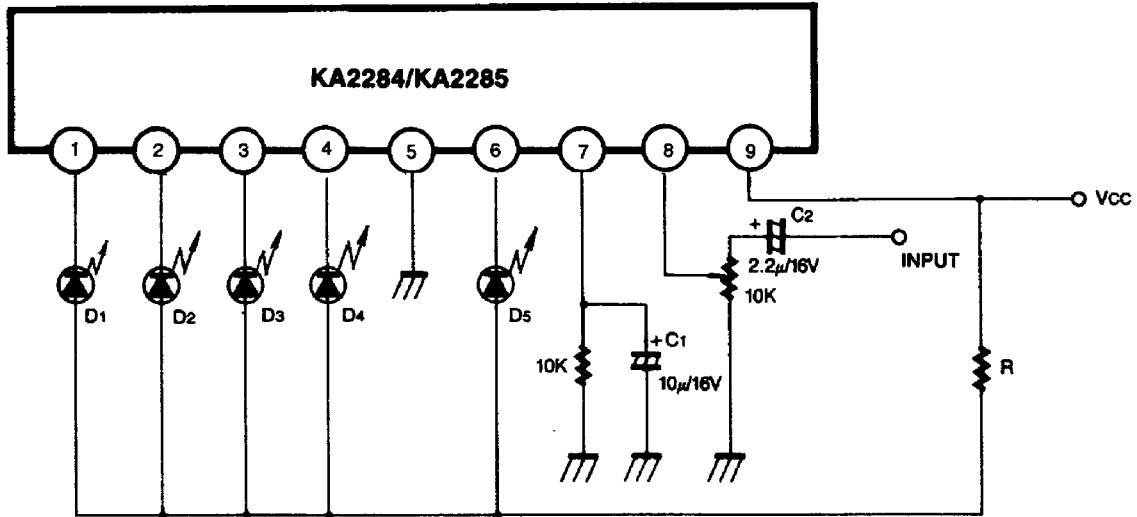


Fig. 2

C2: AC in, 2.2µ is used.
DC in, 2.2µ is shorted

The recommended value of R at T_a (max)=60°C.

V_{cc} (V)	8 - 12	10 - 14	12 - 16
R (Ω)	47	68	91

By changing the time constant C_1 and C_2 , the response, attack and release time, may be varied. In the above application conditions, power dissipation may be operated at higher levels than the absolute maximum ratings. The wattage of R is to be determined by the total LED current and R value recommended by the R table.