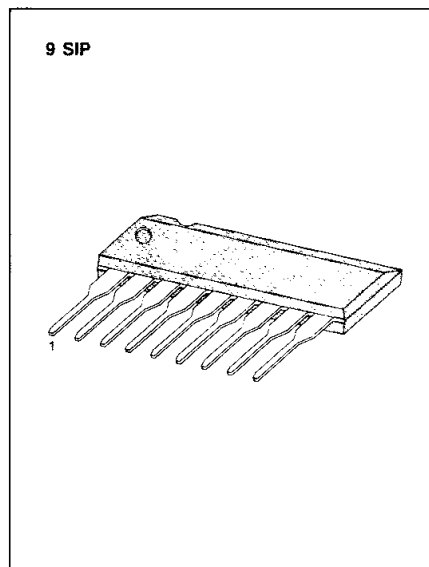


5-DOT DUAL LED LEVEL METER DRIVER

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

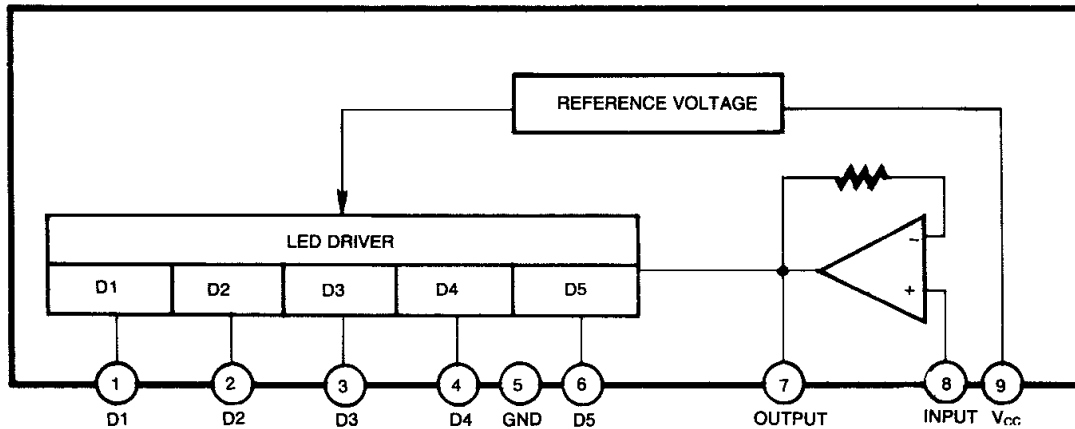
- High gain rectifying amplifier included ($G_v = 26\text{dB}$).
- Low radiation noise when LED turns on.
- Logarithmic indicator for 5-dot LED of bar type.
($-10, -5, 0, 3, 6\text{dB}$)
- Constant current output.
KA2284: $I_o = 15\text{mA Typ.}$
KA2285: $I_o = 7\text{mA Typ.}$
- Wide operating supply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



BLOCK DIAGRAM

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



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

Fig. 1

ABSOLUTE MAXIMUM RATINGS (T_a = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V _{CC}	18	V
Amp Input Voltage	V _{I(8-5)}	-0.5 ~ 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 ~ +80	°C
Storage Temperature	T _{STG}	-40 ~ +125	°C

-11mW/°C is decreased at higher temperature than T_a = 25°C.

ELECTRICAL CHARACTERISTICS

(T_a = 25°C, V_{CC} = 6V, f = 1KHz, unless otherwise specified)

Characteristic		Symbol	Test Conditions	Min	Typ	Max	Unit
Circuit Current		I _{CCQ}	V _i = 0V		6	8.5	mA
D Output Current	KA2284	I _O	V _i = 0.15V	11	15	18.5	mA
	KA2285			5	7	9.5	
Input Bias Current		I _{BIAS}		-1		0	μA
Amp Gain		G _V	V _i = 0.1V	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

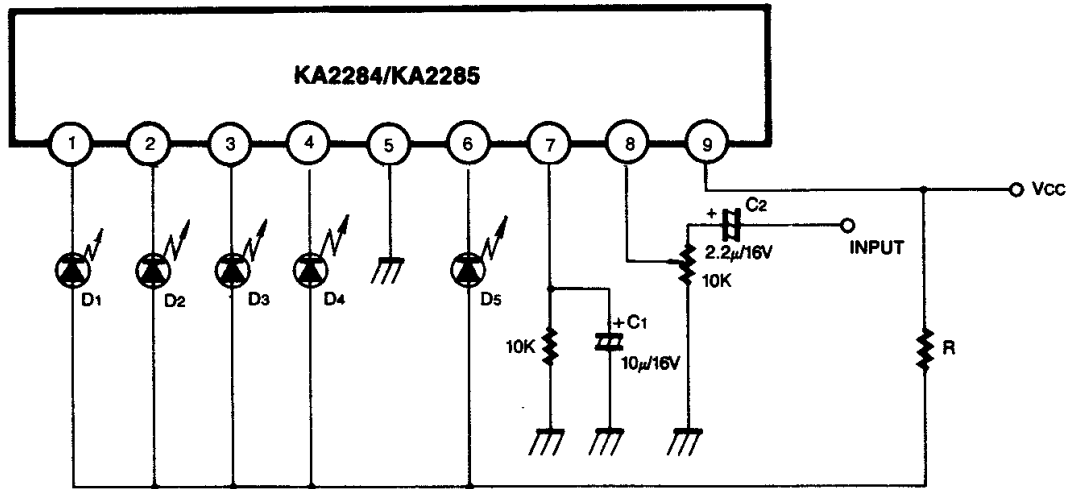


Fig. 2

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