

KA2284/KA2285

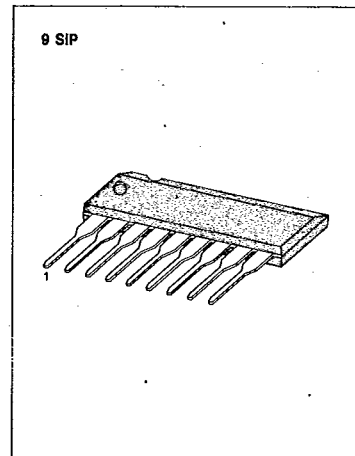
LINEAR INTEGRATED CIRCUIT

5 DOT LED LEVEL METER DRIVER

The KA2284/KA2285 are a monolithic integrated circuit designed for 5 dot LED level meter driver built-in rectifying amplifier, it is suitable for AC/DC level meter such as VU meter or signal meter.

FEATURES

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



BLOCK DIAGRAM

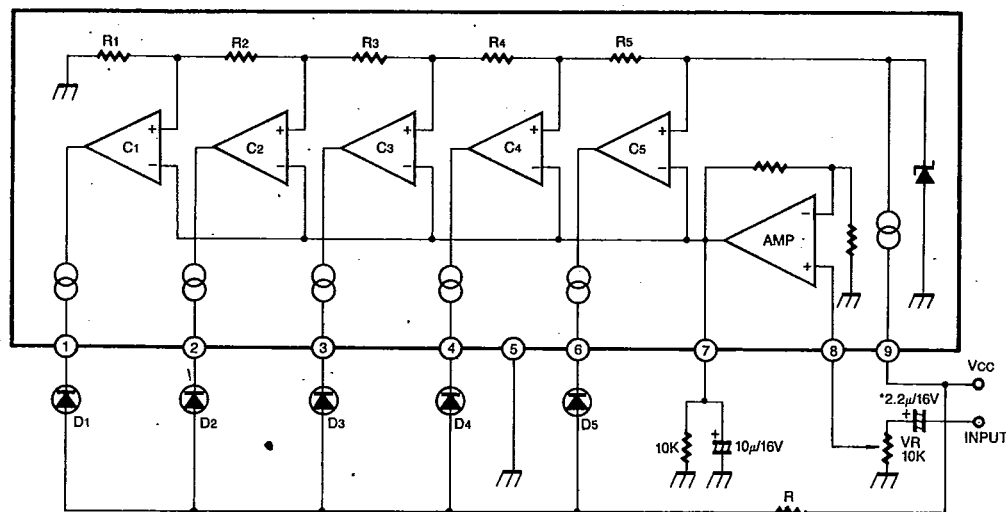


Fig. 1

KA2284/KA2285

LINEAR INTEGRATED CIRCUIT

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

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	18	V
Amp Input Voltage	V_{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}	$-20 \sim +70$	$^\circ\text{C}$
Storage Temperature	T_{stg}	$-40 \sim +125$	$^\circ\text{C}$

$-11\text{mW}/^\circ\text{C}$ 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_{CC}	$V_i = 0\text{V}$		6	8.5	mA
D Output Current	KA2284	$V_i = 0.15\text{V}$	11	15	18.5	mA
	KA2285		5	7	9.5	
Input Bias Current	I_b		-1		0	μA
Amp Gain	A_v	$V_i = 0.1\text{V}$	24	26	28	dB
Comparator ON Level	GD_1		-12	-10	-8	dB
	GD_2		-6	-5	-4	
	GD_3			0		
	GD_4		2.5	3	3.5	
	GD_5		5	6	7	

*Definition of 0dB; input voltage level when GD_3 turn ON. (50mV)

KA2284/KA2285

LINEAR INTEGRATED CIRCUIT

TYPICAL APPLICATION CIRCUIT

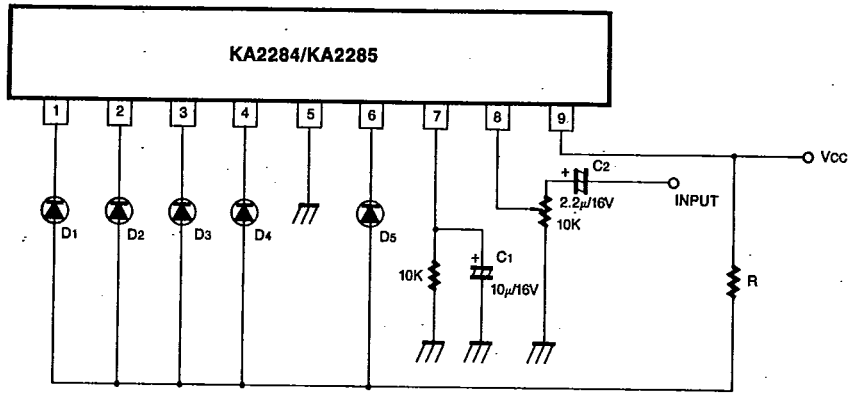


Fig. 2

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 C₁ and C₂, the response time, attack and release time, may be varied. In case of above application conditions, power dissipation may be operated at higher level than absolute maximum ratings. The wattage of R is to be determined by the total LED current and R value recommended by R table.