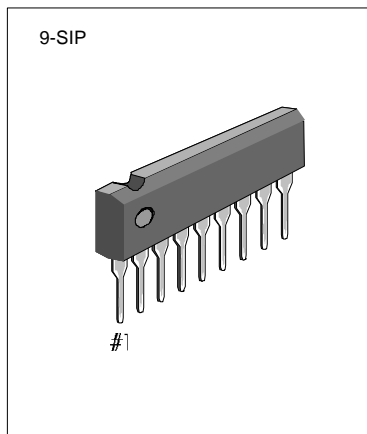


INTRODUCTION

The KA2284B/KA2285B 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

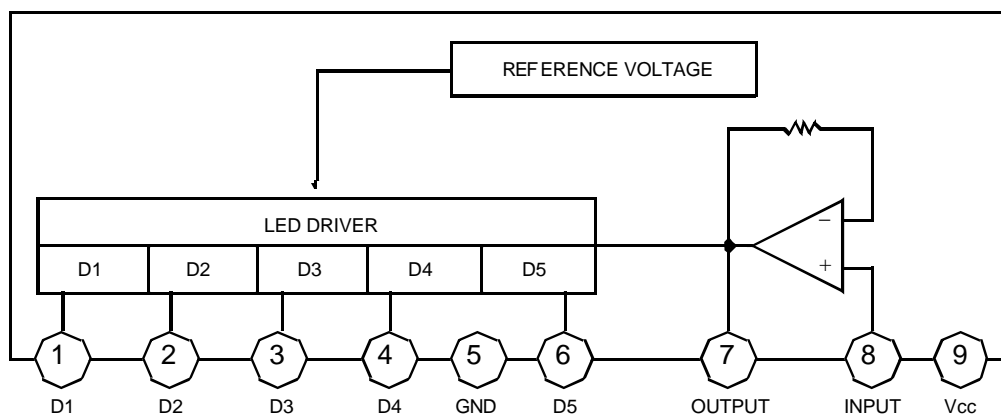
- High gain rectifying amplifier included ($G_V = 26\text{dB}$).
- Low radiation noise when LED turns on.
- Logarithmic indicator for 5-dot LED of bar type. (-10, -5, 0, 3, 6dB)
- Constant current output.
KA2284B: $I_O = 15\text{mA Typ.}$
KA2285B: $I_O = 7\text{mA Typ.}$
- Wide operating supply voltage range: $V_{CC} = 3.5\text{V} \sim 16\text{V}$
- Minimum number of external parts required.



ORDERING INFORMATION

Device	Package	Operating Temperature	I_D
KA2284B	9-SIP	-20°C ~ + 80°C	15mA
KA2285B			7mA

BLOCK DIAGRAM



¹⁾capacuor to be smined when used as a oc input stgnai meter

Fig. 1

ABSOLUTE MAXIMUM RATINGS (Ta = 25)

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 ~ + 50	°C

-11mW/°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	KA2284B	I_D	$V_I = 0.15\text{V}$	11	15	18.5	mA
	KA2285B			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	

¹⁾Definition of 0dB: input voltage level when $V_{CL(ON)3}$ turn ON. (50mV)

TEST CIRCUIT

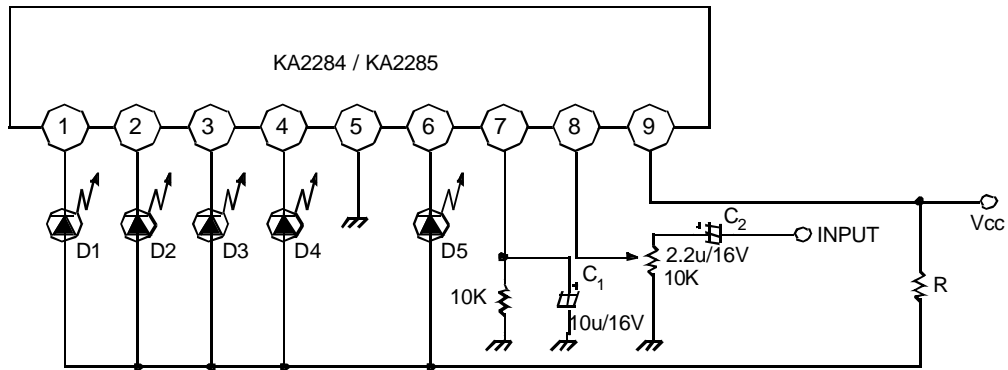


Fig. 2

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

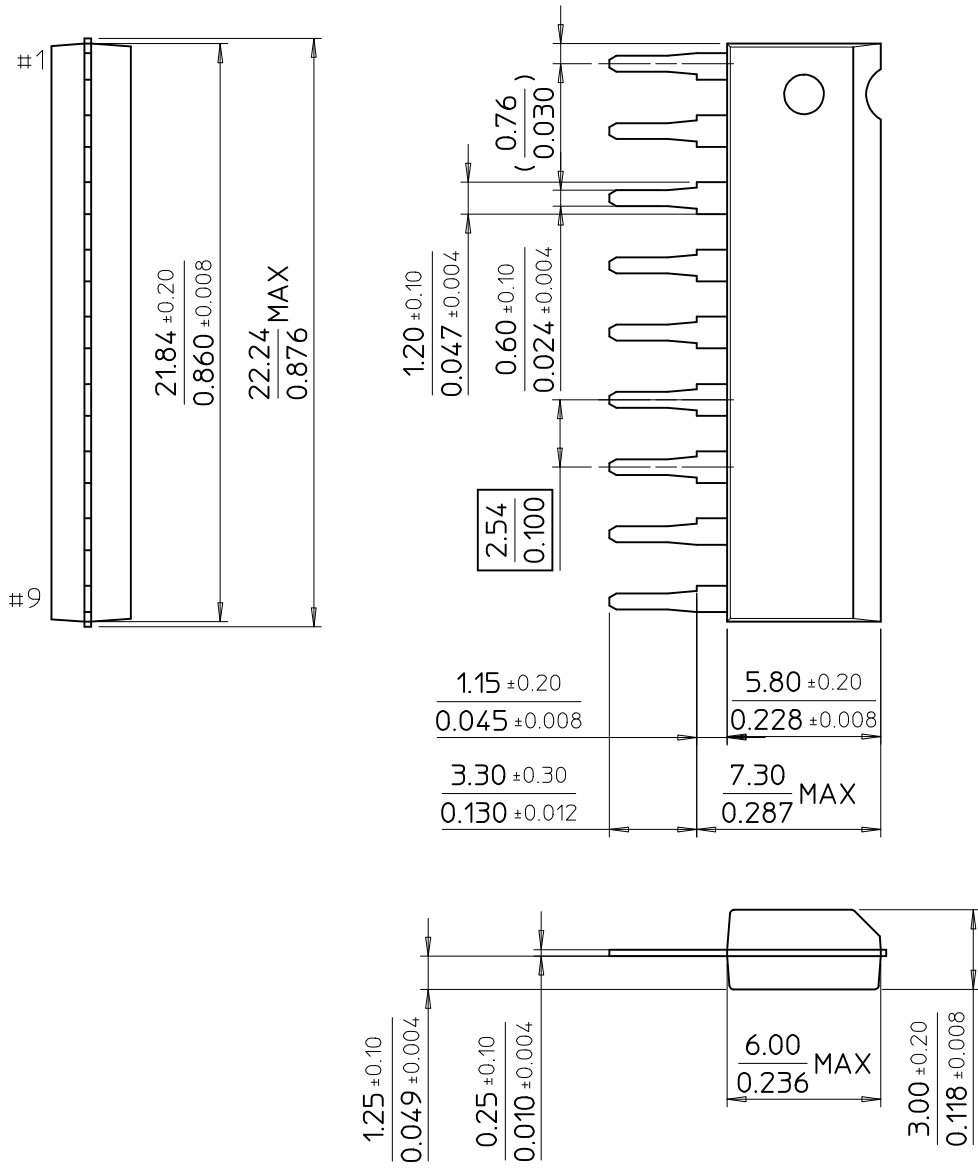
The recommended value of R at T_a (max) = 60°C

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

By changing the time constant C₁ and C₂, 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.

9-SIP

Dimensions in Milimeters/Inches



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