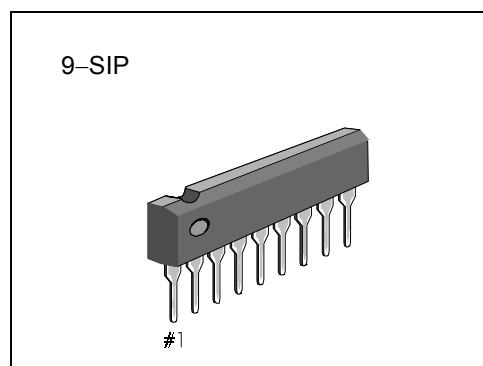


INTRODUCTION

The KA2284B and KA2285B are 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 bar type LED ($-10, -5, 0, 3, 6\text{dB}$)
- 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	$-20^\circ\text{C} \sim +80^\circ\text{C}$	15mA
KA2285B			7mA

BLOCK DIAGRAM

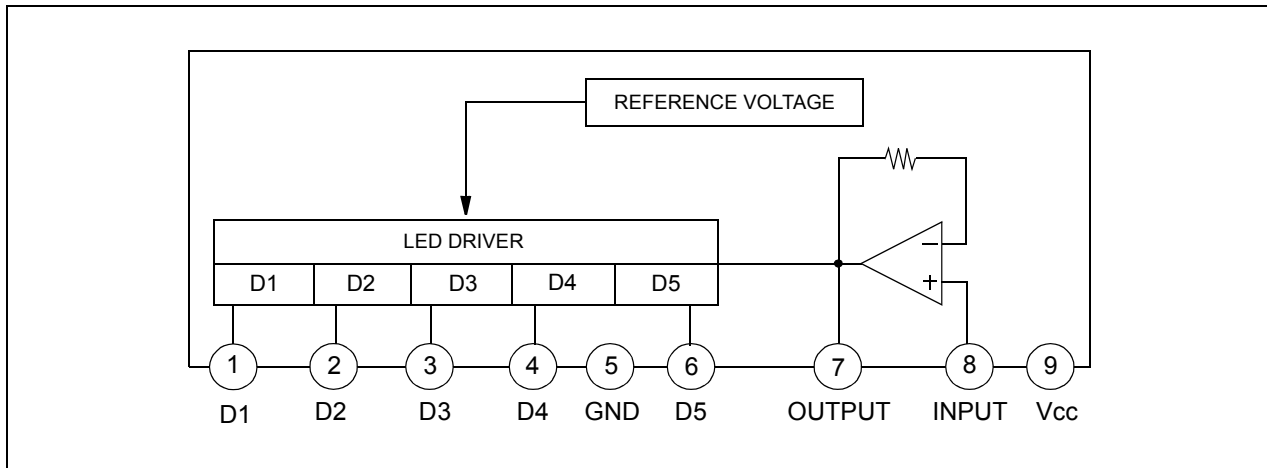


Figure 1.

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

ABSOLUTE MAXIMUM RATINGS (Ta = 25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	V_{CC}	18	V
Amp Input Voltage	V_{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

NOTE: 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_o	$V_i = 0.15\text{V}$	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	

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

TEST CIRCUIT

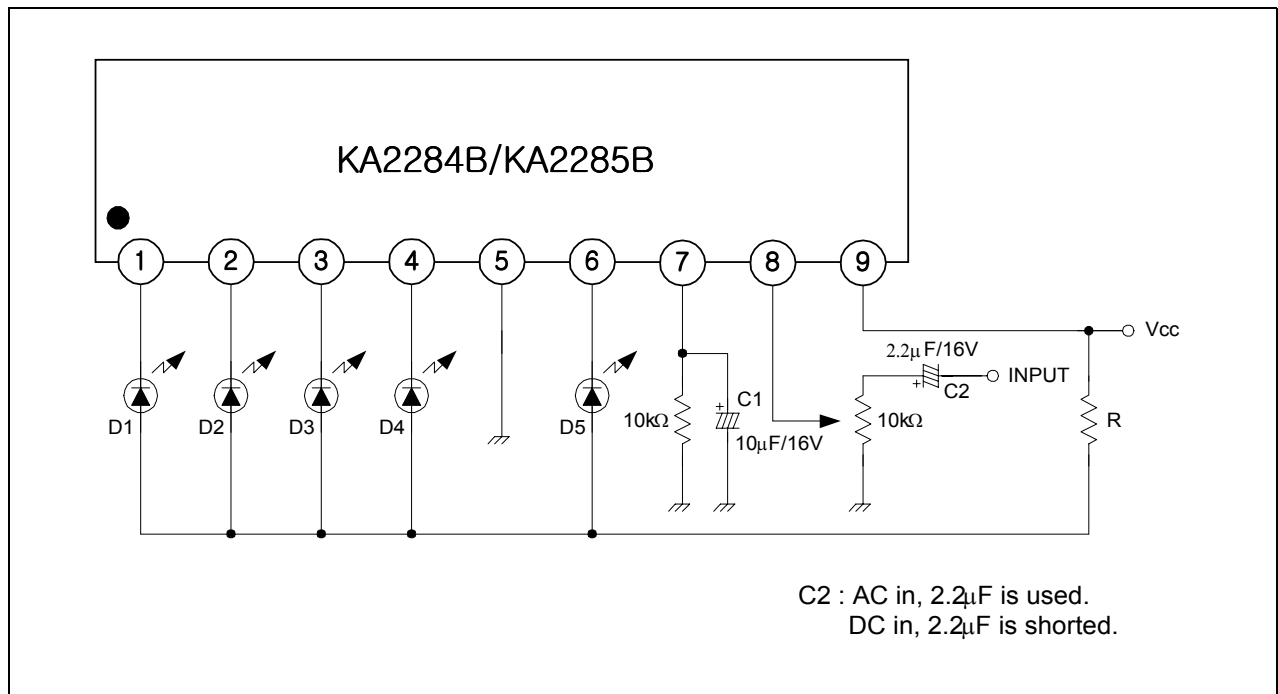


Figure 2.

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.