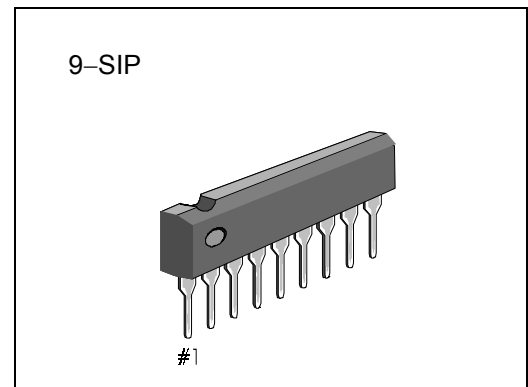


INTRODUCTION

The KA2284B 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)
- 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

BLOCK DIAGRAM

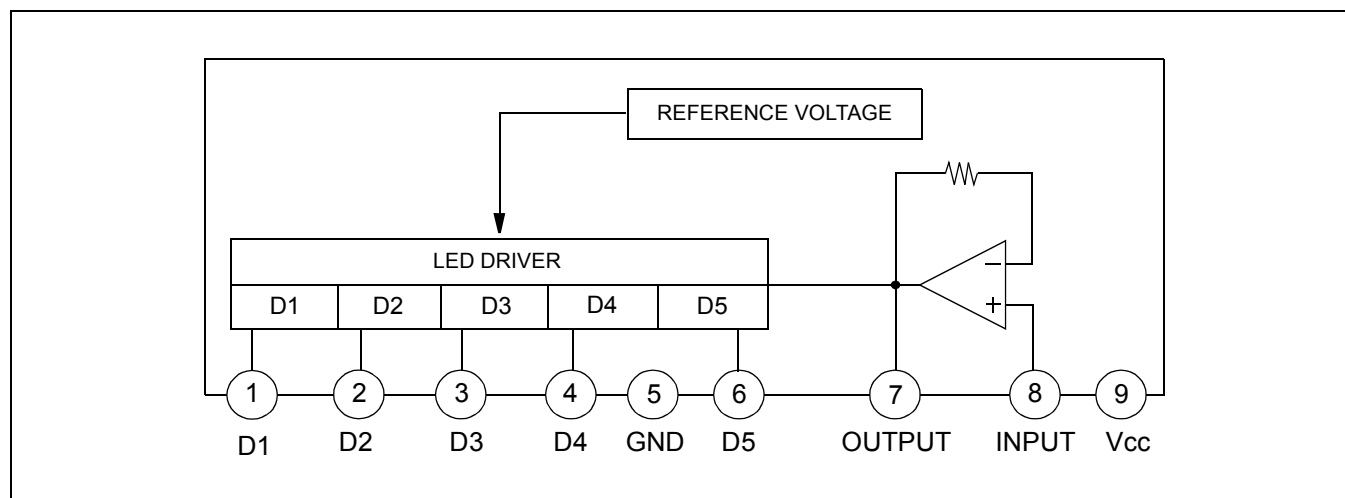


Figure 1.

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

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}	$-20 \sim +80$	$^\circ\text{C}$
Storage Temperature	T_{STG}	$-40 \sim +125$	$^\circ\text{C}$

NOTE: 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}	$V_i = 0\text{V}$	–	5	8	mA
D Output Current	KA2284B	I_O	$V_i = 0.15\text{V}$	11	15	18.5	mA
Input Bias Current		I_{BIAS}		-1.0	-0.3	–	μA
Input Voltage		V_{in}		46	56	66	mV
Comparator ON Level	$V_{CL(ON)}$	$V_{CL(ON)1}$	–	-11.5	-10.0	-8.5	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

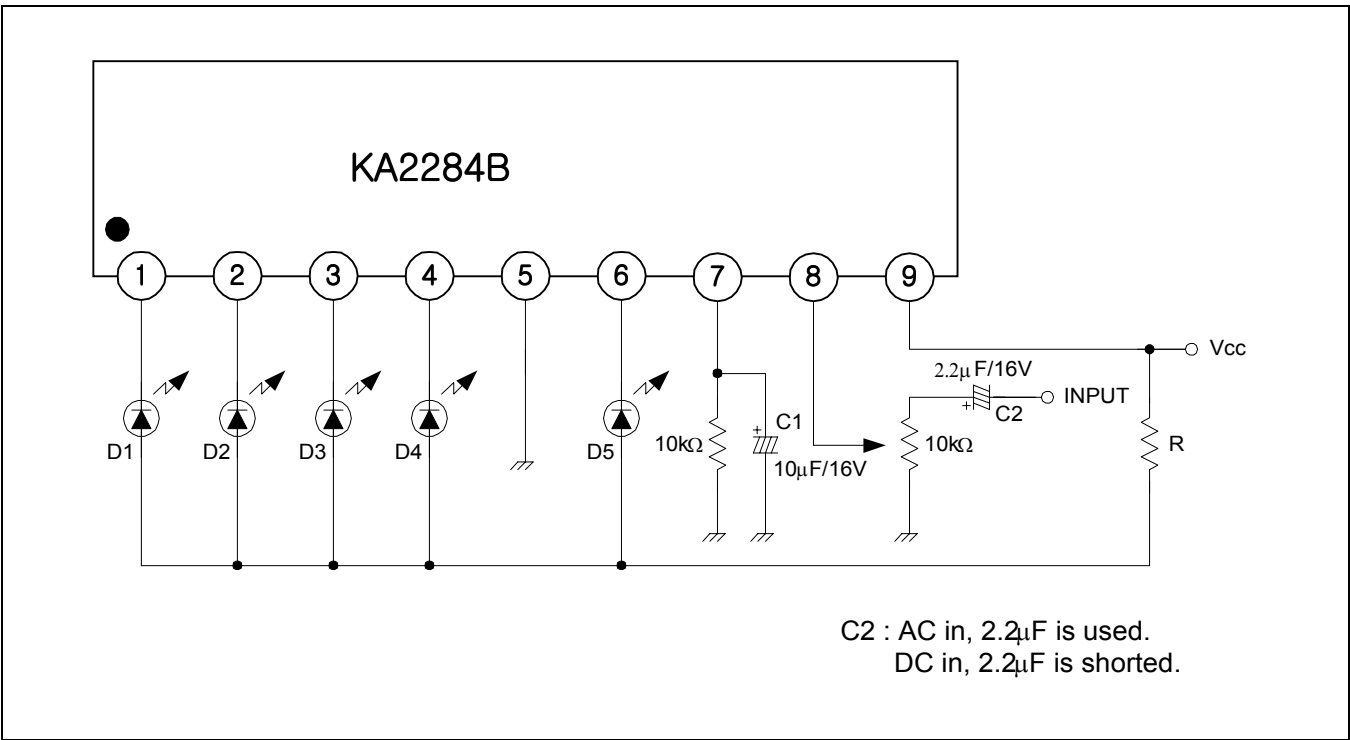


Figure 2.

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

V_{CC} (V)	6.5~12V	8~14V	10~16V
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.