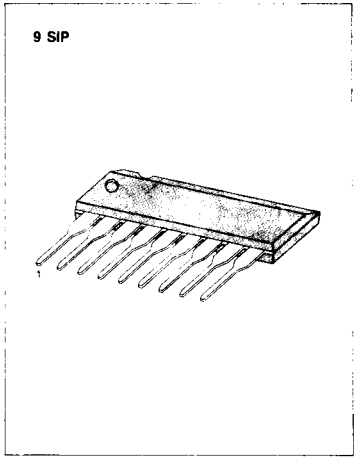
5-DOT LED LINEAR LEVEL METER DRIVER

The KA2287 are a monolithic integrated circuit designed for 5-dot LED level meter drivers with a built-in rectifying a amplifier, it is suitable for AC/DC level meters such as VU meters or signal meters.



FEATURES

- **High gain rectifying amplifier included (G_V = 26dB).**
- **Low radiation noise when LED turns on.**
- **Linear indicator for 5-dot LED of bar type. (0.33, 0.67, 1, 1.33, 1.67)**
- **Constant current output. KA2287: I_o = 15mA Typ.**
- **Wide operating supply voltage range: V_{CC} = 3.5V ~ 16V**
- **Minimum number of external parts required.**

ORDERING INFORMATION

Device	Package	Operating Temperature	I_D
KA2287	9 SIP	-20°C ~ +80°C	7 mA
			15 mA

BLOCK DIAGRAM

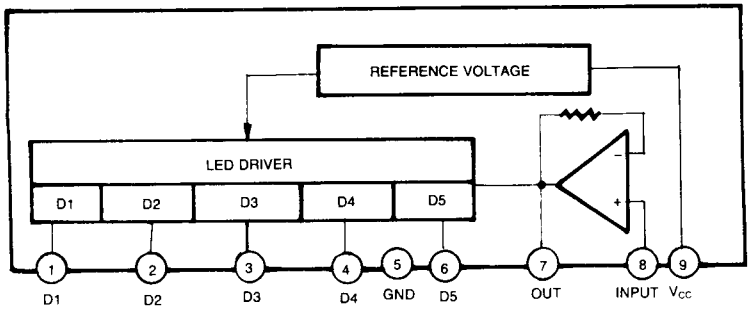


Fig. 1

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
Quiescent Circuit Current		I_{CCQ}	V_I = 0V		6	8.5	mA
D Output Current		I_O	V_I = 0.15V	11	15	18.5	mA
Input Bias Current		I_{BIAS}		−1		0	μA
Amp Gain		G_V	V_I = 0.1V	24	26	28	dB
Comparator On Level	$V_{CL(ON)}$	$V_{CL(ON)1}$		0.28	0.33	0.40	V_3
		$V_{CL(ON)2}$		0.59	0.67	0.75	
		$V_{CL(ON)3}$			1		
		$V_{CL(ON)4}$		1.25	1.33	1.42	
		$V_{CL(ON)5}$		1.48	1.67	1.87	

* Definition of 1; Pin 3 voltage when $V_{CL(ON)3}$ turn on. (65mV)

TEST CIRCUIT

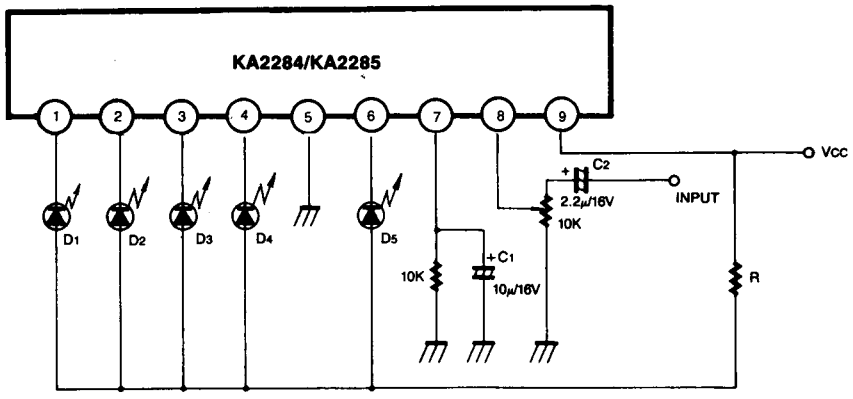


Fig. 2

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 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.

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