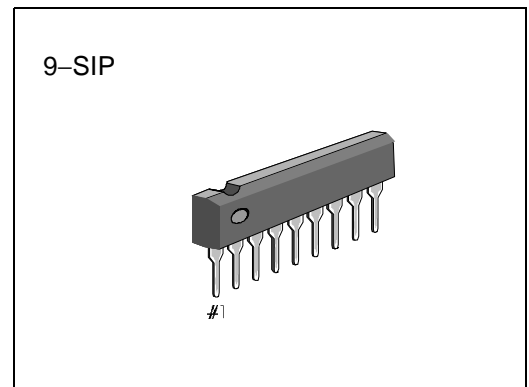


INTRODUCTION

The S1A2284A04 is a monolithic integrated circuit 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

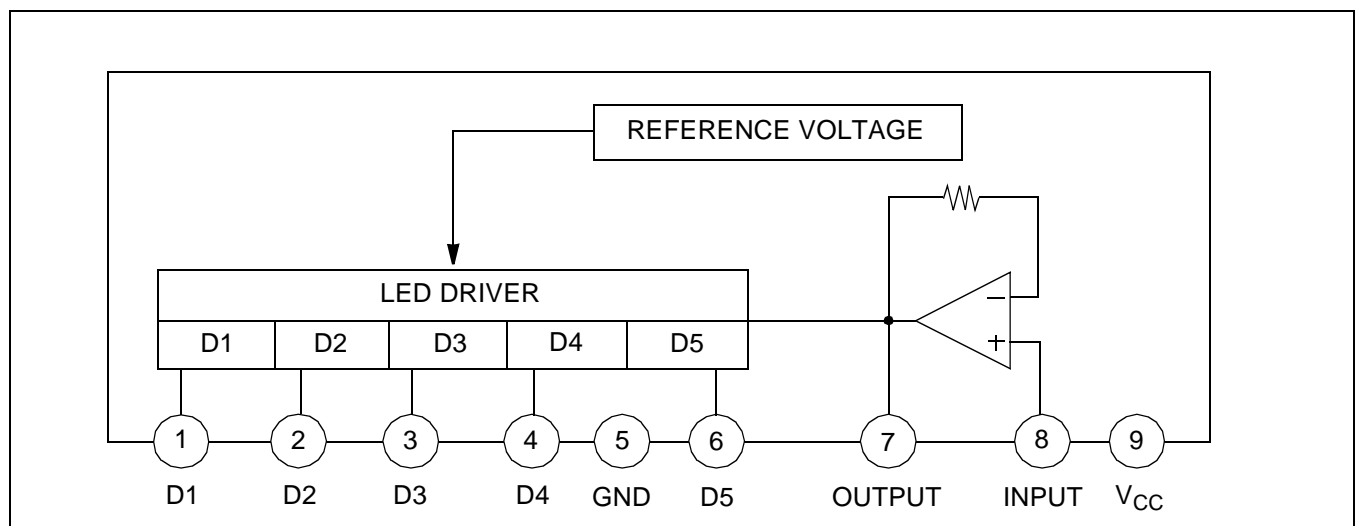
- High gain rectifying amplifier included ($G_v = 26\text{dB}$)
- Low radiation noise when LED turns on
- Linear indicator for 5-dot bar type LED (0.33, 0.67, 1, 1.33, 1.67)
- Constant current output
S1A2284A04: $I_O = 15\text{mA}$ (Typ)
- Wide operating supply voltage range:
 $V_{CC} = 3.5\text{V} - 16\text{V}$
- Minimum number of external parts required



ORDERING INFORMATION

Device	Package	Operating Temperature	ID
S1A2284A04-I0U0	9-SIP	-20°C – + 80°C	15mA

BLOCK DIAGRAM



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 = C is decreased at higher temperatures than Ta = 25 °C.

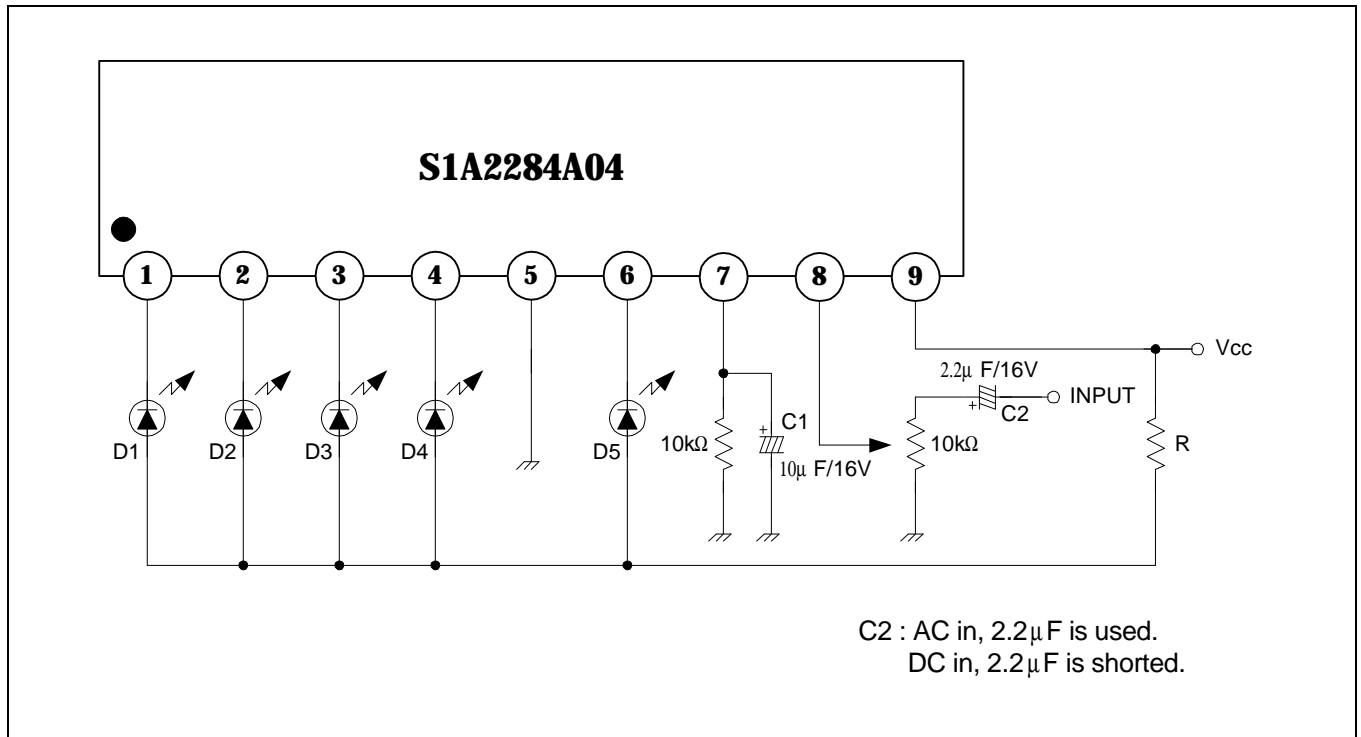
ELECTRICAL CHARACTERISTICS

(Ta =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	

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

TEST CIRCUIT



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 the response C_2 , 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.

NOTES