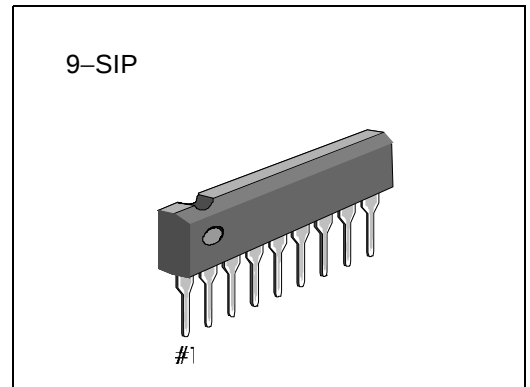


INTRODUCTION

The S1A2284A01 and S1A2284A02 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

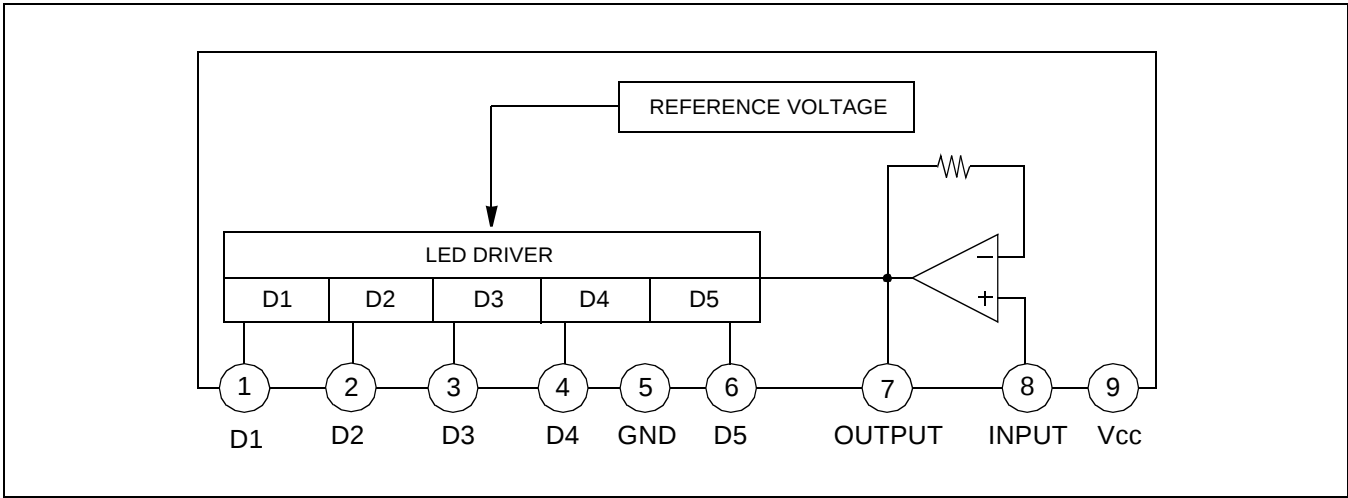
- High gain rectifying amplifier included ($G_V = 26\text{dB}$)
- Low radiation noise when LED turns on
- Logarithmic indicator for 5-dot bar type LED ($-10, -5, 0, 3, 6\text{dB}$)
- Constant current output
S1A2284A01: $I_o = 15\text{mA}$ (Typ)
S1A2284A02: $I_o = 7\text{mA}$ (Typ)
- Wide operating supply voltage range:
 $V_{CC} = 3.5\text{V} - 16\text{V}$
- Minimum number of external parts required



ORDERING INFORMATION

Device	Package	Operating Temperature	I_D
S1A2284A01-I0U0	9-SIP	$-20^\circ\text{C} - +80^\circ\text{C}$	15mA
S1A2284A02-I0U0			7mA

BLOCK DIAGRAM



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°C.

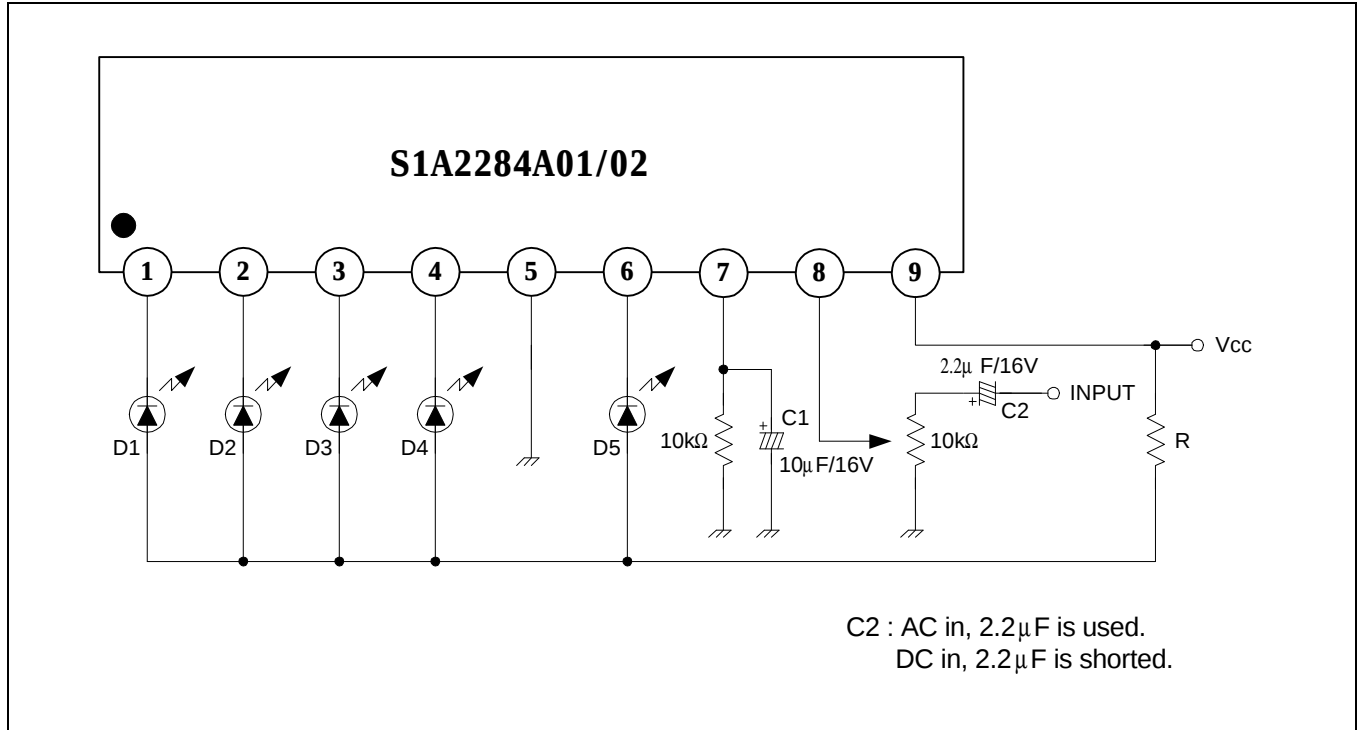
ELECTRICAL CHARACTERISTICS

($T_a = 25^\circ\text{C}$, $V_{CC} = 6\text{V}$, $f = 1\text{kHz}$, 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	S1A2284A01	I_O	$V_i = 0.15\text{V}$	11	15	18.5	mA
	S1A2284A02			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



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.