UTC UNISONIC TECHNOLOGIES CO., LTD

LA2284/A

5-DOT DUAL LED LEVEL METER DRIVER

SIP-9

MSOP-10

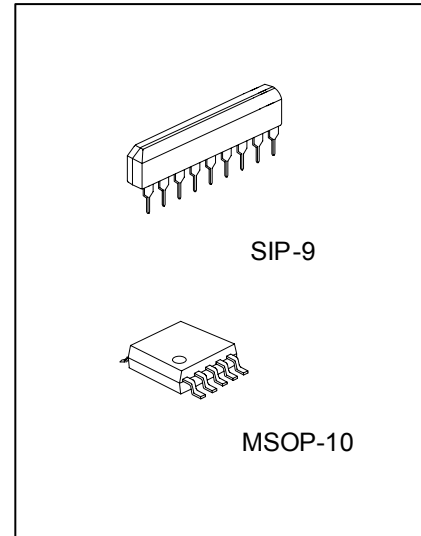*Pb-free plating product number:
LA2284L/LA2284AL

■ DESCRIPTION

The UTC LA2284/A 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 (Gv=26dB)
*Low radiation noise when LED turns on
*Logarithmic indicator for 5-dot LED of bar type
*Constant current output(15mA)
*Wide operating supply voltage
*Not necessary diode or transistor for ALC
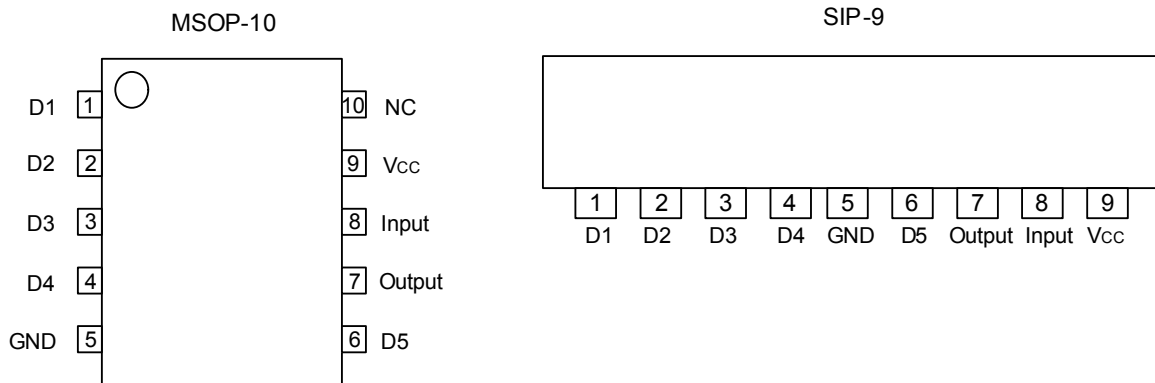*Minimum number of external parts required

■ ORDERING INFORMATION

Order Number		Package	Packing
Normal	Lead Free Plating		
LA2284-G09-T	LA2284L-G09-T	SIP-9	Tube
LA2284-SM1-R	LA2284L-SM1-R	MSOP-10	Tape Reel
LA2284A-G09-T	LA2284AL-G09-T	SIP-9	Tube
LA2284A-SM1-R	LA2284AL-SM1-R	MSOP-10	Tape Reel

LA2284<u>L</u>-<u>G09</u>-<u>T</u>
  (1)Packing Type
  (2)Package Type
  (3)Lead Plating

(1) R: Tape Reel, T: Tube
(2) G09: SIP-9, SM1: MSOP-10
(3) Lead Free Plating, Blank: Pb/Sn

QW-R121-002,B

LA2284/A

LINEAR INTEGRATED CIRCUIT

■ **PIN CONFIGURATION**

MSOP-10

```
D1  [1]  ⊙        [10] NC
D2  [2]           [9]  Vcc
D3  [3]           [8]  Input
D4  [4]           [7]  Output
GND [5]           [6]  D5
```

SIP-9

```
[1]  [2]  [3]  [4]  [5]   [6]  [7]     [8]    [9]
D1   D2   D3   D4   GND   D5   Output  Input  Vcc
```

■ **BLOCK DIAGRAM**

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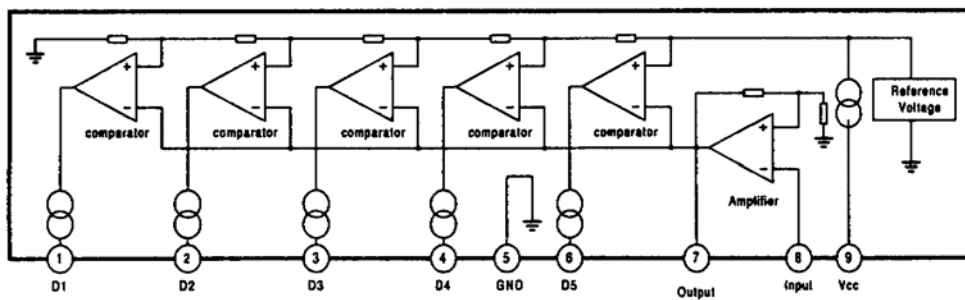
■ **ABSOLUTE MAXIMUM RATINGS** (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V_{CC}	18	V
Amplifier input Voltage	V8	-0.5 ~ V_{CC}	V
Pin 7 Voltage	V7	6	V
D terminal Output Voltage	V_D	18	V
Power dissipation	P_D	1100	W
Operating Temperature	T_{OPR}	-20 ~ +80	°C
Storage Temperature	T_{STG}	-40 ~ +125	°C

Notes: Absolute maximum ratings are those values beyond which the device could be permanently damaged. Absolute maximum ratings are stress ratings only and functional device operation is not implied.

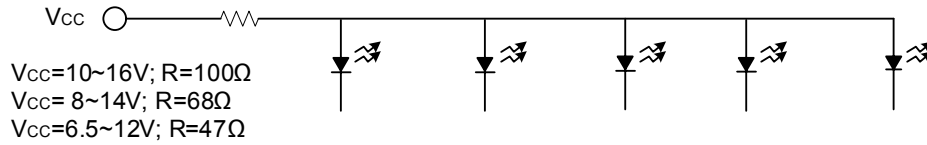■ **ELECTRICAL CHARACTERISTICS** (Ta=25°C, V_{CC}=6V, f=1kHz, unless otherwise specified)

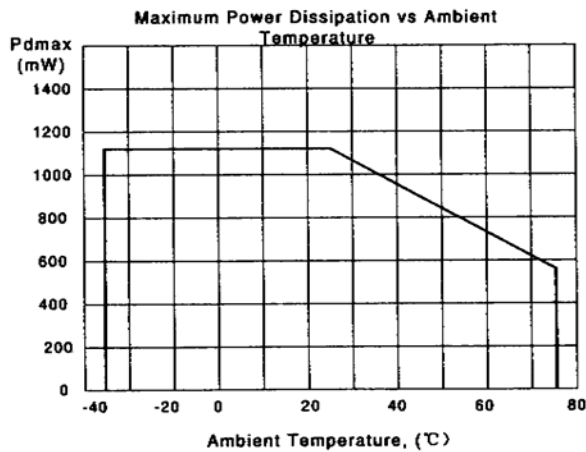| PARAMETER		SYMBOL	TEST CONDITIONS	MIN	TYP	MAX	UNIT
Supply Voltage	LA2284	V_{CC}		3.5	6.0	16.0	V
	LA2284A			3.0	6.0	16.0	V
Supply Current		I_{CC}	V_{IN}=0		5	8	mA
Sensitivity		V_{IN}	In Vc3 Level	46	56	66	mV
Comparator ON Level 1		Vc1		-11.5	-10.0	-8.5	dB
Comparator ON Level 2		Vc2		-6	-5	-4	dB
Comparator ON Level 3		Vc3			0		dB
Comparator ON Level 4		Vc4		2.5	3.0	3.5	dB
Comparator ON Level 5		Vc5		5	6	7	dB
LED Output Current		$I_{O(LED)}$		11.0	15.0	18.5	mA
Amp Gain		Gv	V_{IN}=0.1V	24	26	28	dB
Input Bias Current		$I_{I(BIAS)}$		-1.0	-0.3		μA

■ **TEST CIRCUIT**
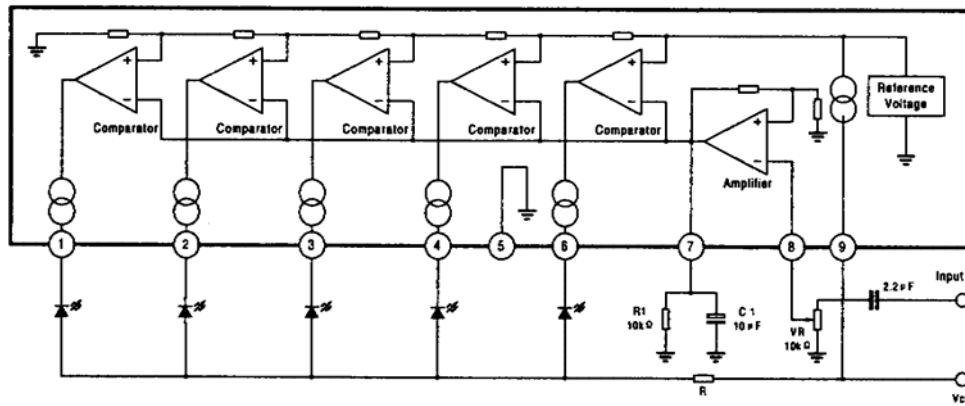
■ **APPLICATION INFORMATION**

By changing the time constant C1 and, 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.

Vcc ◯ ——⟍⟍⟍——

V_{CC}=10~16V; R=100Ω
V_{CC}= 8~14V; R=68Ω
V_{CC}=6.5~12V; R=47Ω

■ **TYPICAL CHARACTERISTIC**

Maximum Power Dissipation vs Ambient Temperature

Pdmax (mW)

Ambient Temperature, (℃)