



LA2284/A

LINEAR INTEGRATED CIRCUIT

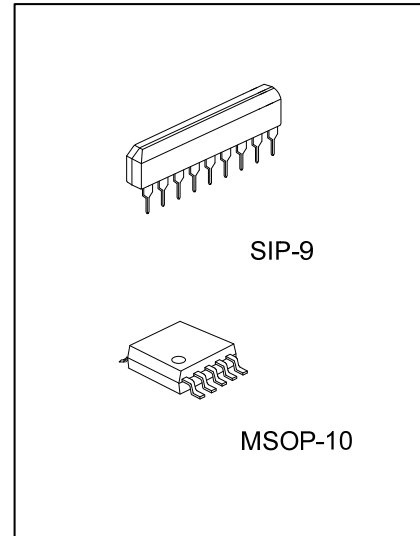
5-DOT DUAL LED LEVEL METER DRIVER

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 ($G_v=26\text{dB}$)
- *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

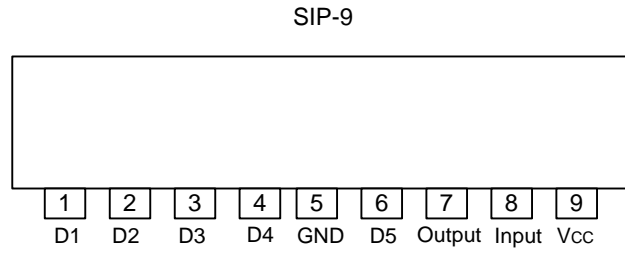
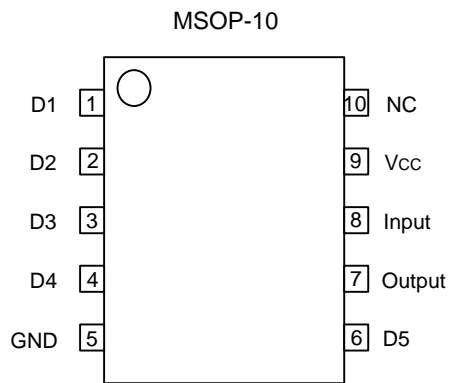
| Order Number | | Package | Packing |
|----------------|----------------|---------|-----------|
| Lead Free | Halogen Free | | |
| LA2284L-G09-T | LA2284G-G09-T | SIP-9 | Tube |
| LA2284L-SM2-T | LA2284G-SM2-T | MSOP-10 | Tube |
| LA2284L-SM2-R | LA2284G-SM2-R | MSOP-10 | Tape Reel |
| LA2284AL-G09-T | LA2284AG-G09-T | SIP-9 | Tube |
| LA2284AL-SM2-T | LA2284AG-SM2-T | MSOP-10 | Tube |
| LA2284AL-SM2-R | LA2284AG-SM2-R | MSOP-10 | Tape Reel |

| | |
|---|---|
| <p>LA2284AG-G09-T</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package (4) Supply Voltage | <ul style="list-style-type: none"> (1) R: Tape Reel, T: Tube (2) G09: SIP-9, SM2: MSOP-10 (3) G: Halogen Free and Lead Free (4) refer to ELECTRICAL CHARACTERISTICS |
|---|---|

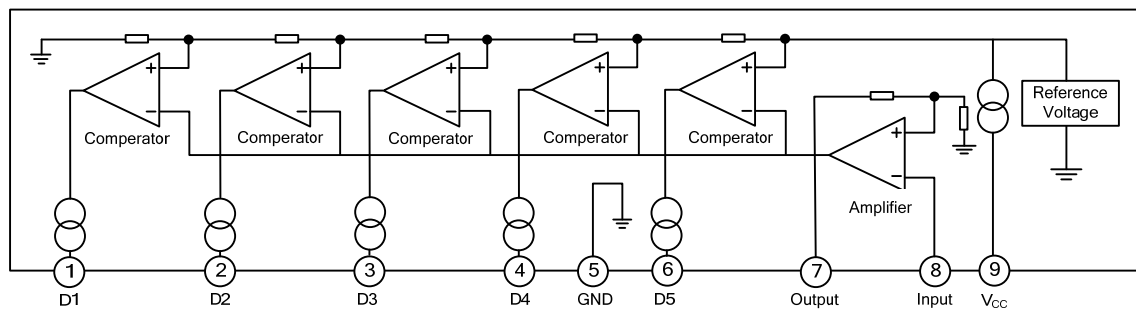
MARKING

| Package | MARKING | |
|---------|---|--|
| | LA2284 | LA2284A |
| SIP-9 | <p>UTC □□□□ → Data Code LA2284 □ → L: Lead Free □ → G: Halogen Free □□ → Lot Code</p> <p>1 2 3 4 5 6 7 8 9</p> | <p>UTC □□□□ → Data Code LA2284A □ → L: Lead Free □ → G: Halogen Free □□ → Lot Code</p> <p>1 2 3 4 5 6 7 8 9</p> |
| MSOP-10 | <p>UTC □□□□ → Data Code LA2284 □ → L: Lead Free □ → G: Halogen Free □□ → Lot Code</p> | <p>UTC □□□□ → Data Code LA2284A □ → L: Lead Free □ → G: Halogen Free □□ → Lot Code</p> |

■ PIN CONFIGURATION



■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^\circ\text{C}$, unless otherwise specified)

| PARAMETER | SYMBOL | RATINGS | UNIT | |
|---------------------------|-----------|--------------------|------------------|---|
| Supply Voltage | V_{CC} | 18 | V | |
| Amplifier input Voltage | V8 | $-0.5 \sim V_{CC}$ | V | |
| Pin 7 Voltage | V7 | 6 | V | |
| D terminal Output Voltage | V_D | 18 | V | |
| Power Dissipation | SIP-9 | P_D | 1.1 | W |
| | MSOP-10 | | 0.6 | W |
| Operating Temperature | T_{OPR} | $-20 \sim +80$ | $^\circ\text{C}$ | |
| Storage Temperature | T_{STG} | $-40 \sim +125$ | $^\circ\text{C}$ | |

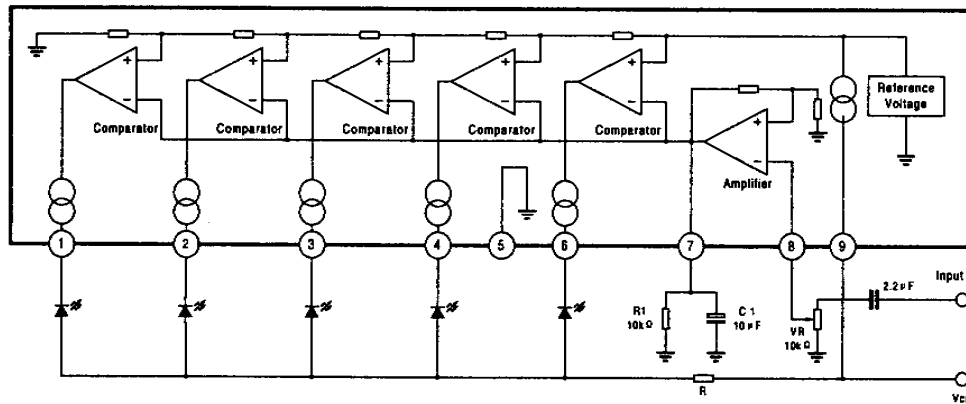
Notes: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$, $V_{CC}=6\text{V}$, $f=1\text{kHz}$, unless otherwise specified)

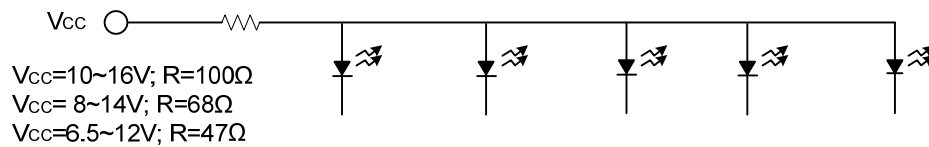
| PARAMETER | SYMBOL | TEST CONDITIONS | MIN | TYP | MAX | UNIT |
|-----------------------|---------------|----------------------|-------|-------|------|---------------|
| Supply Voltage | V_{CC} | | 3.5 | 6.0 | 16 | V |
| | | | 3.0 | 6.0 | 16 | V |
| Supply Current | I_{CC} | $V_{IN}=0$ | | 5 | 8 | mA |
| Sensitivity | V_{IN} | In V_{C3} Level | 46 | 56 | 66 | mV |
| Comparator ON Level 1 | V_{C1} | | -11.5 | -10.0 | -8.5 | dB |
| Comparator ON Level 2 | V_{C2} | | -6 | -5 | -4 | dB |
| Comparator ON Level 3 | V_{C3} | | | 0 | | dB |
| Comparator ON Level 4 | V_{C4} | | 2.5 | 3.0 | 3.5 | dB |
| Comparator ON Level 5 | V_{C5} | | 5 | 6 | 7 | dB |
| LED Output Current | $I_{O(LED)}$ | | 16.5 | | 22 | mA |
| Amp Gain | G_V | $V_{IN}=0.1\text{V}$ | 24 | 26 | 28 | dB |
| Input Bias Current | $I_{I(BIAS)}$ | | -1.0 | -0.3 | | μA |

■ TEST CIRCUIT



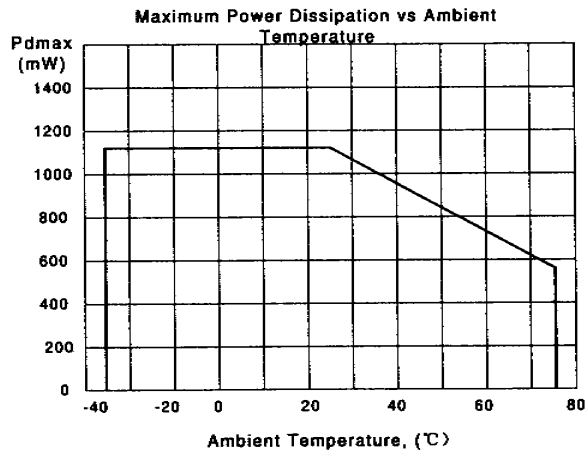
■ APPLICATION INFORMATION

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.





■ TYPICAL CHARACTERISTIC



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