

TA7366P

TA7367P

T-77-21

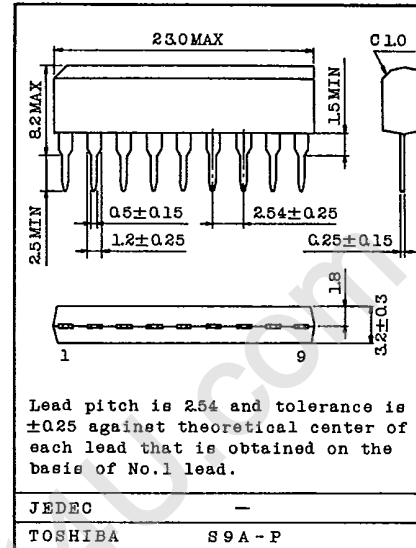
## 5-LED LEVEL METER DRIVER

Unit in mm

The TA7366P and TA7367P are designed for 5 LED level meter driver.

Which are consist of one input amplifier and five comparators for LED level indication.

- . Low Spurious Noise Operation.
- . Constant Driving Current :  $I_0=8\text{mA(Typ.)}$
- . Indication Level Steps
  - : TA7366P ..... 5dB, 5dB, 3dB, 3dB
  - : TA7367P ..... 2dB, 2dB, 2dB, 2dB
- . Wide Operating Supply Voltage Range
  - :  $V_{CC}=4\sim 12\text{V}$
- . Variable Input Amplifier Gain :  $G_v=0\sim 20\text{dB}$



Lead pitch is 2.54 and tolerance is  $\pm 0.25$  against theoretical center of each lead that is obtained on the basis of No.1 lead.

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TOSHIBA 89A-P

Weight : 0.92g

MAXIMUM RATINGS ( $T_a=25^\circ\text{C}$ )

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	$V_{CC}$	14	V
LED Driving Terminal Voltage (Note 1)	$V_L$	15	V
Power Dissipation (Note 2)	$P_D$	600	mW
Operating Temperature	$T_{opr}$	$-25\sim 75$	$^\circ\text{C}$
Storage Temperature	$T_{stg}$	$-55\sim 150$	$^\circ\text{C}$

Note 1 : For Pin 1~4 and 6

2 : Derated above  $T_a=25^\circ\text{C}$  in the proportion of  $4.8\text{mW}/^\circ\text{C}$ .

AUDIO LINEAR IC

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ELECTRICAL CHARACTERISTICS

(Unless otherwise specified,  $V_{CC}=9V$ ,  $f=1kHz$ ,  $T_a=25^{\circ}C$ )

CHARACTERISTIC	SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Quiescent Current	$I_{CCQ}$	-	$V_{IN}=0V$	-	3	5	mA
Output Current	$I_O(1 \sim 5)$	-		5	8	10	mA
Output Leak Current	$I_O(OFF)$	-		-	-	50	$\mu A$
Sensitivity	$V_{LD5(ON)}$	-	$R_S=24k\Omega$ , $R_f=100k\Omega$	-	230	-	mV <sub>rms</sub>

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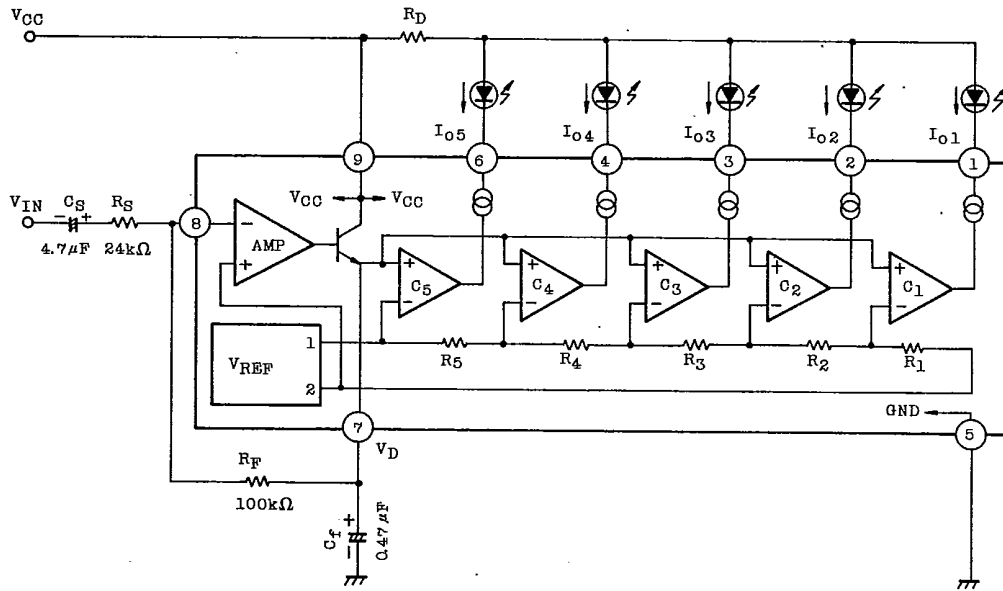
LED Turn-on Input Level	LD5	-	$R_S=24k\Omega$ , $R_f=100k\Omega$ $I_O=1mA$	-1	0	1	dB
	LD4	-		-4	-3	-2	dB
	LD3	-		-7.5	-6	-4.5	dB
	LD2	-		-13	-11	-9	dB
	LD1	-		-19	-16	-13	dB

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LED Turn-on Input Level	LD5	-	$R_S=24k\Omega$ , $R_f=100k\Omega$ $I_O=1mA$	-1	0	1	dB
	LD4	-		-3	-2	-1	dB
	LD3	-		-5	-4	-3	dB
	LD2	-		-7	-6	-5	dB
	LD1	-		-9	-8	-7	dB

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TEST CIRCUIT/BLOCK DIAGRAM



INTERNAL RESISTANCE VALUE

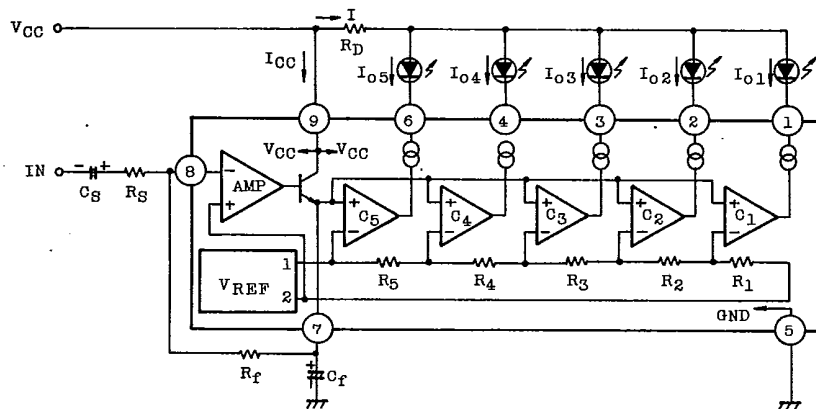
	TA7366P	TA7367P	UNIT
R1	1.36	3.66	kΩ
R2	1.08	0.948	kΩ
R3	1.89	1.19	kΩ
R4	1.78	1.50	kΩ
R5	2.50	1.89	kΩ

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## PRECAUTION FOR USE AND APPLICATION METHOD



### 1. Setting of Turn-on Level

Turn-on input level can be set through changing the voltage gain ( $G_V$ ) of the input amplifier. This voltage gain is determined by the external resistor ( $R_S, R_f$ ) and obtained by the equation below.

$$G_V = 20 \log \frac{R_f}{R_S} \quad (\text{Use in the range of } G_V = 0 \sim 20\text{dB})$$

When  $G_V = 0\text{dB}$  ( $R_S = R_f = 100\text{k}\Omega$ ), the turn-on level at fifth LED is  $958.3\text{mVrms}$  (Typ.). For turning on the fifth LED with the arbitrarily set input level ( $V_{IN}$ ), use the following equation to set  $R_S$  and  $R_f$ .

$$\frac{R_f}{R_S} = \frac{958.3\text{mVrms}}{V_{IN}} \quad (\text{Use the resistor of } R_f = 56\text{k}\Omega \text{ or over})$$

### 2. Setting of Power Dissipation and Limiting Resistor

Since the output of this IC is driver by constant current, all the output current ( $I_{O1} \sim 5$ ) are dissipated in the IC. Therefore, set the limiting resistor ( $R_D$ ) so that the power dissipation ( $P_D$ ) may not exceed the maximum rating because of the ambient temperature.

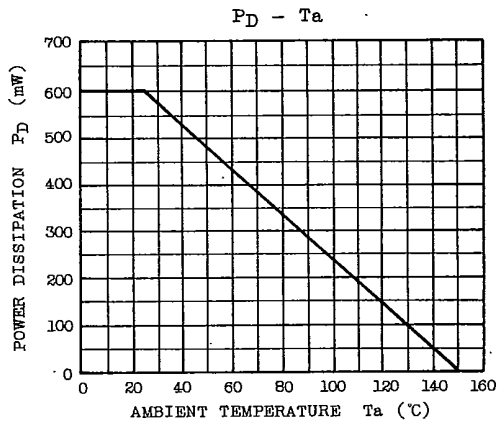
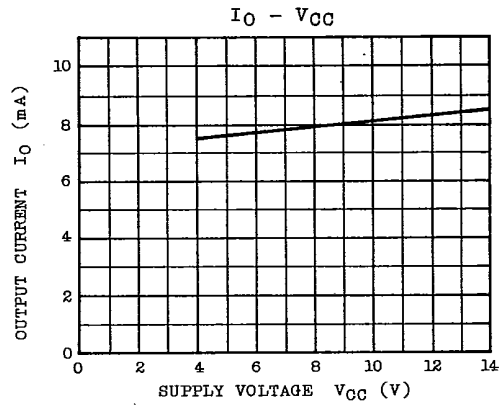
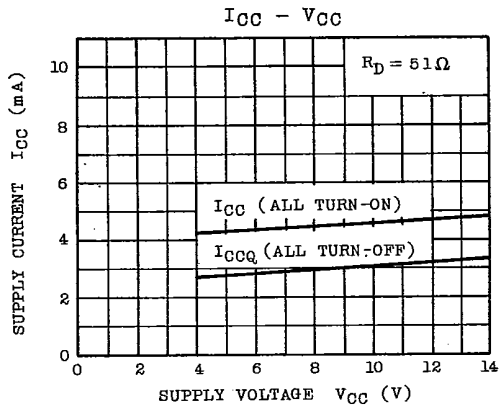
$$P_D = V_{CC} \cdot I_{CC} + (V_{CC} - R_D \cdot I - V_F) I_{O1} + \dots + (V_{CC} - R_D \cdot I - V_F) I_{O5}$$

$$\text{Total output current; } I = I_{O1} + I_{O2} + I_{O3} + I_{O4} + I_{O5}$$

$$\text{LED forward voltage; } V_F = 1.5\text{V}$$

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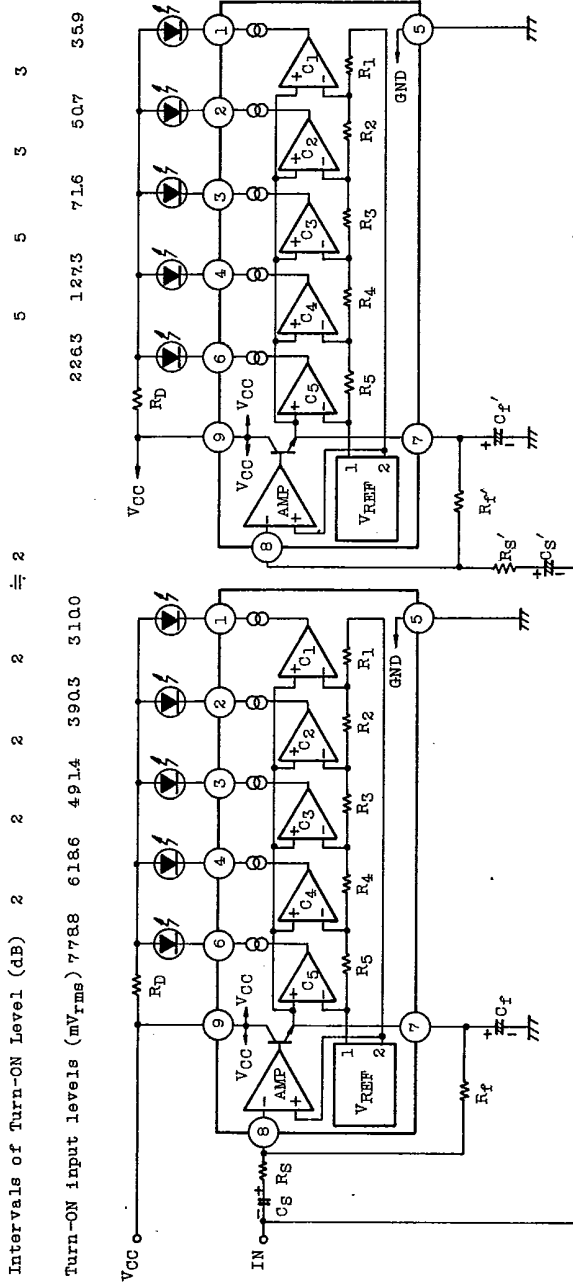


**AUDIO LINEAR IC**

# TA7366P TA7367P

**APPLICATION**

RANGE EXTENSION (10 LEDs, TA7366P+TA7367P)



TA7367P

RS=47kΩ, Rf=56kΩ  
CS=4.7μF, Cf=0.47μF

TA7366P

RS'=20kΩ, Rf'=82kΩ  
CS'=4.7μF, Cf'=0.47μF