

TA7366P

TA7367P

T-77-21

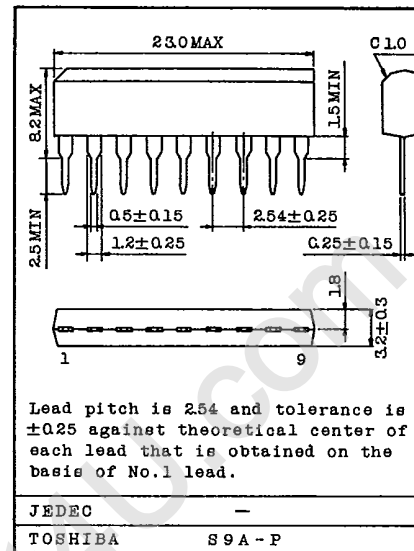
5-LED LEVEL METER DRIVER

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 : $I_O=8\text{mA(Typ.)}$
- . 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 : $G_V=0\sim 20\text{dB}$

Unit in mm



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 $4.8\text{mW}/^\circ\text{C}$.

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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	μA
Sensitivity	$V_{LD5(ON)}$	-	$R_S=24k\Omega$, $R_f=100k\Omega$	-	230	-	mV _{rms}

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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

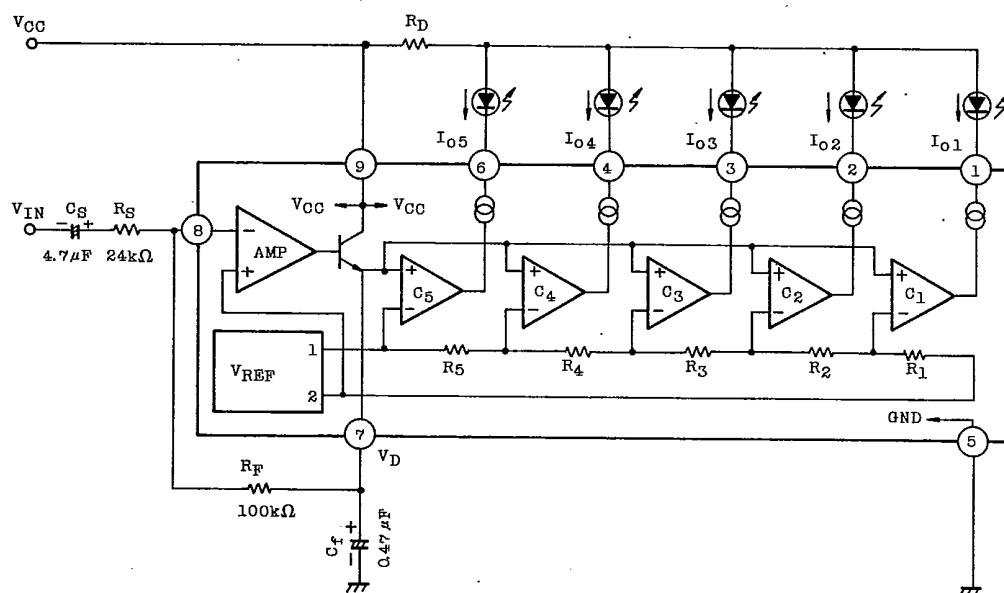
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LED Turn-on Input Level	LD5	-	$R_S=24k\Omega$, $R_f=100k\Omega$ $I_O=1mA$	-1	0	1	dB
	LD4	-		-3	-2	-1	dB
	LD3	-		-5	-4	-3	dB
	LD2	-		-7	-6	-5	dB
	LD1	-		-9	-8	-7	dB

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TEST CIRCUIT/BLOCK DIAGRAM



INTERNAL RESISTANCE VALUE

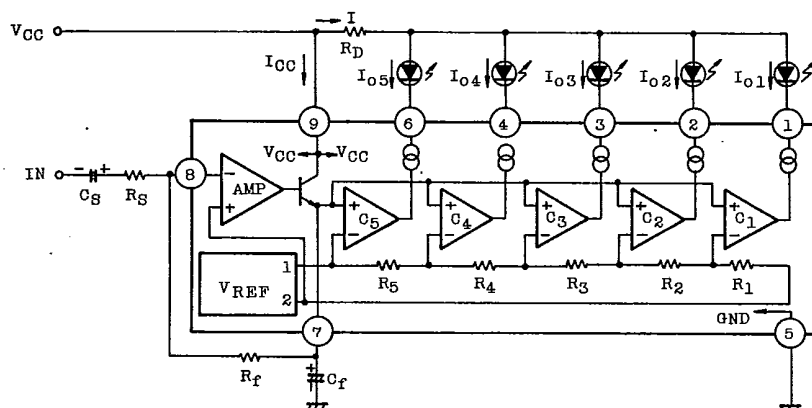
	TA7366P	TA7367P	UNIT
R1	1.36	3.66	kΩ
R2	1.08	0.948	kΩ
R3	1.89	1.19	kΩ
R4	1.78	1.50	kΩ
R5	2.50	1.89	kΩ

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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 .

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

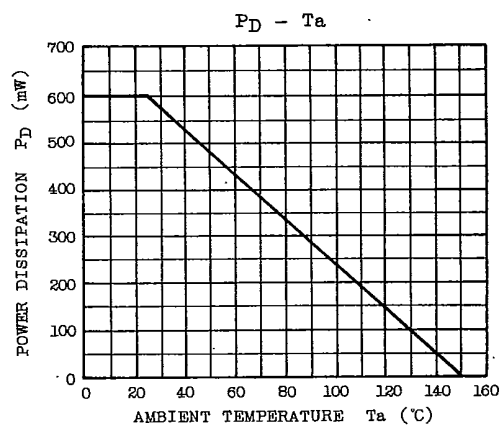
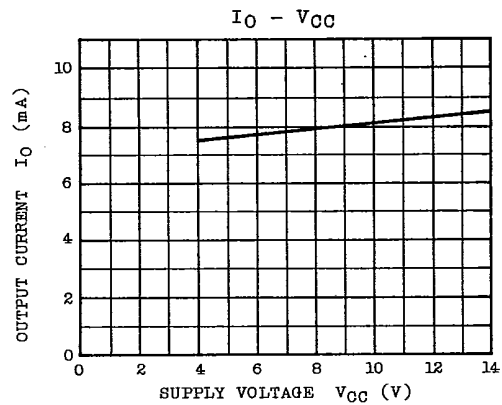
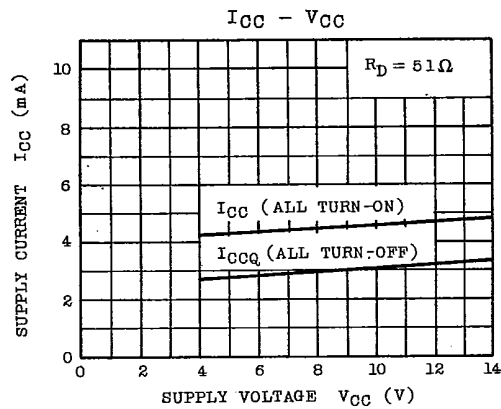
2. Setting of Power Dissipation and Limiting Resistor

Since the output of this IC is driver by constant current, all the output current ($I_{O1} \sim I_{O5}$) are dissipated in the IC. Therefore, set the limiting resistor (R_P) so that the power dissipation (P_D) may not exceed the maximum rating because of the ambient temperature.

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

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

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

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