TA7750P

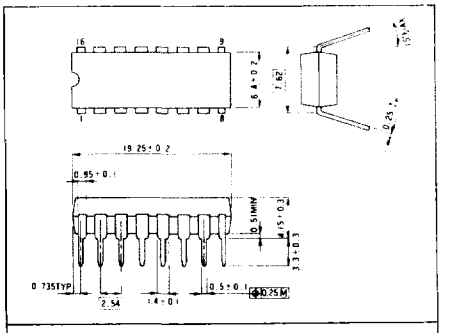
TENTATIVE

○ AUDIO-VIDEO SWITCH for a CTV

The TA7750P is designed for providing an input interface stage of an audio-video prepared CTV. This IC combines a two inputs video signal switch and two channel two input audio signal switches in 16 leads DIP package. The switch position is displayed by external LED lamps. The audio switch stage provides muting circuit for optional functions.

OUTLINE

Unit: mm



JEDEC	—
TOSHIBA	DIP16-P-300A

FEATURE

* Excellent dynamic range capability.
  2.5 V_{P-P} for all switches typ.
* Low crorrtalk characteristics.
  50 dB typ. (Video section)
  60 dB typ. (Audio section)
* Provided polarity inverter amplifier for internal video signal input.
  #14 pin for positive going sync. video signal,
  #15 pin for negative going sync. video signal
* Provided TV monitor output.
* Low power dissipation. 300mW typ. @ V_{CC}=12V

MAXIMUM RATINGS (T_a = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V_{CC}	15	V
Input Voltage	v_{in}	3	V_{P-P}
LED Drive Current	I_O	±20	mA
Power Dissipation(Note)	P_D	800	mW
Operating Temperature	T_{opr}	-20 to 65	°C
Storage Temperature	T_{stg}	-55 to 150	°C

Note; Derated linearly above T_a=25°C in the proportion of 6.4mW/°C.

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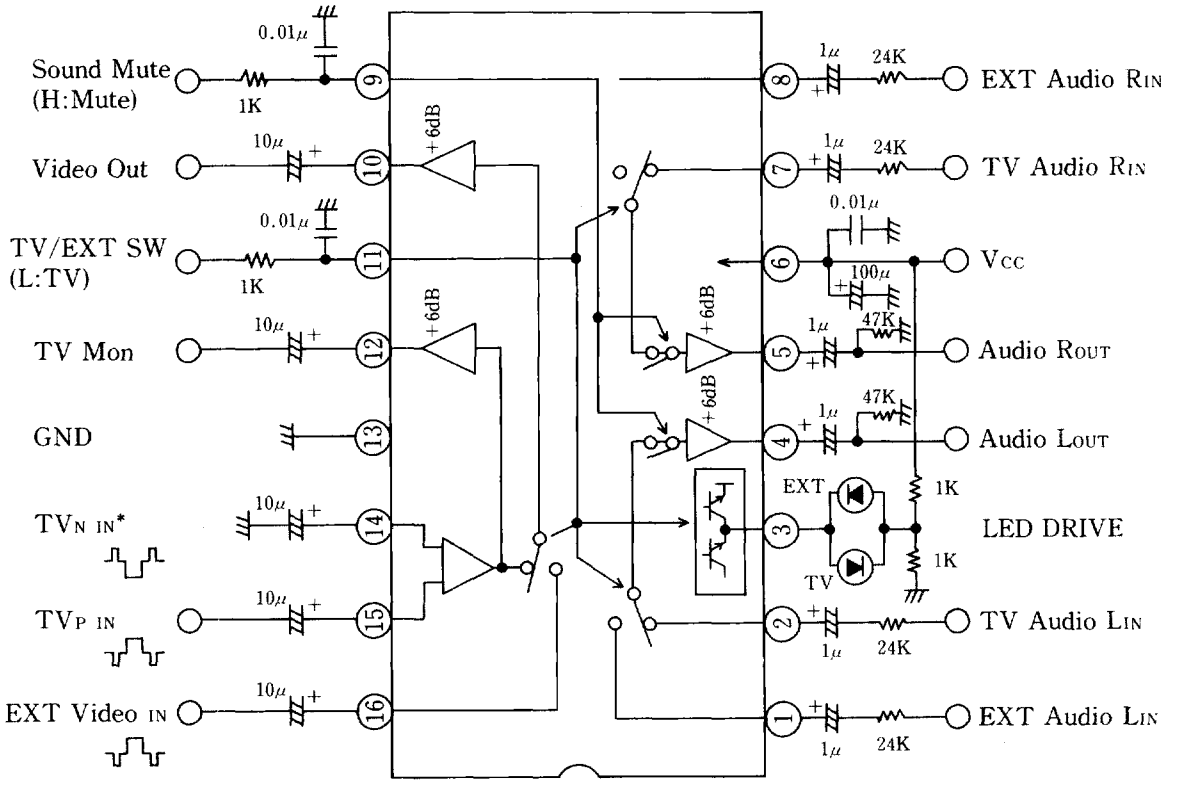
Fig. BLOCK DIAGRAM



* Composite video siganl with sync positive going should be applied to pin 14.
The external parts of pin 14 and pin 15 should be exchanged.

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(Unless otherwise specified V_{CC}=12V, Ta=25°C)

CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Recommended Supply Voltage	V_{CC}			10.8	12	13.2	V
Supply Current	I_{CC}	1	S_3 : 2	17	25	36	mA
Threshould Level of the Control Terminal	$V_{th_{11}}$	1		1.4	2.2	3.0	V
Threshould Level of the Muting	V_{th_9}	1		1.0	1.5	2.0	V

VIDEO SECTION

Band Width	f_{Bv}	1	v_{in}:1V_{p-p} 500kHz ~ 10MHz $\frac{v_{OUT(f_{Bv})}}{v_{OUT(500kHz)}}$ = -3dB	5	10	-	MHz
Input Dynamic Range	v_{iv}	1		2.0	2.5	-	V_{p-p}
Cross Talk	C_v	1	v_{in}:1V_{p-p} 3.58MHz	40	50	-	dB
DG	DG_v	1	v_{in}:1V_{p-p} 3.58MHz	-	0.5	5	%
DP	DP_v	1	v_{in}:1V_{p-p} 3.58MHz	-	1	5	deg
Gain	G_v	1	v_{in}:1V_{p-p} 3.58MHz		6		dB
Input Impedance	R_{INv}	1		10	15	20	kΩ
Output Impedance	R_{OUTv}	1		30	150	300	Ω

AUDIO SECTION

Band Width	f_{Ba}	1	v_{in}:1V_{p-p} 50Hz ~ 100kHz $\frac{v_{OUT(f_{Ba})}}{v_{OUT(50Hz)}}$ = -3dB	100	-	-	kHz
Input Dynamic Range	v_{ia}	1		2.0	2.5	-	V_{p-p}
Cross Talk	C_a	1	v_{in}:1V_{p-p} 15kHz	50	60	-	dB
Gaine	G_a	1	v_{in}:1V_{p-p} 1kHz	5	6	7	dB
Total Harmonic Distortion	THD	1	v_{in}:1V_{p-p} 1kHz	-	0.5	1.5	%
Input Impedance	R_{INa}	1		20	30	40	kΩ
Output Impedance	R_{OUTa}	1		30	150	300	Ω

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TEST CIRCUIT 1