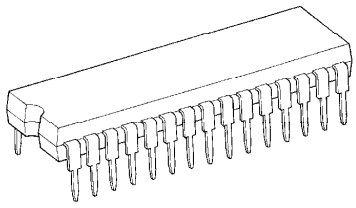
TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8748AN

DOUBLE CCD COMB IC FOR TV, VTR

The TA8748AN is for double comb filter Y/C separation and vertical edge enhancement using the logic of majority decision.
Due to this logic, the Y/C Separation by this IC have no dot appearance or color protruding.



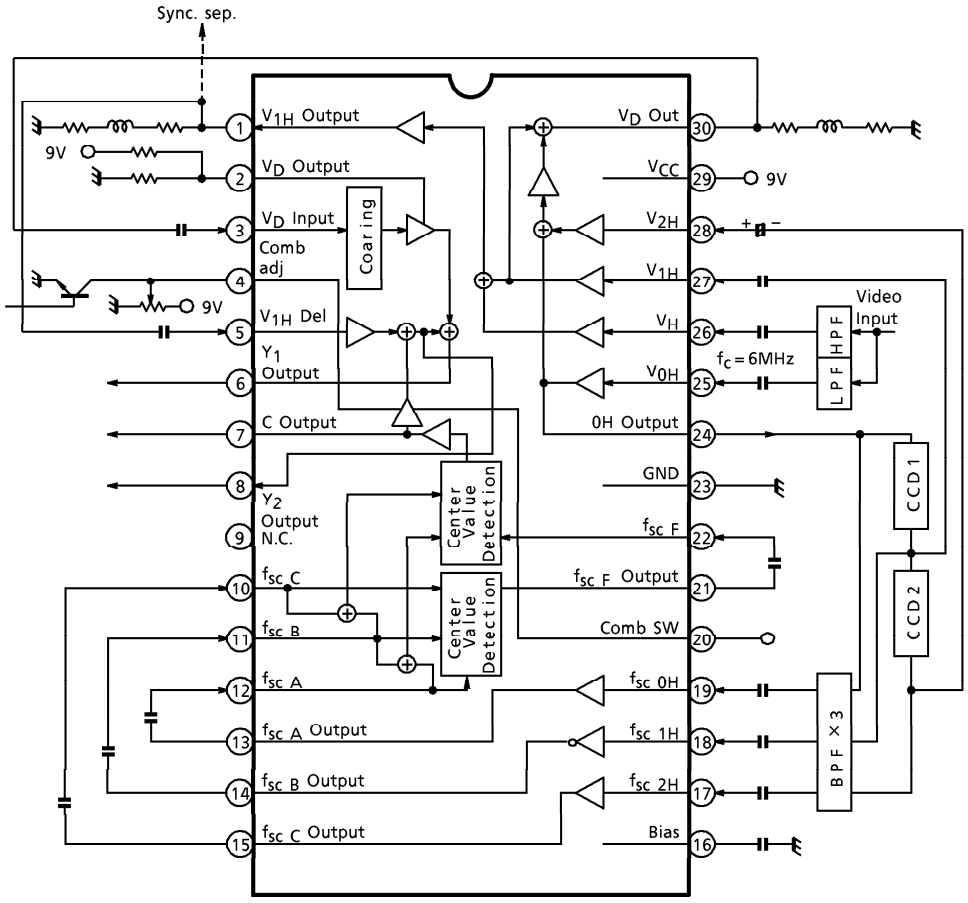
SDIP30-P-400-1.78

Weight : 1.99g (Typ.)

FEATURES

- 3 Line Comb Filter Operation
- Center Value Detecting Circuit
- Vertical Edge Sharpness Correction (Vertical Secondary Differential)
- Vertical Edge Sharpness Correction Level Control
- Edge Sharpness Correction Signal Coring and Peak Clip

BLOCK DIAGRAM



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Supply Voltage	V_{CC}	12	V
Power Dissipation	P_D max	1560 (Note 1)	mW
Input Terminal Signal Voltage	e_{in}	5	V_{p-p}
Operating Temperature	T_{opr}	−20~65	°C
Storage Temperature	T_{stg}	−55~150	°C

(Note 1) When using the device at above Ta = 25°C, decrease the power dissipation by 12.5mW for each increase of 1°C.

(Note 2) These devices are easy to be damaged by static voltage or electric fields. Please handle with care.

ELECTRICAL CHARACTERISTICS (Unless otherwise specified, V_{CC} = 9V, Ta = 25°C)
DC voltage characteristics

PIN No.	PIN NAME	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
1	V_{1H} Output	V_1	—	4.2	4.5	4.8	V
2	V_D Output	V_2	cf. OPEN	4.2	4.5	4.8	V
3	V_D Input	V_3	—	2.7	3.0	3.3	V
4	Comb adj	V_4	cf. OPEN	4.2	4.5	4.8	V
5	V_{1H} Del	V_5	—	2.7	3.0	3.3	V
6	Y_1 Output	V_6	—	2.3	3.0	3.5	V
7	C Output	V_7	—	3.5	3.8	4.1	V
8	Y_2 Output	V_8	—	2.3	3.0	3.5	V
9	N.C.	V_9	—	—	—	—	V
10	f_{sc} C	V_{10}	—	4.2	4.5	4.8	V
11	f_{sc} B	V_{11}	—	4.2	4.5	4.8	V
12	f_{sc} A	V_{12}	—	4.2	4.5	4.8	V
13	f_{sc} A Output	V_{13}	—	3.5	3.8	4.1	V
14	f_{sc} B Output	V_{14}	—	3.5	3.8	4.1	V
15	f_{sc} C Output	V_{15}	—	3.5	3.8	4.1	V
16	Bias	V_{16}	—	5.7	6.1	6.3	V
17	f_{sc} 2H	V_{17}	—	5.0	5.4	5.6	V
18	f_{sc} 1H	V_{18}	—	5.0	5.4	5.6	V
19	f_{sc} 0H	V_{19}	—	5.0	5.4	5.6	V
20	Comb SW	V_{20}	cf. OPEN	0	0.03	0.5	V
21	f_{sc} F Output	V_{21}	—	2.8	3.1	3.4	V
22	f_{sc} F	V_{22}	—	4.2	4.5	4.8	V
23	GND	—	—	—	0	—	V
24	0H Output	V_{24}	—	4.2	4.5	4.8	V
25	V_{0H}	V_{25}	—	5.0	5.3	5.5	V
26	V_H	V_{26}	—	5.0	5.3	5.5	V
27	V_{1H}	V_{27}	—	5.0	5.3	5.5	V
28	V_{2H}	V_{28}	—	5.0	5.3	5.5	V
29	V_{CC}	—	—	—	9.0	—	V
30	V_D Output	V_{30}	—	4.2	4.5	4.8	V
29	V_{CC}	I_{29}	—	43	54	72	mA

AC characteristics

CHARACTERISTIC		SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
19dB Amp Gain	(1) 0H→A	G_{ca}	—	(Note 1)	17.5	19	20	dB
	(2) 1H→B	G_{cb}			17.5	19	20	
	(3) 2H→C	G_{cc}			17.5	19	20	
19dB Amp Frequency Characteristic	(1) 0H→A	f_a	—	(Note 2)	10	—	—	MHz
	(2) 1H→B	f_b			10	—	—	
	(3) 2H→C	f_c			10	—	—	
19dB Amp Input Dynamic Range	(1) 0H→A	V_{ia}	—	(Note 3)	500	600	—	mV_{p-p}
	(2) 1H→B	V_{ib}			500	600	—	
	(3) 2H→C	V_{ic}			500	600	—	
Center Value Circuit Gain		G_{cout}	—	(Note 4)	−8.0	−6.5	−5.0	dB
Center Value Circuit Frequency Characteristics		f_{cout}	—	(Note 5)	10	—	—	MHz
Offset Leak Level	(1) out $f_{sc\ F}$	V_{if}	—	(Note 6)	4.5	—	—	V_{p-p}
	(2) C_{out}	V_{ioc}			4.5	—	—	
Center Value Circuit Input Dynamic Range	$f_{sc\ A}$	V_{ofa}	—	(Note 7)	—	—	70	mV_{p-p}
	$f_{sc\ B}$	V_{ofb}			—	—	70	
	$f_{sc\ C}$	V_{ofc}			—	—	70	
Center Value Circuit out $f_{sc\ F}$ Leak Level	$f_{sc\ A}$	V_{oca}	—	(Note 8)	—	—	50	mV_{p-p}
	$f_{sc\ C}$	V_{occ}			—	—	50	
Center Value Circuit Cout Leak Level	$f_{sc\ F}$	V_{oci}			—	—	35	
	Crosstalk	V_{oyc}	—	(Note 9)	—	—	50	mV_{p-p}
Chroma→Video Crosstalk	1) out 0H	C_{0hc}	—	(Note 10)	−45	—	—	dB
	2) V_1 out	C_{1hc}			−30	—	—	
	3) V_D out	C_{vdc}			−50	—	—	
Comb SW Switching Voltage		V_{SW}	—	(Note 11)	2.7	3.6	4.0	V
Cadj Amp Max. Gain	Positive	G_{c1f}	—	(Note 12)	−2.5	−0.5	0.5	dB
	Negative	G_{c1r}			−2.5	−0.5	0.5	
Cadj Amp Center Gain	Positive	G_{c2f}	—	(Note 13)	−7.5	−6.5	−5.5	dB
	Negative	G_{c2r}			−7.5	−6.5	−5.5	
Cadj Amp Min. Gain	Positive	G_{c3f}	—	(Note 14)	—	—	50	dB
	Negative	G_{c3r}			—	—	50	
Cadj Amp Frequency Characteristics	Positive	f_{c1f}	—	(Note 15)	10	—	—	MHz
	Negative	f_{c1r}			10	—	—	
Cadj Amp Input Dynamic Range	Positive	V_{c1f}	—	(Note 16)	4.5	—	—	dB
	Negative	V_{c1r}			4.5	—	—	

CHARACTERISTIC		SYMBOL	TEST CIR-CUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
V_{0H} Input Gain	out 0H	G_{v00}	—	(Note 17)	5.0	6.0	7.0	dB
	V_D out	G_{vd0}			−1.0	0.0	1.0	
V_H Input Gain	V_{1H} out	G_{v1h}	—	(Note 18)	9.0	10.0	11.5	dB
V_{1H} Input Gain	V_{1H} out	G_{v11}	—	(Note 19)	9.0	10.0	11.5	dB
	V_D out	G_{vd1}			5.0	6.0	7.0	
V_{2H} Input Gain	V_D out	G_{vd2}	—	(Note 20)	−7.5	−6.0	−5.5	dB
V_{0H} Input Frequency Characteristics	out 0H	f_{v00}	—	(Note 21)	10	—	—	MHz
	V_D out	f_{vd0}			10	—	—	
V_H Input Frequency Characteristics	V_{1H} out	f_{v1h}	—	(Note 22)	10	—	—	MHz
V_{1H} Input Frequency Characteristics	V_{1H} out	f_{v11}	—	(Note 23)	10	—	—	MHz
	V_D out	f_{vd1}			10	—	—	
V_{2H} Input Frequency	V_D out	f_{vd2}	—	(Note 24)	10	—	—	MHz
V_{0H} Input Dynamic Range	out 0H	V_{i00}	—	(Note 25)	1.5	—	—	V_{p-p}
	V_D out	V_{id0}			1.5	—	—	
V_H Input Dynamic Range Characteristics	V_{1H} out	V_{i1h}	—	(Note 26)	0.9	—	—	V_{p-p}
V_{1H} Input Dynamic Range	V_{1H} out	V_{i11}	—	(Note 27)	1.0	—	—	V_{p-p}
	V_D out	V_{id1}			1.0	—	—	
V_{2H} Input Dynamic Range	V_D out	V_{id2}	—	(Note 28)	2.5	—	—	V_{p-p}
Coring Peak Clip Level		V_{pcl}	—	(Note 29)	50	90	150	mV
Coring Cutoff Level		V_{cut}	—	(Note 30)	10	12.5	15	mV
Coring Cutoff Set		V_{off}	—	(Note 31)	−10	0	10	mV
V_D Max. Gain	Coring	G_{ylc}	—	(Note 32)	0.5	1.5	5.0	dB
	V_D	G_{yld}			9.5	11.5	12.5	
	Peak Clip	G_{ylp}			6.5	8.5	9.5	
V_D Center Gain		G	—	(Note 33)	4.0	6.0	8.0	dB
V_D Min. Gain		G_{y3d}	—	(Note 34)	—	—	60	dB
V_D Amp Frequency Characteristics		f_{yd}	—	(Note 35)	10	—	—	MHz
V_D Amp Dynamic Range		V_{iyd}	—	(Note 36)	1.2	—	—	V_{p-p}
V_{1H} Amp Gain		G_{yd1}	—	(Note 37)	7.5	8.5	9.5	dB
V_{1H} Amp Frequency Characteristics		f_{yd1}	—	(Note 38)	10	—	—	MHz
V_{1H} Amp Dynamic Range		V_{id1}	—	(Note 39)	1.2	—	—	V_{p-p}
Video Cross talk	(1) V_{IH}→out 0H	C_{oh1}	—	(Note 40)	−45	—	—	dB
	(2) V_{2H}→out 0H	C_{oh2}			55	—	—	
Video→ Chroma Crosstalk	(1) V_{0H}, V_H→C_{out}	C_{c0h}	—	(Note 41)	55	—	—	dB
	(2) V_{1H}→C_{out}	C_{c1h}			55	—	—	
	(3) V_{2H}→C_{out}	C_{c2h}			55	—	—	
	(4) V_{Din}→C_{out}	C_{cvD}			−50	—	—	
	(5) V_{1Hdil}→C_{out}	C_{cd1}			−40	—	—	

TEST CONDITION

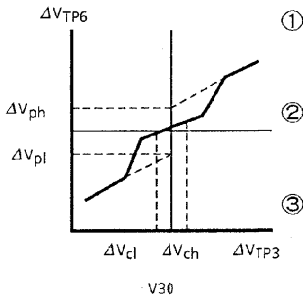
NOTE No.	CHARACTERISTICS		TEST METHOD (V_{CC} = 9.0V, Ta = 25 ± 3°C) SW & VR MODE SW_{10}	SW_{11}	SW_{12}	SW_{17}	SW_{18}	SW_{19}	SW_{22}			TEST METHOD
1	19dB Amp Gain	① 0H→A	a	a	a	b	b	b	—			(1) V_3 Input ; f_0 = 3.58MHz, V = 140mV_{p-p} CW (2) Measure the Output Level of ①TP13, ②14, ③15. (3) Measure the Gain against Input.
		② 1H→B	a	a	a	b	b	b	—			
		③ 2H→C	a	a	a	b	b	b	—			
2	19dB Amp Frequency Characteristic	① 0H→A	a	a	a	b	b	b	—			(1) V_3 Input ; f : variable, V = 140mV_{p-p} CW (2) Measure the Output Level of ①TP13, ②14, ③15. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.
		② 1H→B	a	a	a	b	b	b	—			
		③ 2H→C	a	a	a	b	b	b	—			
3	19dB Amp Input Dynamic Range	① 0H→A	a	a	a	b	b	b	—			(1) V_3 Input ; f_0 = 3.58MHz, V : variable CW (2) Measure the Output waveform of ①TP13, ②14, ③15. (3) Get input level to make output wave form be distorted.
		② 1H→B	a	a	a	b	b	b	—			
		③ 2H→C	a	a	a	b	b	b	—			
4	Center Value Circuit Gain		b	b	b	c	c	c	a			(1) V_2 Input ; f_0 = 3.58MHz, V = 1.2V_{p-p} CW (2) Measure the Output Level of TP7. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.
5	Center Value Circuit Frequency Characteristic		b	b	b	c	c	c	a			(1) V_2 Input ; f : variable, V = 1.2V_{p-p} CW (2) Measure the Output Level of TP7. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.

NOTE No.	CHARACTERISTICS		TEST CONDITION (V_{CC} = 9.0V, Ta = 25 ± 3°C) SW & VR MODE SW_{10}	SW_{11}	SW_{12}	SW_{17}	SW_{18}	SW_{19}	SW_{22}	TP2	TP4	TEST METHOD
6	Center Value Circuit Input Dynamic Range	① out f_{SC} F	b	b	b	c	c	c	a	—	—	(1) V_2 Input ; f_0 = 3.58MHz, V : Variable CW (2) Measure the Output Waveform of ①TP21, ②TP7. (3) Get input level to make output wave form be distorted.
		② C_{out}	b	b	b	c	c	c	a	—	—	
7	Center Value Circuit Input out f_{SC} F Leak Level	fsc A	c	c	b	c	c	c	a	—	—	(1) V_2 Input ; f_0 = 3.58MHz, V = 1.2V_{p-p} CW (2) Measure the Output Level of TP21.
		fsc B	c	b	c	c	c	c	a	—	—	
		fsc C	b	c	c	c	c	c	a	—	—	
8	Center Value Circuit Input C_{out} Leak Level	fsc A	c	c	b	c	c	c	a	—	—	(1) V_2 Input ; f_0 = 3.58MHz, V = 1.2V_{p-p} CW (2) Measure the Output Level of TP7.
		fsc B	b	c	c	c	c	c	a	—	—	
		fsc C	c	c	c	c	c	c	a	—	—	
9	Center Value Circuit Crosstalk Leak Level		a	a	a	b	b	b	a	4.5V	4.5V	(1) V_3 Input ; f_0 = 3.58MHz, V = 140mV_{p-p} CW (2) Measure Output Level of TP6.
10	Chroma→Video Crosstalk	① out 0H	a	a	a	b	b	b	a	4.5V	4.5V	(1) V_3 Input ; f_0 = 3.58MHz, V = 140mV_{p-p} CW (2) Measure Output Level of ①TP24, ②TP1, TP30. (3) Get ratio against ①0.28V_{p-p}, ②0.56V_{p-p}, ③0.28V_{p-p}.
		② V_{1H} out	a	a	a	b	b	b	a	4.5V	4.5V	
		③ V_D out	a	a	a	b	b	b	a	4.5V	4.5V	

NOTE No.	CHARACTERISTICS		TEST CONDITION (V_{CC} = 9.0V, Ta = 25 ± 3°C) SW & VR MODE									TEST METHOD
			SW_3	SW_5	SW_{10}	SW_{11}	SW_{12}	SW_{22}	TP2	TP4	TP20	
11	Comb SW Switching Voltage		c	c	b	b	b	a	4.5V	4.5V	—	(1) V_2 Input ; f_0 = 3.58MHz, V = 1.2V_{p-p} CW (2) Measure the Output Waveform of TP6. (3) While increasing the T20 voltage, measure the voltage at which waveform of TP6 turns over.
12	Cadj Amp Max. Gain	Normal	c	c	b	b	b	a	4.5V	8.5V	9V	(1) V_2 Input ; f_0 = 3.58MHz, V = 1.2V_{p-p} CW (2) Measure the Output Level of TP6. (3) Get gain against input.
		Inverted	c	c	b	b	b	a	4.5V	8.5V	0V	
13	Cadj Amp Center Gain	Normal	c	c	b	b	b	a	4.5V	4.5V	9V	(1) V_2 Input ; f_0 = 3.58MHz, V = 1.2V_{p-p} CW (2) Measure the Output Level of TP6. (3) Get gain against input.
		Inverted	c	c	b	b	b	a	4.5V	4.5V	0V	
14	Cadj Amp Min. Gain	Normal	c	c	b	b	b	a	4.5V	0.5V	9V	(1) V_2 Input ; f_0 = 3.58MHz, V = 1.2V_{p-p} CW (2) Measure the Output Level of TP6. (3) Get gain against input.
		Inverted	c	c	b	b	b	a	4.5V	0.5V	0V	
15	Cadj Amp Frequency Characteristic	Normal	c	c	b	b	b	a	4.5V	9V	9V	(1) V_2 Input ; f : Variable, V = 1.2V_{p-p} CW (2) Measure the Output Level of TP6. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.
		Inverted	c	c	b	b	b	a	4.5V	9V	0V	
16	Cadj Amp Input Dynamic Range	Normal	c	c	b	b	b	a	4.5V	0.5V	9V	(1) V_2 Input ; f_0 = 3.58MHz, V : Variable (2) Measure the Output Level of TP6. (3) Get input level to make output wave form be distorted.
		Inverted	c	c	b	b	b	a	4.5V	9V	0V	

NOTE No.	CHARACTERISTICS		TEST CONDITION (V_{CC} = 9.0V, Ta = 25 ± 3°C) SW & VR MODE SW_{25}	SW_{26}	SW_{27}	SW_{28}		TEST METHOD
17	V_{0H} Input Gain	① out 0H	b	c	c	c		(1) V_4 Input ; f_0 = 15kHz, V = 0.5V_{p-p} CW (2) Measure output Level of ①TP24, ②TP30. (3) Get gain against input.
		② V_D out	b	c	c	c		
18	V_H Input Gain	V_{1H} out	c	b	c	c		(1) V_4 Input ; f_0 = 6MHz, V = 0.5V_{p-p} CW (2) Measure the TP1 Output level. (3) Get gain against input.
19	V_{1H} Input Gain	① V_{1H} out	c	c	b	c		(1) V_5 Input ; f_0 = 15kHz, V = 0.5V_{p-p} CW (2) Get output level against ①TP1, ②TP30. (3) Get gain against input.
		② V_D out	c	c	b	c		
20	V_{2H} Input Gain	V_D out	c	c	c	b		(1) V_5 Input ; f_0 = 15kHz, V = 1.0V_{p-p} CW (2) Measure of the output level of TP30. (3) Get gain against input.
21	V_{0H} Input Frequency Characteristics	① out 0H	b	c	c	c		(1) V_4 input ; f : variable, V = 0.5V_{p-p} CW (2) Get against level against ①TP24, ②TP30. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.
		② V_D out	b	c	c	c		
22	V_H Input Frequency Characteristics	V_{1H} out	c	b	c	c		(1) V_4 Input ; f : variable, V = 0.5V_{p-p} CW (2) Measure of the output level of TP1. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.
23	V_{1H} Input Frequency Characteristics	① V_{1H} out	c	c	b	c		(1) V_5 Input ; f : variable, V = 0.5V_{p-p} CW (2) Measure output level of ①TP1, ②TP30 (3) Get frequency to make output be −3dB lower than that at f = 1MHz.
		② V_D out	c	c	b	c		
24	V_{2H} Input Frequency Characteristics	V_D out	c	c	c	b		(1) V_5 Input ; f : variable, V = 1.0V_{p-p} CW (2) Measure output of the TP30. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.

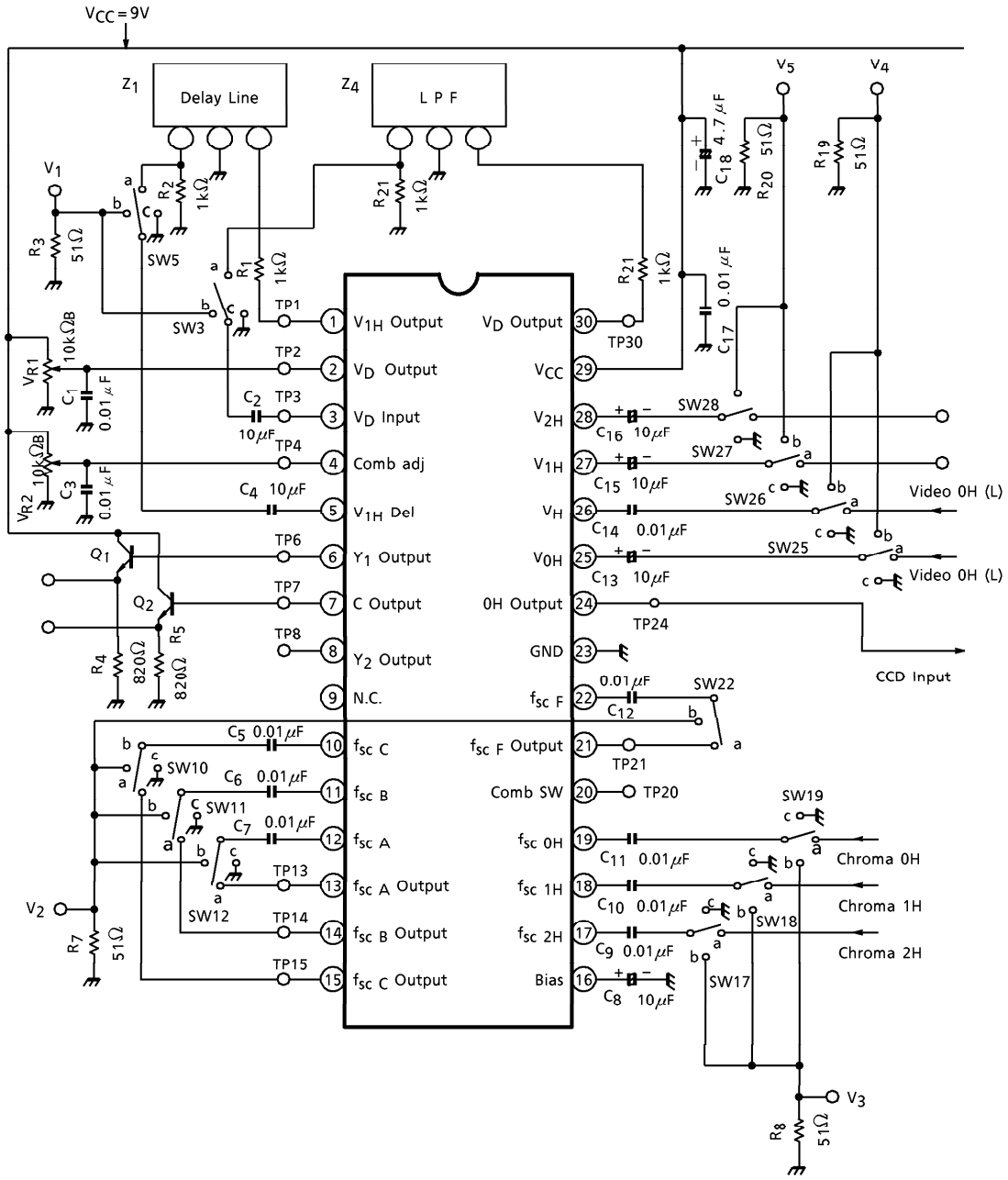
NOTE No.	CHARACTERISTICS		TEST CONDITION (V_{CC} = 9.0V, Ta = 25 ± 3°C) SW & VR MODE SW_{25}	SW_{26}	SW_{27}	SW_{28}		TEST METHOD
25	V_{0H} Input Dynamic Range	① out 0H	b	c	c	c		(1) V_4 Input ; f = 15kHz, V : variable CW (2) Measure output level of ①TP24, ②TP30. (3) Get input level to make output wave form be distorted.
		② V_D out	b	c	c	c		
26	V_H Input Dynamic Range	V_{1H} out	c	b	c	c		(1) V_4 Input ; f = 6kHz, V : Variable CW (2) Measure the output waveform of the TP1. (3) Get input level to make output wave form be distorted.
27	V_{1H} Input Dynamic Range	① V_{1H} out	c	c	b	c		(1) V_5 Input ; f = 15kHz, V : Variable CW (2) Measure output level of ①TP1, ②TP30 (3) Get input level to make output wave form be distorted.
		② V_D out	c	c	b	c		
28	V_{2H} Input Dynamic Range	V_D out	c	c	c	b		(1) V_5 Input ; f = 15kHz, V : variable CW (2) Measure the output level of TP30. (3) Get input level to make output wave form be distorted.

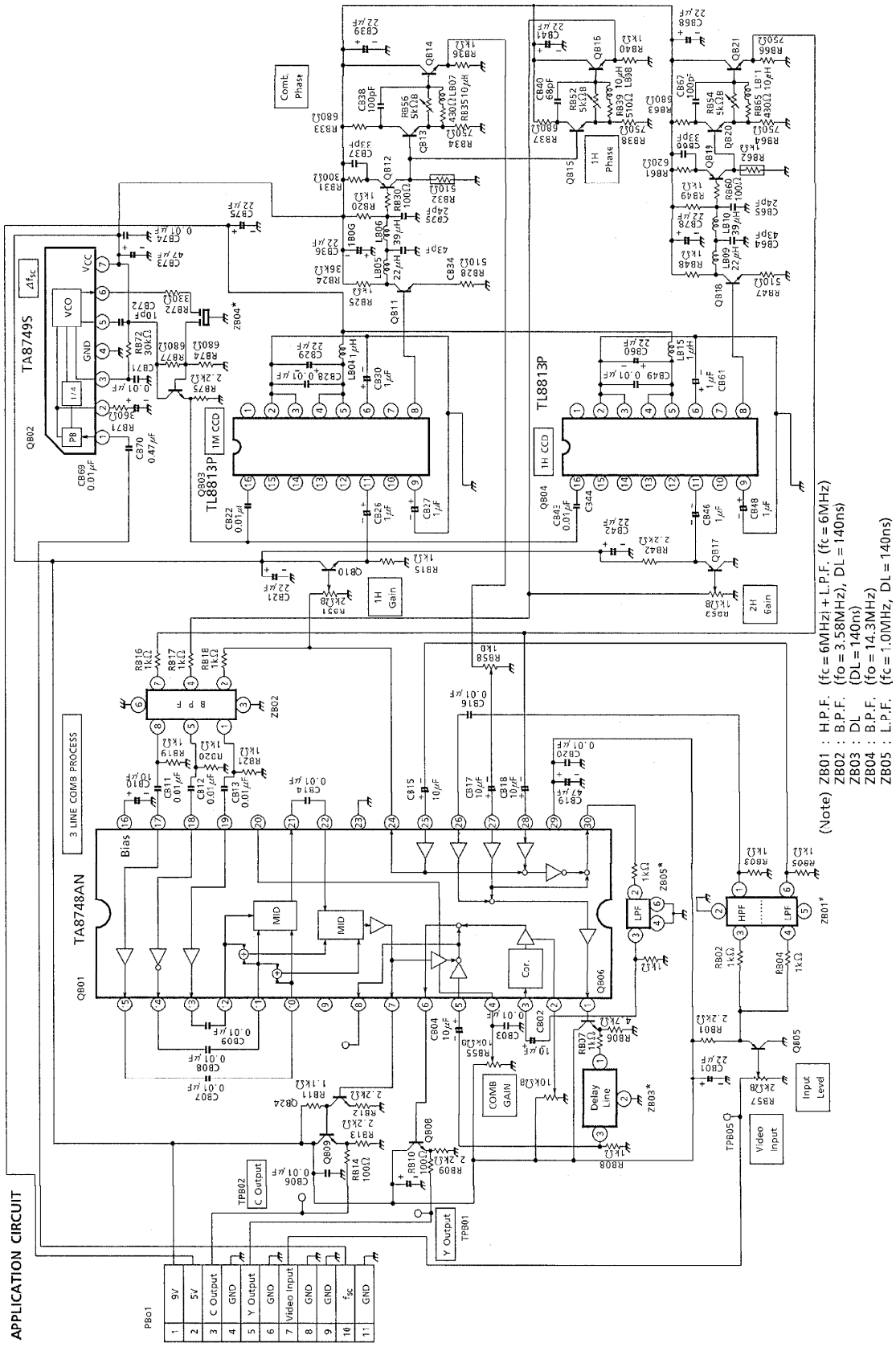
NOTE No.	CHARACTERISTICS		TEST CONDITION (V_{CC} = 9.0V, Ta = 25 ± 3°C) SW & VR MODE SW_3	SW_5	TP27	TP4		TEST METHOD
29	Coring Peak Clip Level		c	c	9V	4.5V		(1) Measure voltage TP3 : V30, TP : V60 with no input. (2) Change TP3 Voltage over V30 ± 0.5V (3) Measure TP6 and Get following. (4) Get  ① $\frac{\Delta V_{ph} + \Delta V_{pl}}{2}$ ② $\frac{\Delta V_{ch} + \Delta V_{cl}}{2}$ ③ $\frac{\Delta V_{ch} + \Delta V_{cl}}{2}$
30	Coring Cutoff Level		c	c	9V	4.5V		
31	Coring Offset		c	c	9V	4.5V		
32	V_D Max. Gain	① Coring	b	c	8.5V	4.5V		(1) V_1 Input ; f_0 = 15kHz ① V_i = 5mV$_{p-p}$, ② V_i = 0.1V$_{p-p}$, 0.14V$_{p-p}$, ③ V_i = 0.4V$_{p-p}$, 0.45V$_{p-p}$ (2) Measure TP6 Output Level of V_6 (Vi). (3) Get ① V_6 (5mV) / 5mV, ② V_6 (0.14V) − V_6 (0.1V) / 0.14V − 0.1, ③ V_6 (0.45V) − V_6 (0.4) / 0.45V − 0.4
		② V_D	b	c	8.5V	4.5V		
		③ Peak Clip	b	c	8.5V	4.5V		
33	V_D Center Gain		b	c	4.5V	4.5V		(1) V_1 Input ; f_0 = 15kHz, V_i = 0.1V$_{p-p}$, 0.14V$_{p-p}$ (2) Measure the output level V_6 (V_i) of TP6. (3) Measure the V_6 (0.14V) − 6V (0.1V) / 0.14V − 0.1V

NOTE No.	CHARACTERISTICS	TEST CONDITION (V_{CC} = 9.0V, Ta = 25 ± 3°C)					TEST METHOD
		SW & VR MODE					
		SW_3	SW_5	TP27	TP4		
34	V_D Min. Gain	b	c	0.5V	4.5V		(1) V_1 Input ; f_0 = 15kHz, V_i = 0.1V_{p-p} (2) Measure the output level of the TP6. (3) Get Gain against input.
35	V_D Amp Frequency Characteristics	b	c	9V	4.5V		(1) V_1 Input ; f : variable, V_i = 0.14V_{p-p} (2) Measure the output level of the TP6. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.
36	V_D Amp Dynamic Range	b	c	9V	4.5V		(1) V_1 Input ; f_0 = 15kHz, V = 0.1V_{p-p} (2) Measure the output waveform of TP6. (3) Get input level to make output wave form be distorted by except coring.
37	V_{1H} Amp Gain	c	b	4.5V	4.5V		(1) V_1 Input ; f_0 = 15kHz, V_i = 1.0V_{p-p} (2) Measure the output level of TP6. (3) Get Gain against input.
38	V_{1H} Amp Frequency Characteristics	c	b	4.5V	4.5V		(1) V_1 Input ; f : variable, V = 1.0V_{p-p} (2) Measure the output level of TP6. (3) Get frequency to make output be −3dB lower than that at f = 1MHz.
39	V_{1H} Amp Dynamic Range	c	b	4.5V	4.5V		(1) V_1 Input ; f_0 = 15kHz, V variable (2) Measure the output waveform of TP6. (3) Get input level to make output wave form be distorted.

NOTE No.	CHARACTERISTICS		TEST CONDITION (V_{CC} = 9.0V, Ta = 25 ± 3°C) SW & VR MODE									TEST METHOD
			SW_3	SW_5	SW_{25}	SW_{26}	SW_{27}	SW_{28}	TP2	TP4		
40	Crosstalk between Video	① V_{1H}→out 0H	a	a	c	c	b	c	4.5V	4.5V		(1) V_4 Input ; f_0 = 3.58MHz, ①V = 0.5V_{p-p}, ②V = 1.0V_{p-p} (2) Measure of the output level of TP24. (3) Get ratio against 1.0V_{p-p}.
		② V_{2H}→out 0H	a	a	c	c	c	b	4.5V	4.5V		
41	Video→ Chroma Crosstalk	① V_{OH}, V_H→ C_{out}	a	a	b	b	c	c	4.5V	4.5V		(1) V_4 Input ; f_0 = 3.58MHz, V = 0.5V_{p-p}, with no chroma input. (2) Measure the output level of TP7. (3) Measure the attenuation level.
		② V_{1H}→C_{out}	a	a	c	c	b	c	4.5V	4.5V		(1) V_5 Input ; f_0 = 3.58MHz, ②V = 0.5V_{p-p}, ③V = 1.0V_{p-p} with no chroma input. (2) Measure the output level of TP7. (3) Measure the attenuation level.
		③ V_{2H}→C_{out}	a	a	c	c	c	b	4.5V	4.5V		
		④ V_{Din}→C_{out}	b	c	c	c	c	c	4.5V	4.5V		(1) V_1 Input ; f_0 = 3.58MHz, ②V = 0.5V_{p-p}, ③V = 1.0V_{p-p} with no chroma input. (2) Measure the output level of TP7. (3) Measure the attenuation level.
		⑤ V_{1Hdil}→C_{out}	c	b	c	c	c	c	4.5V	4.5V		

TEST CIRCUIT





(Note) ZB01 : H.P.F. (fc = 6MHzl + L.P.F. (fc = 6MHz)
ZB02 : B.P.F. (fo = 3.58MHz), DL = 140ns)
ZB03 : DL (DL = 140ns)
ZB04 : B.P.F. (fo = 14.3MHz)
ZB05 : L.P.F. (fc = 1.0MHz, DL = 140ns)

TA8748AN – 15

DOUBLE COMB FILTER UNIT ADJUSTMENT

1. Initial Condition

   Input Signal : Linearity Signal $2V_{p-p}$
   f_{sc} Signal : $1V_{p-p}$
   V_R : RB51~58 : Center

2. Input Signal Amplitude

   Adjust RB57 to make signal Amplitude at QB05 emitter by $1V_{p-p}$.

3. Amplitude, Phase of 1H Delay Signal

   Sum up TA8748AN pin 12 Signal and reversed pin 11 Signal with Oscilloscope.
   Adjust RB51 and RB52 mutually to make this summed signal be minimum level.

4. Amplitude, Phase of 2H Delay Signal

   Sum up TA8748AN pin 10 Signal and reversed pin 11 Signal with Oscilloscope.
   Adjust RB53 and RB54 mutually to make this summed signal be minimum level.

5. Vertical edge Enhance Signal

   Adjust RB58 to make pin 30 signal be minimum level.

6. Comb Filter Gain, Phase

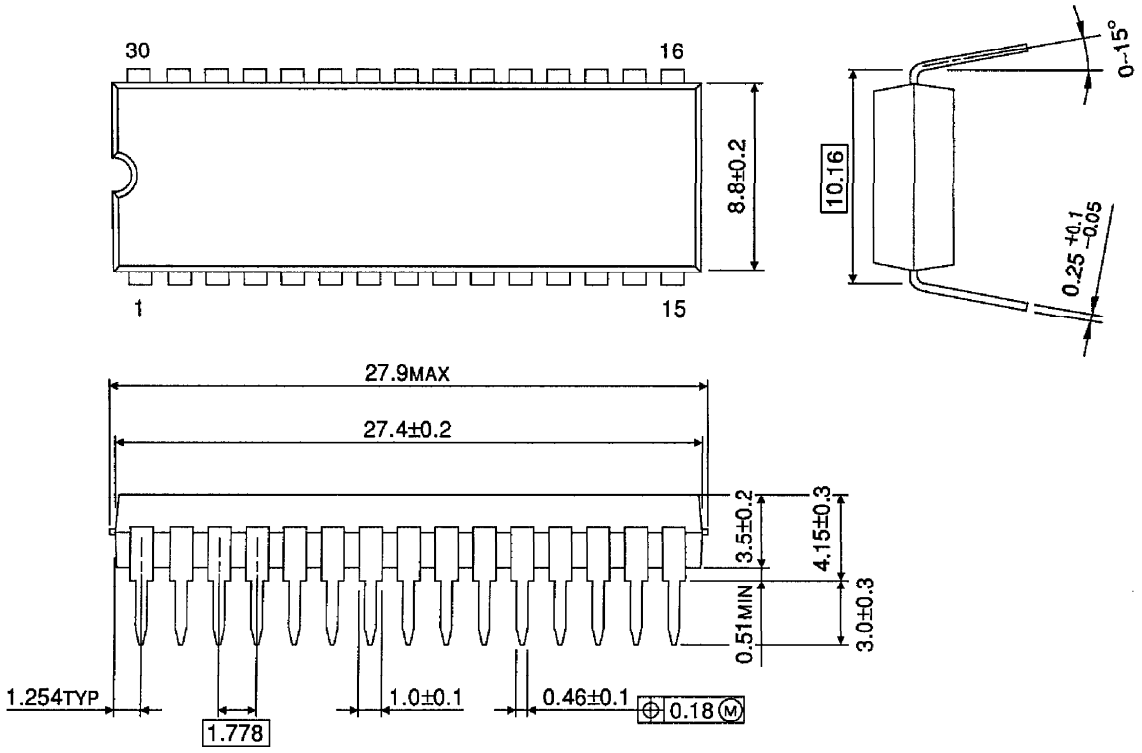
   Monitor Y_{out}.
   Adjust RB55 and RB56 mutually to make Chroma element be minimum level.

7. Y_{out} Amplitude

   Adjust RB57 to make the amplitude of Y_{out} Video (without SYNC) to be $1.43V_{p-p}$.

OUTLINE DRAWING

SDIP30-P-400-1.78 Unit : mm



Weight : 1.99g (Typ.)