

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA8748AN

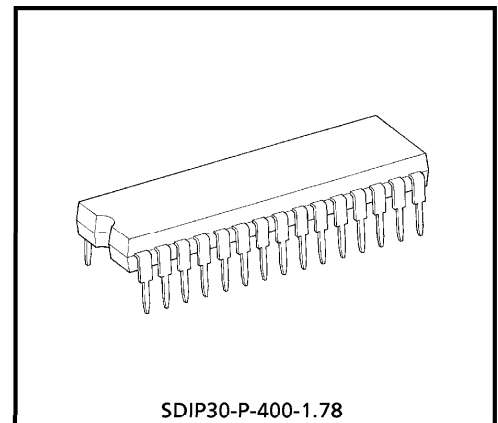
DOUBLE CCD COMB IC FOR TV, VTR

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.

FEATURES

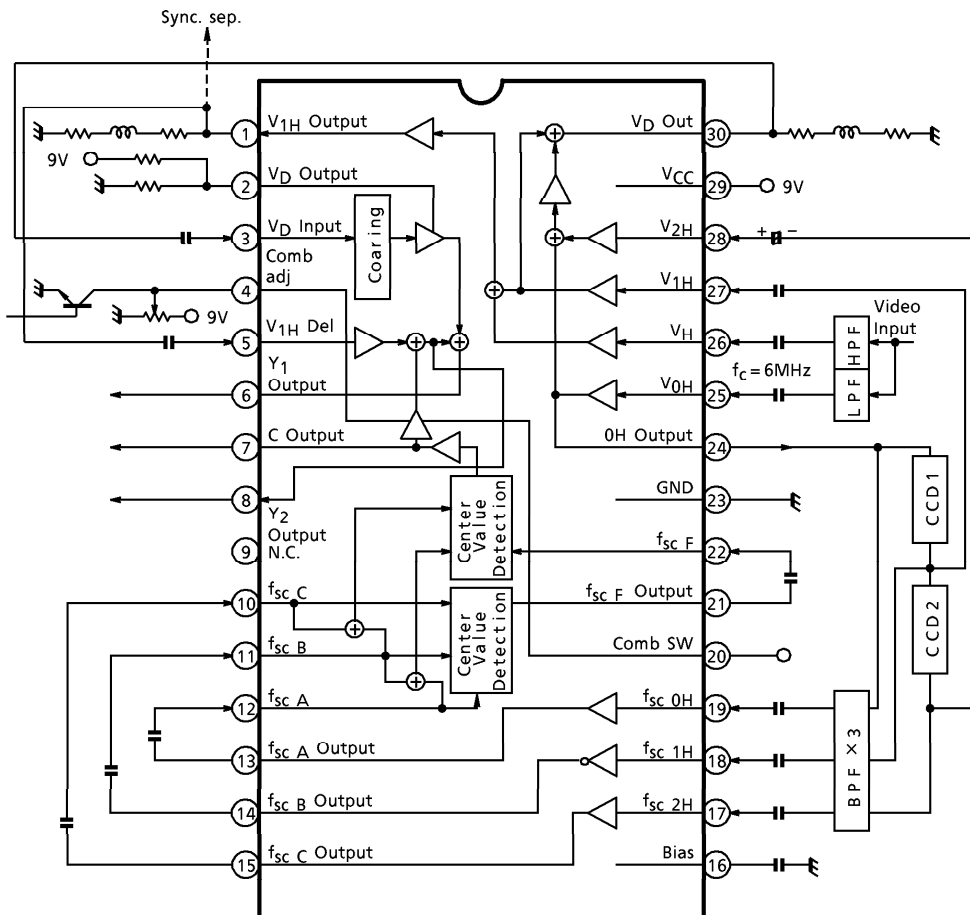
- 3 Line Comb Filter Operation
- Center Value Detecting Circuit
- Vertical Edge Sharpness Correction (Vertical Secondary Differential)
- Vertical Edge Sharpness Correction Level Control
- Edge Sharpness Correction Signal Coring and Peak Clip



SDIP30-P-400-1.78

Weight : 1.99g (Typ.)

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, $V_{CC} = 9V$, $T_a = 25^\circ C$)

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	
	f_{sc} F	V_{oci}			—	—	35	
Center Value Circuit Cout Leak Level	f_{sc} F	V_{oci}	—	(Note 9)	—	—	50	mV _{p-p}
	Crosstalk	V_{oyc}			—	—	50	
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 _{1H} →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		TEST METHOD (V _{CC} = 9.0V, T _a = 25 ± 3°C)										
		CHARACTERISTICS		SW & VR MODE								TEST METHOD
				SW10	SW11	SW12	SW17	SW18	SW19	SW22		
1	19dB Amp Gain	① 0H→A	a	a	a	b	b	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	b	—		
		③ 2H→C	a	a	a	b	b	b	b	—		
2	19dB Amp Frequency Characteristic	① 0H→A	a	a	a	b	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	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										(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.	
		b	b	b	c	c	c	a				
5	Center Value Circuit Frequency Characteristic										(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.	
		b	b	b	c	c	c	a				

NOTE No.	CHARACTERISTICS	TEST CONDITION (VCC = 9.0V, Ta = 25 ± 3°C)										TEST METHOD
		SW & VR MODE										
		SW10	SW11	SW12	SW17	SW18	SW19	SW22	TP2	TP4	TP4	
6	Center Value Circuit Input	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.
	Dynamic Range	b	b	b	c	c	c	a	—	—	—	
7	Center Value	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.
	Circuit Input	c	b	c	c	c	c	a	—	—	—	
	out fsc F Leak Level	b	c	c	c	c	c	a	—	—	—	
8	Center Value	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.
	Circuit Input	b	c	c	c	c	c	a	—	—	—	
	Cout Leak Level	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	4.5V	(1) V ₃ Input ; f ₀ = 3.58MHz, V = 140mV _{p-p} CW (2) Measure Output Level of TP6.
		a	a	a	b	b	b	a	4.5V	4.5V	4.5V	
10	Chroma→Video Crosstalk	a	a	a	b	b	b	a	4.5V	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} .
	① out 0H	a	a	a	b	b	b	a	4.5V	4.5V	4.5V	
	② V _{1H} out	a	a	a	b	b	b	a	4.5V	4.5V	4.5V	
	③ VD out	a	a	a	b	b	b	a	4.5V	4.5V	4.5V	

NOTE No.	CHARACTERISTICS	TEST CONDITION (V _{CC} = 9.0V, I _a = 25 ± 3°C)										TEST METHOD
		SW & VR MODE										
		SW3	SW5	SW10	SW11	SW12	SW22	TP2	TP4	TP20		
11	Comb SW Switching Voltage	c	c	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.
		c	c	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.
12	Cadj Amp Max. Gain	c	c	b	b	a	4.5V	8.5V	0V			(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.
		c	c	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.
13	Cadj Amp Center Gain	c	c	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.
		c	c	b	b	a	4.5V	4.5V	0V			(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.
14	Cadj Amp Min. Gain	c	c	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.
		c	c	b	b	a	4.5V	0.5V	0V			(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.
15	Cadj Amp Frequency Characteristic	c	c	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.
		c	c	b	b	a	4.5V	9V	0V			(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.
16	Cadj Amp Input Dynamic Range	c	c	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.
		c	c	b	b	a	4.5V	9V	0V			(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.

NOTE No.	CHARACTERISTICS	TEST CONDITION (V _{CC} = 9.0V, T _a = 25 ± 3°C)									
		SW & VR MODE				TEST METHOD					
		SW25	SW26	SW27	SW28						
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.				

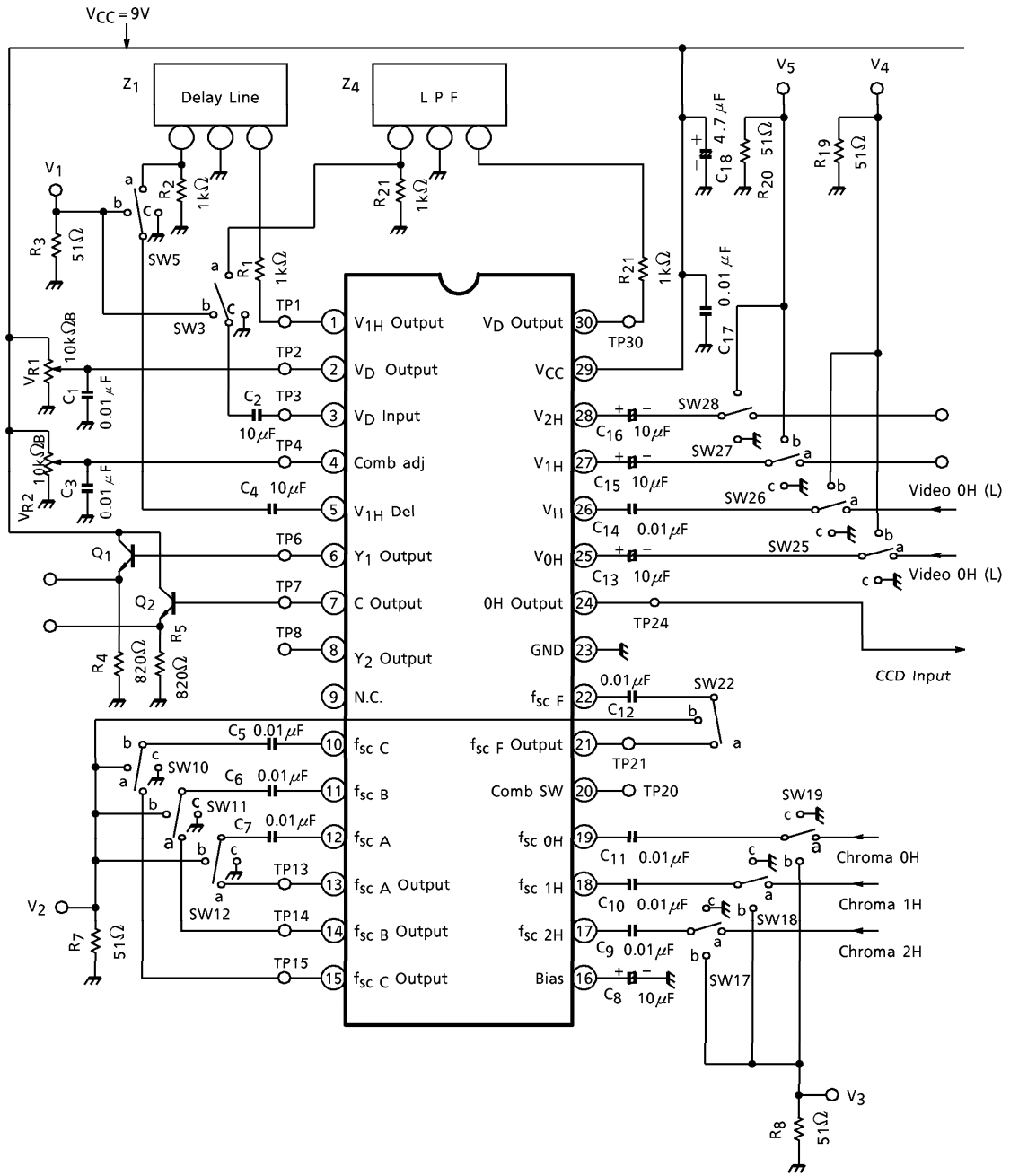
NOTE No.	CHARACTERISTICS	TEST CONDITION (V _{CC} = 9.0V, T _a = 25 ± 3°C)							TEST METHOD
		SW & VR MODE							
		SW25	SW26	SW27	SW28	SW29	SW30	SW31	
25	V _{OH} Input Dynamic Range	① out 0H	b	c	c	c	c		(1) V ₄ Input ; f = 15kHz, V : variable CW (2) Measure output level of ①TP24, ②TP30. (3) Get input level to make output wave form be distorted.
		② VD out	b	c	c	c	c		
26	V _H Input Dynamic Range	V _{1H} out	c	b	c	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	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 VD out	c	c	b	c	c		
28	V _{2H} Input Dynamic Range	V _D out	c	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.

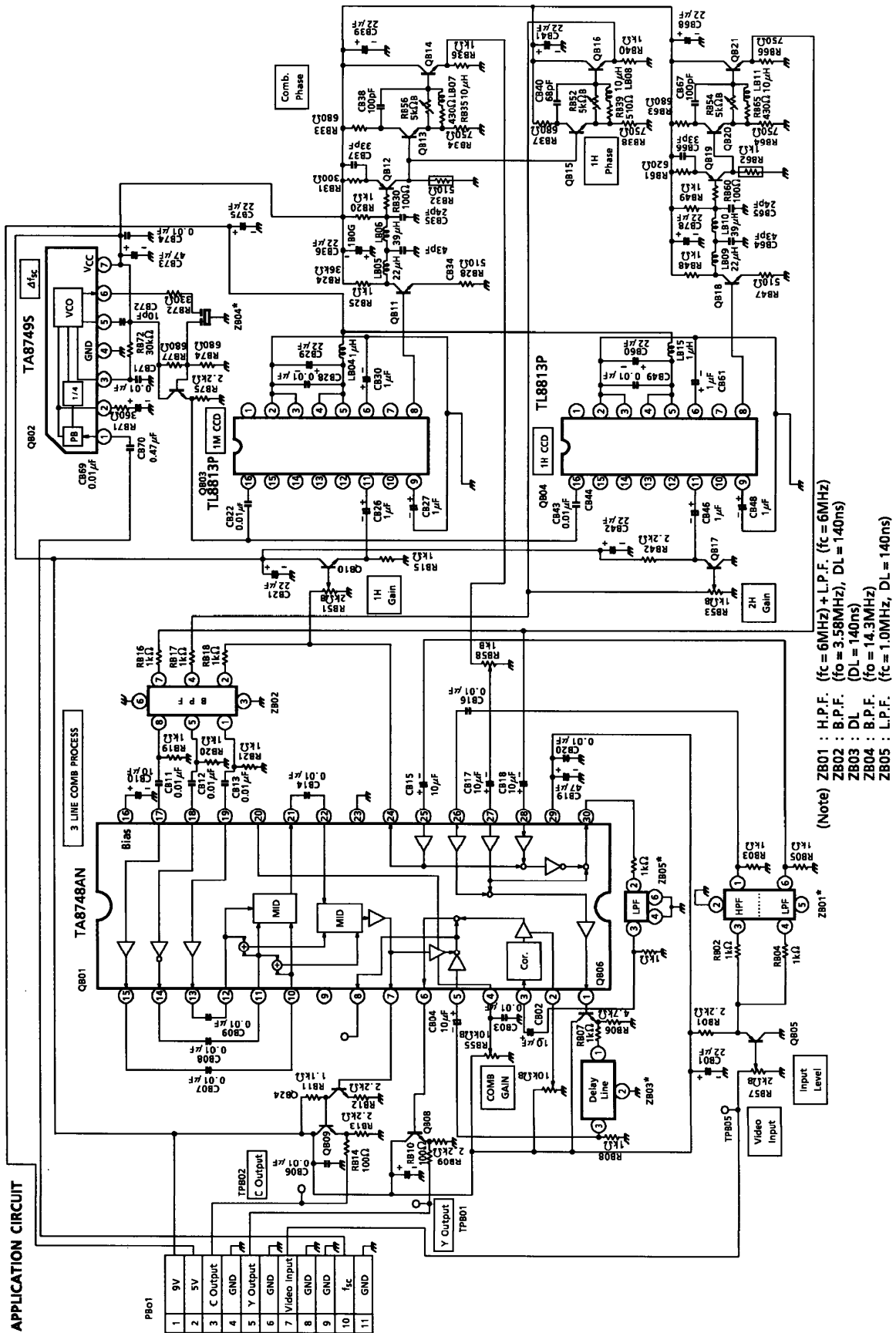
NOTE No.	CHARACTERISTICS	TEST CONDITION (VCC = 9.0V, Ta = 25 ± 3°C)					TEST METHOD
		SW & VR MODE					
		SW3	SW5	TP27	TP4		
29	Coring Peak Clip Level	c	c	9V	4.5V		<p>(1) Measure voltage TP3 : V30, TP : V60 with no input.</p> <p>(2) Change TP3 Voltage over V30 ± 0.5V</p> <p>(3) Measure TP6 and Get following.</p> <p>(4) Get</p> <div style="text-align: center;"> </div>
30	Coring Cutoff Level	c	c	9V	4.5V		
31	Coring Offset	c	c	9V	4.5V		
32	VD Max. Gain	b	c	8.5V	4.5V		(1) V1 Input ; f0 = 15kHz ① Vj = 5mVp-p,
							② Vj = 0.1Vp-p, 0.14Vp-p,
							③ Vj = 0.4Vp-p, 0.45Vp-p
33	VD Center Gain	b	c	8.5V	4.5V		(2) Measure TP6 Output Level of V6 (Vi).
							(3) Get ① V6 (5mV) / 5mV,
							② V6 (0.14V) - V6 (0.1V) / 0.14V - 0.1,
							③ V6 (0.45V) - V6 (0.4) / 0.45V - 0.4
							(1) V1 Input ; f0 = 15kHz, Vj = 0.1Vp-p, 0.14Vp-p
							(2) Measure the output level V6 (Vi) of TP6.
							(3) Measure the V6 (0.14V) - 6V (0.1V) / 0.14V - 0.1V

NOTE No.	CHARACTERISTICS	TEST CONDITION (V _{CC} = 9.0V, T _a = 25 ± 3°C)						TEST METHOD
		SW & VR MODE				TP27	TP4	
		SW3	SW5	c	b			
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, T _a = 25 ± 3°C)										TEST METHOD		
		SW & VR MODE							TP2	TP4				
		SW3	SW5	SW25	SW26	SW27	SW28							
40	Crosstalk between Video	① V1H→out 0H	a	a	c	c	c	c	c	b	c	4.5V	4.5V	(1) V4 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 V2H→out 0H	a	a	c	c	c	c	c	c	c	4.5V	4.5V	(1) V4 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.
41	Video→ Chroma Crosstalk	① VOH, V _H → C _{out}	a	a	b	b	c	c	c	c	c	4.5V	4.5V	(1) V5 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.
		② V1H→C _{out}	a	a	c	c	c	b	c	c	c	4.5V	4.5V	(1) V1 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 V2H→C _{out}	a	a	c	c	c	c	c	b	c	4.5V	4.5V	(1) V1 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.
		④ V _{Din} →C _{out}	b	c	c	c	c	c	c	c	c	4.5V	4.5V	(1) V1 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 V1H _{dil} →C _{out}	c	b	c	c	c	c	c	c	c	4.5V	4.5V	(1) V1 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.

TEST CIRCUIT





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

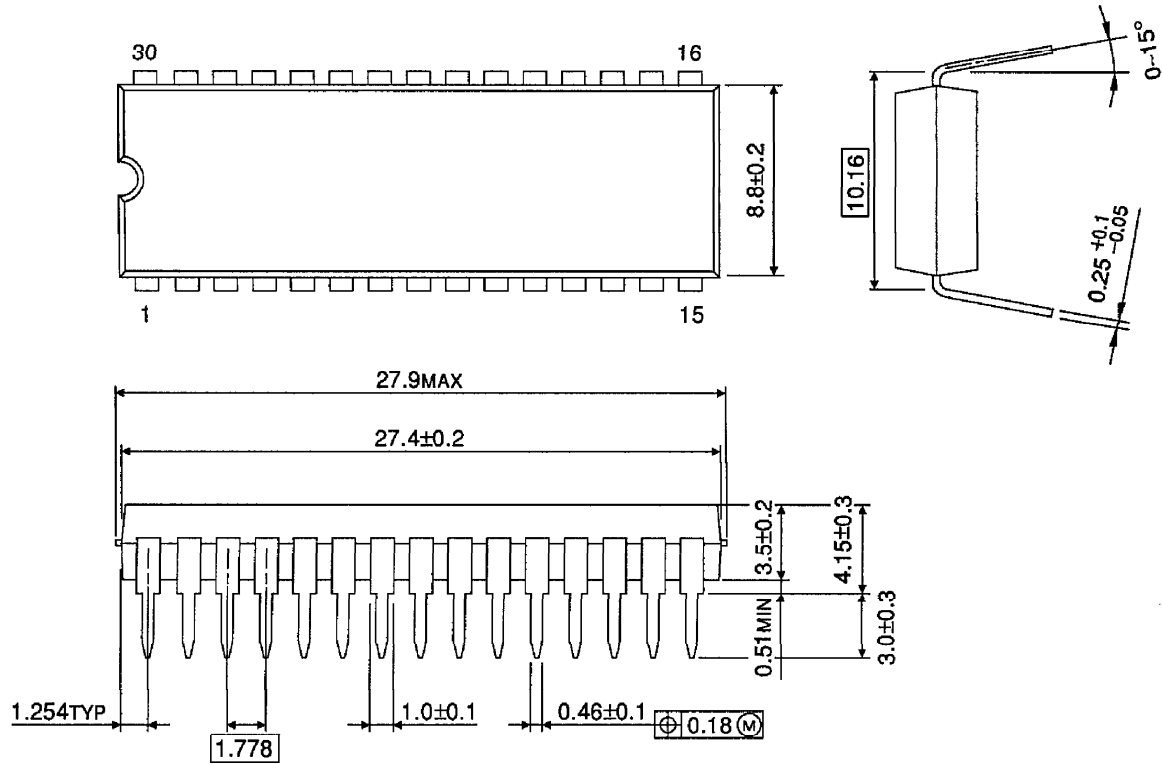
Monitor Y_{out} .
Adjust RB55 and RB56 mutually to make Chroma element be minimum level.

7. Y_{out} Amplitude

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

PACKAGE DIMENSIONS
SDIP30-P-400-1.78

Unit : mm



Weight : 1.99g (Typ.)

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000707EBA

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