

TENTATIVE TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT SILICON MONOLITHIC

TA1275AZ

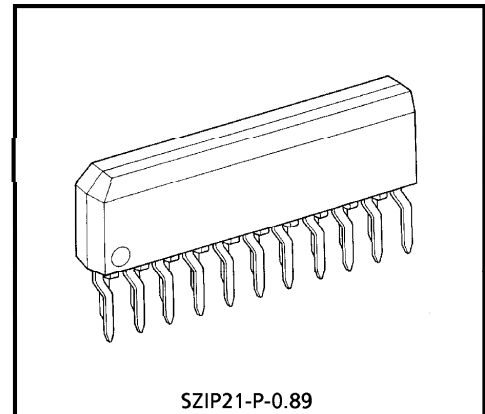
SECAM DEMODULATOR PROCESSOR

TA1275AZ is the SECAM demodulation IC, which accomplishes a multicolor system with TB1231 series.

This IC requires very few external parts.

FEATURES

- Working with TB1231 series, which is PAL/NTSC PIF/VIF/VIDEO/CHROMA/DEF processor.
- Built-in Bell filter
- Built-in FM demodulator with PLL circuit for color demodulation and SECAM identification
- DC voltage offset of demodulated signal adjuster
- Input terminals for external R-Y/B-Y signals



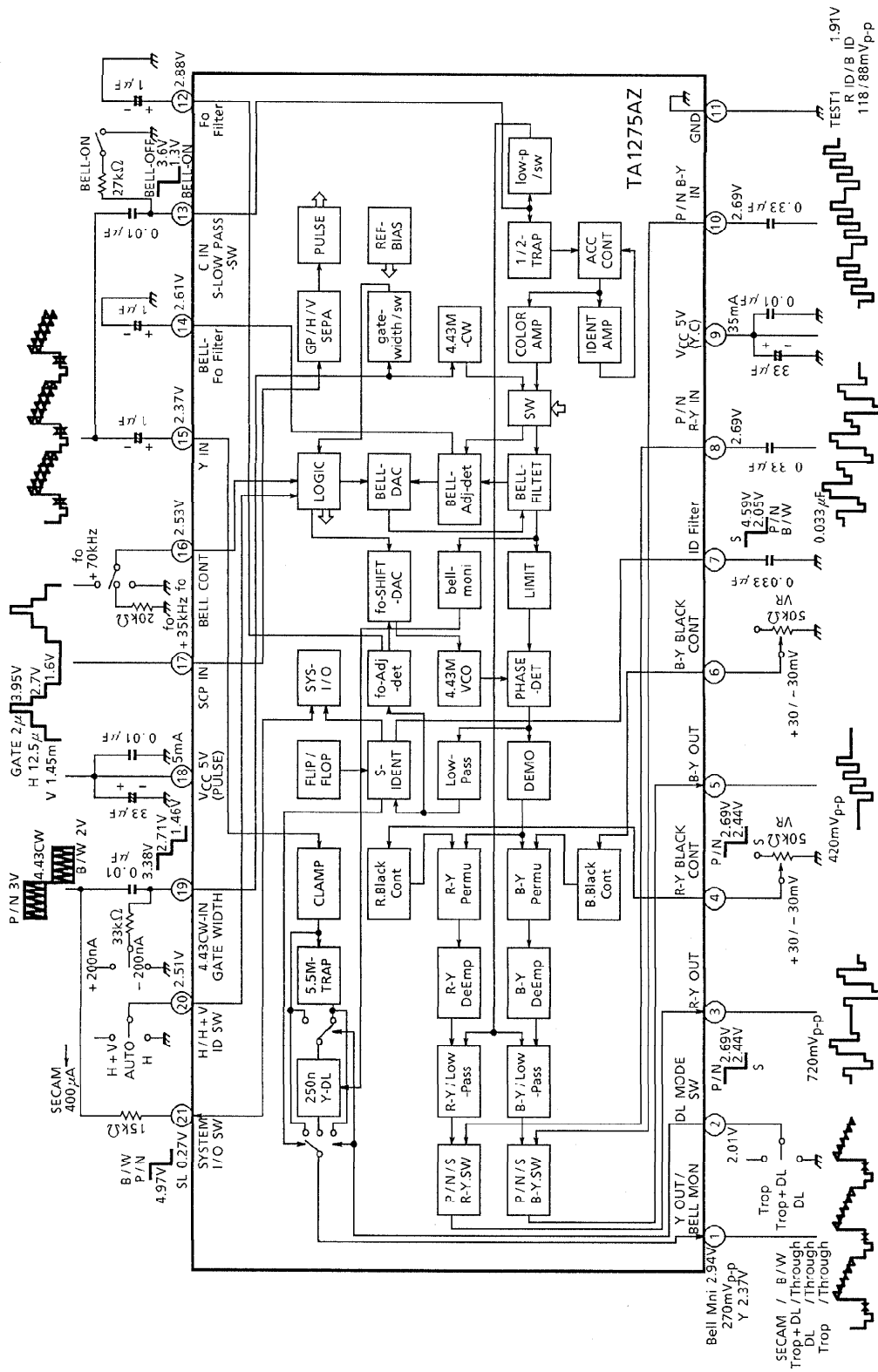
SZIP21-P-0.89

Weight : 1.0g (Typ.)

980508EBA1

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BLOCK DIAGRAM



MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage	V _{CCmax}	8	V
Signal Voltage at Each Input Pin	e _{inmax}	5	V _{p-p}
Power Consumption	P _D (Note)	780	mW
Power Consumption Reduction Ratio	1 / Q _{ja}	6.3	mW / °C
Operating Temperature	T _{opr}	- 20~65	°C
Storage Temperature	T _{stg}	- 55~150	°C

(Note) Refer to the figure below.

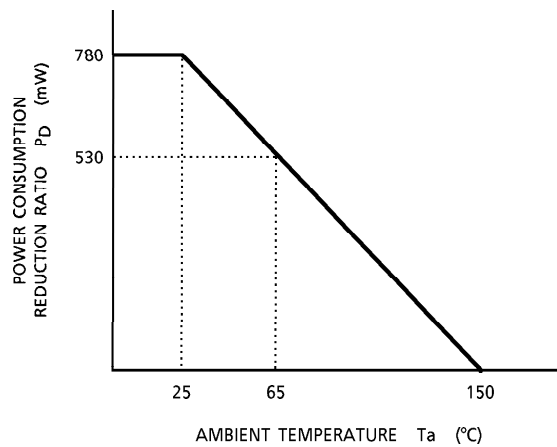


Fig. Power consumption reduction against higher temperature.

RECOMMENDED CONDITION IN USE

CHARACTERISTIC	DESCRIPTION	MIN.	TYP.	MAX.	UNIT
Supply Voltage	pin 9, 18	4.5	5.0	5.5	—
Y Input Signal Level	white : 100%, including sync.	0.9	1.0	1.1	V _{p-p}
Color Difference Input Level	Burst level	270	300	330	mV _{p-p}
SCP Input Level	G level	3.25	4.0	5.0	V
	H level	1.95	2.1	2.6	
	V level	1.1	1.25	1.4	

ELECTRICAL CHARACTERISTICS

(YC V_{CC}/PULSE V_{CC} = 5V, Ta = 25°C, Unless otherwise specified)

Current consumption

PIN NAME	SYMBOL	TEST CIR-CUIT	MIN.	TYP.	MAX.	UNIT
V _{CC} (Y/C)	I _{CC1}	—	32.0	38.5	48.1	mA
V _{CC} (PULSE)	I _{CC2}	—	5.6	6.7	8.4	

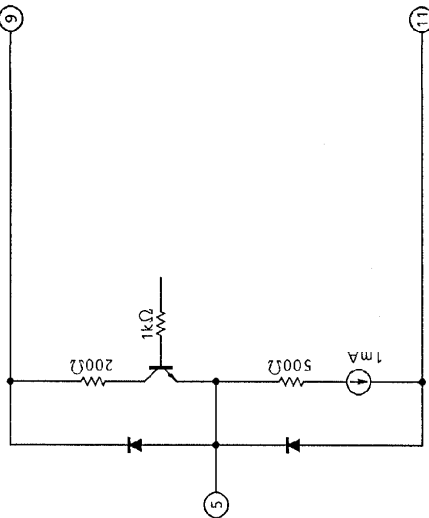
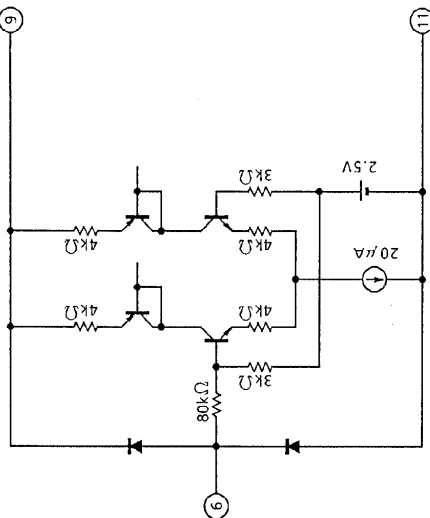
TERMINAL VOLTAGE

PIN No.	PIN NAME	SYMBOL	TEST CIR-CUIT	MIN.	TYP.	MAX.	UNIT
1	Y OUT	V ₁	—	2.35	2.55	2.75	V
2	MODE SW	V ₂	—	1.80	2.00	2.20	
3	R-Y OUT	V ₃	—	2.10	2.40	2.70	
4	R-Y BLACK CONTROL	V ₄	—	2.30	2.50	2.70	
5	B-Y OUT	V ₅	—	2.10	2.40	2.70	
6	B-Y BLACK CONTROL	V ₆	—	2.30	2.50	2.70	
7	S-ID FILTER (killer OFF)	V ₇	—	4.25	4.55	4.85	
8	EXT. R-Y IN	V ₈	—	2.40	2.60	2.80	
10	EXT. B-Y IN	V ₁₀	—	2.40	2.60	2.80	
12	F0-ADJ. FILTER	V ₁₂	—	2.55	3.00	3.45	
13	C IN	V ₁₃	—	3.50	3.70	3.90	
14	BELL ADJ. FILTER	V ₁₄	—	2.20	2.50	2.80	
15	Y IN	V ₁₅	—	2.30	2.50	2.70	
16	BELL CONTROL	V ₁₆	—	4.80	5.00	5.20	
19	4.43MHz CW-IN	V ₁₉	—	2.50	2.75	3.00	
20	ID SW	V ₂₀	—	2.30	2.50	2.70	
21	SECAM ID I/O (killer OFF)	V ₂₁	—	0.00	0.20	0.60	

(Note) Pin 3, 5, 7, 12 and 18 are weak against static electricity and surge impulse. Please take confer measure to meet, if necessary.

TERMINAL INTERFACE		FUNCTION	INTERFACE CIRCUIT	INPUT/OUTPUT SIGNAL
PIN No.	PIN NAME			
1	Y OUT	<p>The output pin for Y signal. Standard output level is 1.0V_{p-p}. The 5.5MHz trap filter and delay line on the Y signal processing is controlled by the switch on pin #2.</p> <p>The output signal of the bell filter can be monitored on this pin by switching pin #13 for testing.</p>		—
2	MODE SW	<p>The pin for controlling the Y processing mode.</p> <p>to VCC : 5.5MHz trap open : 5.5MHz trap + D. L. to GND : DL</p>		—

PIN No.	PIN NAME	FUNCTION	INTERFACE CIRCUIT	INPUT/OUTPUT SIGNAL
3	R-Y OUT	<p>The output pin for demodulated R-Y signal. Standard output level is 0.7V_{p-p} with standard color bar signal. R-Y processor has a LPF to eliminate the carrier components.</p>		-
4	R-Y BLACK CONTROL	<p>The pin for controlling the black offset level. Adjusting range is within $\pm 30\text{mV}$ (This pin should be opened in the case of using with TB1231, because TB1231 has an IIC BUS control for SECAM black alignment.)</p>		-

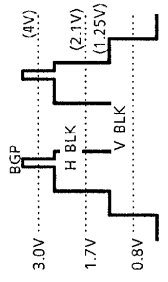
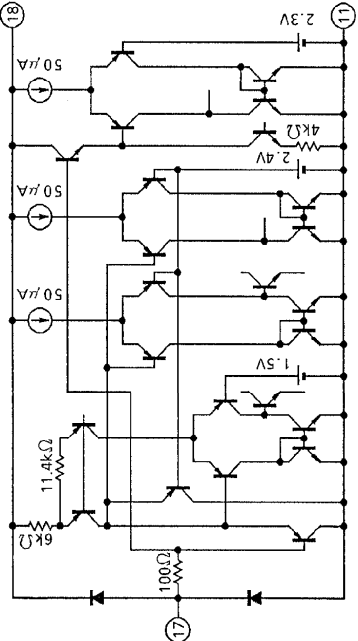
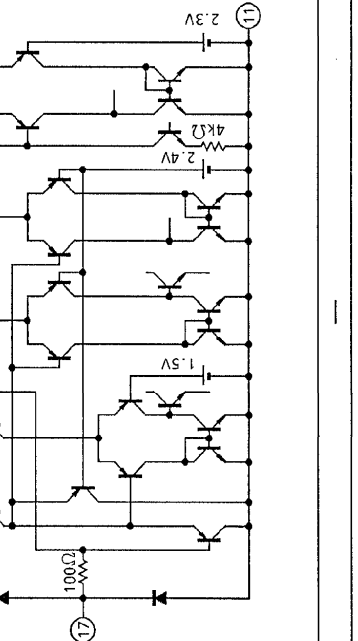
PIN No.	PIN NAME	FUNCTION	INTERFACE CIRCUIT	INPUT/OUTPUT SIGNAL
5	B-Y OUT	<p>The output pin for demodulated B-Y signal. Standard output level is 0.56V_{p-p}. B-Y processor has a LPF to eliminate the carrier components.</p>		-
6	B-Y BLACK CONTROL	<p>The pin for controlling the black offset level. Adjusting range is within ±30mV (This pin should be opened in the case of using with TB1231, because TB1231 has an IIC BUS control for SECAM black alignment.)</p>		-

PIN No.	PIN NAME	FUNCTION	INTERFACE CIRCUIT	INPUT / OUTPUT SIGNAL
7	S-ID FILTER	<p>The pin for connecting the SECAM ident filter capacitor.</p> <p>A too big capacitor causes a time delay to get color signal on a picture, and a weak RF signal performance would get worse if the capacitor is too small.</p>		-
8	EXT. R-Y IN	<p>The input pin for external R-Y signal. The gain of the internal amplifier is 0dB.</p>		-
9	5V VCC	<p>The VCC pin for Y/C processing block.</p>	-	-

PIN No.	PIN NAME	FUNCTION	INTERFACE CIRCUIT	INPUT / OUTPUT SIGNAL
10	EXT. B-Y IN	The input pin for external B-Y signal. The gain of the internal amplifier is 0dB.		-
11	GND	The GND pin.	-	-
12	FO-ADJ. FILTER	The pin for connecting a capacitor for automatic adjusting circuit. A too big capacitor causes a time delay to get color signal on a picture, and the picture noise, flicker, would be appeared if the capacitor is too small.		-

PIN No.	PIN NAME	FUNCTION	INTERFACE CIRCUIT	INPUT / OUTPUT SIGNAL
13	C IN	<p>The chroma signal input pin. Apply composite signal through 0.01μF of coupling capacitor. Standard input signal level is 1V_{p-p}.</p> <p>The bell monitor switch for testing is overlaid on this pin. When connecting this pin to GND through 27kΩ, the bell filter output is observed on the pin #1 (Y-OUT).</p>		-
14	BELL-ADJ. FILTER	<p>The pin for connecting the filter capacitor for the bell filter f₀. 4.286MHz.</p> <p>A too big capacitor causes a time delay on bell filter f₀ adjusting, and picture would be noisy if it is too small.</p>		-

PIN No.	PIN NAME	FUNCTION	INTERFACE CIRCUIT	INPUT / OUTPUT SIGNAL
15	Y IN	<p>The Y signal input pin. Apply the composite signal into this pin through a coupling capacitor. The standard input level is 1.0V_{p-p}.</p>		-
16	BELL CONTROL	<p>The pin for selecting the bell filter f_0.</p> <p>$f_0 + 70\text{kHz}$: OPEN (=V_{CC})</p> <p>$f_0 + 35\text{kHz}$: 20kΩ to GND (=1.7V)</p> <p>f_0 : to GND (=0V)</p>		-

PIN No.	PIN NAME	FUNCTION	INTERFACE CIRCUIT	INPUT / OUTPUT SIGNAL
17	S.C.P. IN	The pin for input the sand castle pulse, SCP. 		-
18	5V VCC	VCC pin for logic block.	-	-
19	4.43MHz CW-IN	The pin for input 4.43MHz of carrier wave for self adjustment circuit. Input 500mV _{p-p} sine wave through a coupling capacitor. The switch for changing the gate pulse width is overlaid on this pin. +200nS : to VCC thru 33kΩ 0nS : open -200nS : to GND thru 33kΩ		-

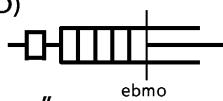
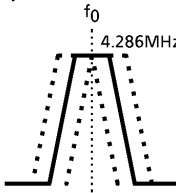
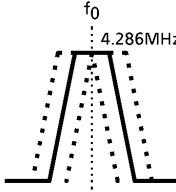
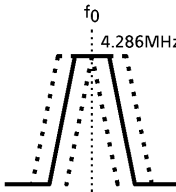
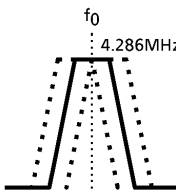
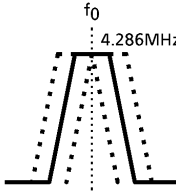
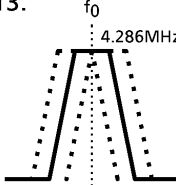
PIN No.	PIN NAME	FUNCTION	INTERFACE CIRCUIT	INPUT / OUTPUT SIGNAL
20	ID SW	<p>The switch pin for selecting the ID detection mode.</p> <p>H + V : connected to VCC Auto search (H, V, H + V) : opened H : connected to GND</p>		-
21	SECAM ID I/O	<p>The interface pin to the main processor (i.e., TB1231).</p> <p>This input/output interface pin sinks two value of current corresponded to the ID level of the SECAM input signal.</p> <p>Strong SECAM : 420μA SECAM : 180μA</p> <p>This pin turns the internal/external switch by the input DC voltage.</p> <p>Internal : GND~2.5V External : 2.5V~VCC</p>		-

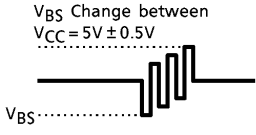
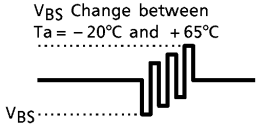
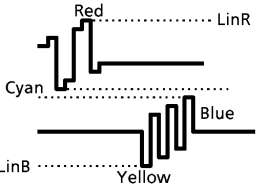
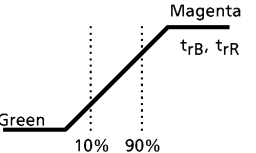
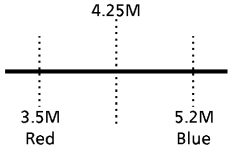
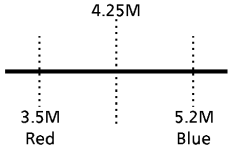
AC CHARACTERISTIC (Unless otherwise specified, $V_{CC} = 5V$ (9 & 18pin), $T_a = 25^\circ C$)

No.	ITEM	SYMBOL	TEST CIR-CUIT	TEST CONDITION	RATING			UNIT
					MIN.	TYP.	MAX.	
1	Bell Monitor Output Amplitude	ebmo	—	(Note 1)	170	260	350	mV (p-p)
2	Bell / Filter f_0	f_{0B-C}	—	(Note 2)	-23	0	30	kHz
3	Bell / Filter f_0 Variable Range	f_{0B-H}	—	(Note 3)	+40	+70	+100	kHz
		f_{0B-L}			+10	+35	+60	kHz
4	Bell / Filter f_0 V_{CC} Drift	Δf_{0BELV}	—	(Note 4)	-25	0	+25	kHz
5	Bell / Filter f_0 Thermal Drift	Δf_{0BELT}	—	(Note 5)	-30	0	+30	kHz
6	Bell / Filter Q	Q_{BEL}	—	(Note 6)	14	16	18	—
7	Color Difference Output Amplitude	V_{BS}	—	(Note 7)	0.39	0.56	0.73	V (p-p)
		V_{RS}			0.5	0.7	0.99	V (p-p)
8	Color Difference Relative Amplitude	R / B-S	—	(Note 8)	1.24	1.35	1.52	—
9	Color Difference S / N	SNB-S	—	(Note 9)	-40	-46	—	dB
		SNR-S			-40	-46	—	dB
10	Color Difference Output V_{CC} Drift	ΔV_{BVH}	—	(Note 10)	-8	0	+8	%
		ΔV_{BVL}			-8	0	+8	%
11	Color Difference Output Thermal Drift	ΔV_{BTH}	—	(Note 11)	-8	0	+8	%
		ΔV_{BTL}			-8	0	+8	%
12	Linearity	LinB	—	(Note 12)	93	100	107	%
		LinR			93	100	107	%
13	Rising Time	t_{rR}	—	(Note 13)	—	1.3	2.0	μs
		t_{rB}			—	1.3	2.0	μs
14	Demodulation Hold Range	HRL	—	(Note 14)	—	3.5	3.9	MHz
		H _{BH}			4.75	5.2	—	MHz
15	Demodulation Capture Range	CRL	—	(Note 15)	—	3.5	3.9	MHz
		C _{BH}			4.75	5.2	—	MHz
16	Killer Operation Input Level	eSK	—	(Note 16)	0.5	1	2	mV (p-p)
		eSC			0.5	1	2	mV (p-p)
17	Carrier Remains on Demodulated Output	C _{LRS}	—	(Note 17)	—	3	10	mV (p-p)
		C _{LBS}			—	3	10	mV (p-p)
18	Black Level Offset	E _{rR}	—	(Note 18)	-30	0	+30	mV
		E _{rB}			-30	0	+30	mV
19	ID Voltage	$V_{21color}$	—	(Note 19)	0.12	0.2	0.6	V
		$V_{21B/W}$			4.25	4.55	4.85	V
20	ID Current	I _{21strong}	—	(Note 20)	310	420	530	μA
		I _{21SECAM}			133	180	225	μA
		I _{21B/W}			—	0	10	μA
21	System SW Threshold Level	$V_{21P/N}$	—	(Note 21)	2.3	2.5	2.7	V
		V_{21S}			2.3	2.5	2.7	V
22	Color Difference Output DC Level	$V_{3P/N}$	—	(Note 22)	2.3	2.6	2.9	V
		$V_{5P/N}$			2.3	2.6	2.9	V
		V_{3S}			2.1	2.4	2.7	V
		V_{5S}			2.1	2.4	2.7	V

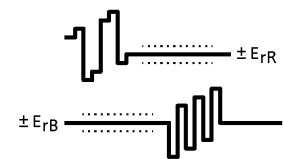
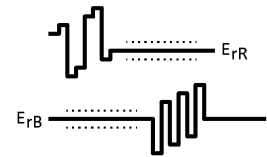
No.	ITEM	SYMBOL	TEST CIR-CUIT	TEST CONDITION	RATING			UNIT
					MIN.	TYP.	MAX.	
23	R-Y/B-Y Color Black Level Control Characteristics	ΔE_{rR+}	—	(Note 23)	27	30	33	mV
		ΔE_{rR-}			-33	-30	-27	mV
		ΔE_{rB+}			27	30	33	mV
		ΔE_{rB-}			-33	-30	-27	mV
24	Ext. Color Difference Gain	G_{EXTR}	—	(Note 24)	0.8	1.0	1.2	—
		G_{EXTB}			0.8	1.0	1.2	—
25	4.43MHz CW Min. Input Level	V_{CW}	—	(Note 25)	200	—	—	mV (p-p)
26	Gate Pulse Width Variable Range	W_{GPVCC}	—	(Note 26)	1.7	1.8	1.9	μs
		W_{GP}			1.9	2.0	2.1	μs
		W_{GPGND}			2.1	2.2	2.3	μs
27	Y DL Characteristics (at 3MHz)	t_{YDL}	—	(Note 27)	180	250	360	—
28	Y Trap Characteristics	$f_{0Y5.5}$	—	(Note 28)	4.5	5.5	6.5	MHz
		$G_{at f_0}$			20	35	—	dB
29	Y Input Dynamic Range	DR_{YS}	—	(Note 29)	1.2	1.5	1.8	V (p-p)
		DR_{YBW}			1.2	1.5	1.8	V (p-p)
30	Y Gain	G_{YS}	—	(Note 30)	0.8	1.0	1.2	—
		G_{YBW}			0.8	1.0	1.2	—

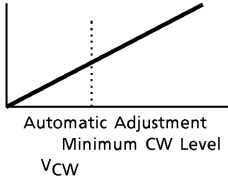
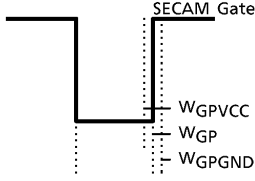
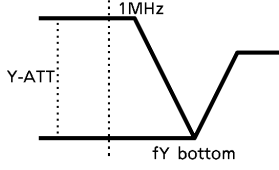
TEST CONDITION (Unless otherwise specified, $V_{CC} = 5V$ (9 & 18pin), $T_a = 25^\circ C$)

NOTE	ITEM	TEST CONDITION
1	Bell Monitor Output Amplitude	(1) : Input a 75% color bar signal (200mV _{p-p} at R ID) into Pin 13. (2) : Connect pin 13 to GND through 27kΩ. (3) : Measure R-Y ID amplitude at Pin 1, that is "ebmo". 
2	Bell / Filter f_0	(1) : Input a 20mV _{p-p} sine wave whose frequency is sweep into Pin 13. (2) : Connect pin 13 to GND through 27kΩ. (3) : Keep pin 16 GND. (4) : Measure the frequency at which Pin 1 output is the biggest, that is " f_{0BEL} ". (5) : Calculate : " $f_{0B-C} = f_{0BEL} - 4,286$ [kHz]". 
3	Bell / Filter f_0 Variable Range	(1) : Input a 20mV _{p-p} sine wave whose frequency is sweep into Pin 13. (2) : Connect pin 13 to GND through 27kΩ. (3) : Measure the frequency at which Pin 1 output is the biggest when V_{CC} is 5.5V / 4.5V, that is $f_{0BEL5.5} / f_{0BEL4.5}$. (4) : Calculate : " $f_{0B-H} = f_{0BELH} - 4,286$ [kHz]." " $f_{0B-L} = f_{0BELL} - 4,286$ [kHz]". 
4	Bell / Filter f_0 VCC Drift	(1) : Input a 20mV _{p-p} sine wave whose frequency is sweep into Pin 13. (2) : Connect pin 13 to GND through 27kΩ. (3) : Pin 16 is GND. (4) : Measure the frequency at which Pin 1 output is the biggest when V_{CC} is 5.5V / 4.5V, that is $f_{0BEL5.5} / f_{0BEL4.5}$. (5) : Calculate : " $\Delta f_{0BELV} = f_{0BEL5.5} - f_{0BEL4.5}$ ". 
5	Bell / Filter f_0 Thermal Drift	(1) : Input a 20mV _{p-p} sine wave whose frequency is sweep into Pin 13. (2) : Connect pin 13 to GND through 27kΩ. (3) : Pin 16 is GND. (4) : Measure the frequency at which Pin 1 output is the biggest when atmosphere is $-20^\circ C / +65^\circ C$, that is $f_{0BEL-20} / f_{0BEL+65}$. (5) : Calculate : " $\Delta f_{0BELT} = f_{0BEL-20} - f_{0BEL+65}$ ". 
6	Bell / Filter Q	(1) : Input a 20mV _{p-p} sine wave whose frequency is sweep into Pin 13. (2) : Connect pin 13 to GND through 27kΩ. (3) : Pin 16 is GND. (4) : Observe the frequency response of Pin 1 output. (5) : Calculate : " $Q_{BEL} = (MAX - 3dB \text{ Band Width}) / f_{0BEL}$ ". 
7	Color Difference Output Amplitude	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Measure the R-Y output amplitude at Pin 3, that is "VRS". (3) : Measure the B-Y output amplitude at Pin 5, that is "VBS". 

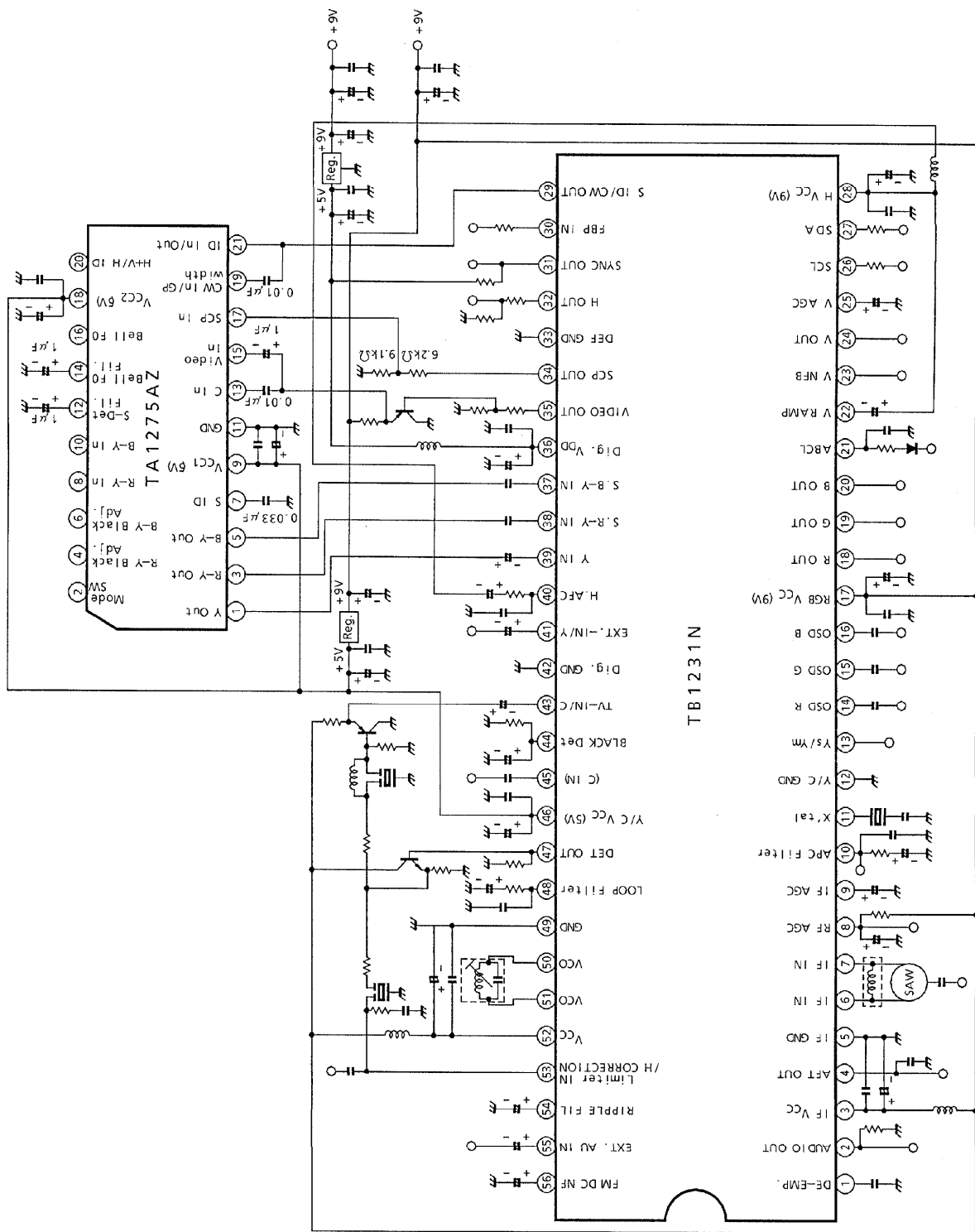
NOTE	ITEM	TEST CONDITION
8	Color Difference Relative Amplitude	Calculate : "R/B-S" = V_{RS} / V_{BS} .
9	Color Difference S/N	(1) : Input a 200mV _{p-p} non-modulated chroma signal into Pin 13. (2) : Measure the amplitude of noise on Pin 3, that is n _R . (3) : Measure the amplitude of noise on Pin 5, that is n _B . (4) : Calculate : "SNB-S" = $20 \log (2\sqrt{2V_{BS}} / n_B)$ "SNR-S" = $20 \log (2\sqrt{2V_{RS}} / n_R)$
10	Color Difference Output VCC Drift	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Measure the B-Y output amplitude at Pin 5 when V _{CC} is 5.5V/4.5V, that is V _{BS5.5} / V _{BS4.5} . (3) : Calculate : " ΔV_{BVH} " = $(V_{BS5.5} - V_{BS}) / V_{BS} * 100$ [%] " ΔV_{BVL} " = $(V_{BS4.5} - V_{BS}) / V_{BS} * 100$ [%] 
11	Color Difference Output Thermal Drift	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Measure the B-Y output amplitude at Pin 5 when atmosphere is -20°C / +65°C, that is V _{BS-20} / V _{BS+65} . (3) : Calculate : " V_{BSTH} " = $(V_{BS+65} - V_{BS}) / V_{BS} * 100$ [%] " V_{BSTL} " = $(V_{BS-20} - V_{BS}) / V_{BS} * 100$ [%] 
12	Linearity	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Measure the amplitude between Black and Cyan/Red, that is V _{Cyan} / V _{Red} . (3) : Measure the amplitude between Black and Yellow/Blue, that is V _{Yellow} / V _{Blue} . (4) : Calculate : "LinR" = V _{Cyan} / V _{Red} "LinB" = V _{Yellow} / V _{Blue} 
13	Rising Time	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Measure the rising time (from 10% to 90%) between Green and Magenta at Pin 3 / Pin 5, that is "t _{rR} " / "t _{rB} ". 
14	Demodulation Hold Range	(1) : Input a 200mV _{p-p} , 2MHz sine wave into Pin 13. (2) : Increasing the input frequency, measure the frequencies at which demodulated output appears at Pin 3, that is "C _{RL} ", and at which demodulates output disappears at Pin 5, that is "H _{BH} ". 
15	Demodulation Capture Range	(3) : Input a 200mV _{p-p} , 7MHz sine wave into Pin 13. (4) : Decreasing the input frequency, measure the frequencies at which demodulated output appears at Pin 5, that is "C _{BH} ", and at which demodulated output disappears at Pin 3, that is "H _{RL} ". 

NOTE	ITEM	TEST CONDITION
16	Killer ON/OFF Level	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Decreasing the input amplitude, measure the amplitude at which demodulated outputs disappear at Pin 3 and Pin 5, that is "e _{SK} ". (3) : Increasing the input amplitude from 0mV _{p-p} , measure the amplitude at which demodulated outputs appears at Pin 3 and Pin 5, that is "e _{SC} ".
17	Carrier Remains on Demodulated Output	(1) : Input a 200mV _{p-p} non-modulated chrome signal into Pin 13. (2) : Measure the amplitude of 4.25MHz signal at Pin 3, that is "CL _{RS} ". (3) : Measure the amplitude of 4.406MHz signal at Pin 5, that is "CL _{BS} ".
18	Black Level Offset	(1) : Input a 200mV _{p-p} non-modulated chrome signal into Pin 13. (2) : Pin 4 and Pin 6 are opened. (3) : Measure the difference between picture period and blanking period at Pin 3 / Pin 5, that is "E _{FR} " / "E _{RB} ".
19	ID Voltage	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13.
20	ID Current	(2) : Measure the voltage and input current of Pin 21, that are "V _{21color} " and "I _{21color} ". (3) : No input on Pin 13. (4) : Measure the voltage and input current of Pin 21, that are "V _{21B/W} " and "I _{21B/W} ".
21	System SW Threshold Level	(1) : Input a 200mV _{p-p} , 15kHz sine wave into Pin 8 and Pin 10. (2) : No input Pin 13. (3) : Increasing the Pin 21 voltage from 0V, measure the voltage at which 15kHz sine wave appears at Pin 3 and Pin 5, that is "V _{21PIN} ". (4) : Decreasing the Pin 21 voltage from 4V, measure the voltage at which 15kHz sine wave disappears at Pin 3 and Pin 5, that is "V _{21S} ".
22	Color Difference Output DC Level	(1) : No input on Pin 13. (2) : Measure the DC voltage on Pin 3 / Pin 5 when Pin 21 is 4V, that is "V _{3PIN} " / "V _{5PIN} ". (3) : Measure the DC voltage on Pin 3 / Pin 5 when Pin 21 is 0V, that is "V _{3S} " / "V _{5S} ".
23	R-Y B-Y Black Level Control Characteristics	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Measure the difference between picture period and blanking period at Pin 3 when Pin 4 is 4V / 0V, that is E _{FR+} / E _{FR-} . (3) : Measure the difference between picture period and blanking period at Pin 5 when Pin 6 is 4V / 0V, that is E _{RB+} / E _{RB-} . (4) : Calculate : "ΔE _{FR+} " = E _{FR+} - E _{FR-} "ΔE _{FR-} " = E _{FR-} - E _{FR+} "ΔE _{RB+} " = E _{RB+} - E _{RB-} "ΔE _{RB-} " = E _{RB-} - E _{RB+}



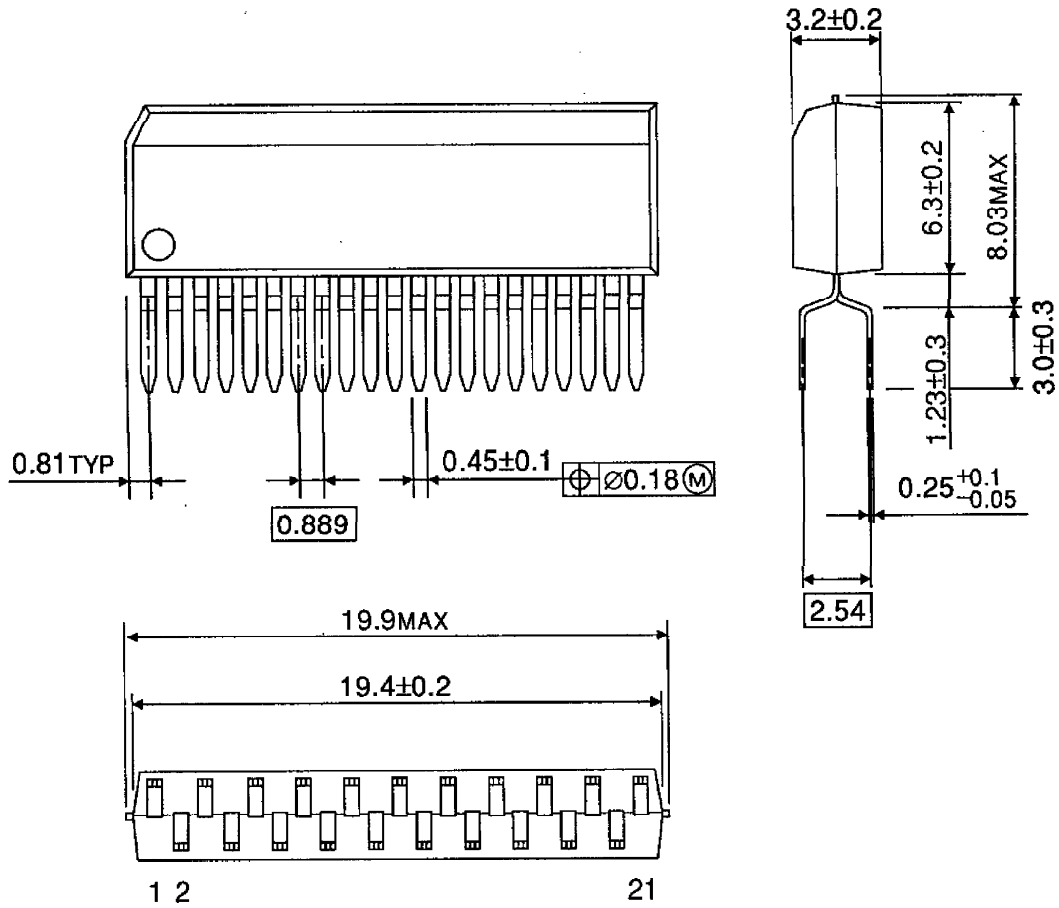
NOTE	ITEM	TEST CONDITION
24	Ext. Color Difference Gain	(1) : Input a 200mV _{p-p} , 15kHz sine wave into Pin 8 and Pin 10. (2) : Supply 4V to Pin 21. (3) : Measure the output amplitudes at Pin 3 and Pin 5, that are V _{EXTR} and V _{EXTB} . (4) : Calculate : "G _{EXTR} " = V _{EXTR} / 200 [mV] "G _{EXTB} " = V _{EXTB} / 200 [mV]
25	4.43MHz CW Min. Input Level	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Increasing an amplitude of 4.43MHz Continuous Wave inputted into Pin 19 from 0mV _{p-p} , measure the amplitude at which color difference signals appear at Pin 3 and Pin 5, that is "V _{CW} ". 
26	Gate Pulse Width Variable Range	(1) : Input a 75% color bar (200mV _{p-p} at R ID) into Pin 13. (2) : Connecting the Pin 7 to GND via 1kΩ, observe the gate pulse at Pin 7. (3) : Measure the gate pulse widths when Pin 19 is opened, connected to V _{CC} /GND, that are "W _{GP} ", "W _{GPVCC} " and "W _{GPGND} ". 
27	Y DL Characteristics	(1) : Connect the Pin 7 to V _{CC} via 10kΩ. (2) : Connect the Pin 2 to GND. (3) : Measure the delay time between Pin 15 input and Pin 1 output, that is "t _{YDL} ".
28	Y Trap Characteristics	(1) : Input a sweep signal with sync. (1V _{p-p}). (2) : Connect the Pin 7 to V _{CC} via 10kΩ. (3) : Connect the Pin 2 to V _{CC} . (4) : Observing the frequency response at Pin 1, measure the frequency at which the attenuation is maximum, that is "f _{0Y5.5} " and measure the attenuation at f _{0Y5.5} against the one at 1MHz, that is "G _{Y5.5} ". 
29	Y Input Dynamic Range	(1) : Connect the Pin 7 to V _{CC} via 10kΩ. (2) : Increasing the amplitude of Y signal inputted into Pin 15, measure the amplitude at which the output signal from Pin 1 begins to be distorted, that is "DR _{YS} ". (3) : Open the Pin 7. (4) : Repeat (2), that is "DR _{YBW} ".
30	Y Gain	(1) : Input a 1V _{p-p} Y signal into Pin 15. (2) : Connect the Pin 7 to V _{CC} via 10kΩ. (3) : Measure the gain between Pin 15 input and Pin 1 output, that is "G _{YS} ". (3) : Open the Pin 7. (4) : Repeat (3), that is "G _{YBW} ".

APPLICATION CIRCUIT



OUTLINE DRAWING
SZIP21-P-0.89

Unit : mm



Weight : 1.0g (Typ.)