BIPOLAR ANALOG INTEGRATED CIRCUIT
μPC1364C2

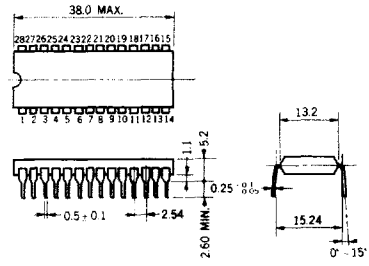
CHROMINANCE PROCESSOR FOR SECAM COLOR TV
SILICON BIPOLAR MONOLITHIC INTEGRATED CIRCUIT

μPC1364C2 is an integrated circuit for the chrominance signal processing of SECAM system receivers. This IC in 28 pins dual in line package has the functions required for the chrominance signal processing such as limitters, (R-Y)/(B-Y) demodulators, SECAM switch, identification circuit, killer, color control, clamp and R/G/B matrix circuit. The outputs are available in original R, G, B color signals. In addition, by the combination with NEC's PAL chrominance IC – μPC1365C, PAL/SECAM dual system can be realized.

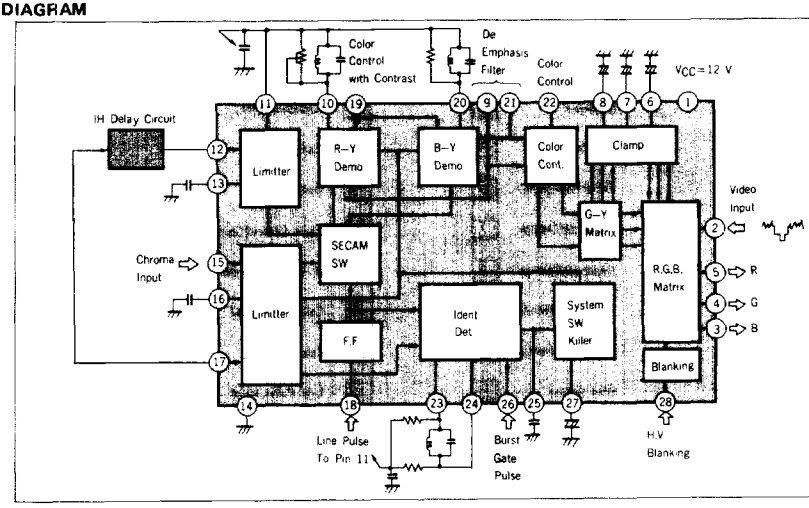
FEATURES

- R, G, B outputs in original color signals.
- PAL/SECAM dual system capability by the combination of μPC1364C2 and μPC1365C.
- Excellent white balance and crosstalk characteristics.
- Simple adjustment for contrast level and color control.

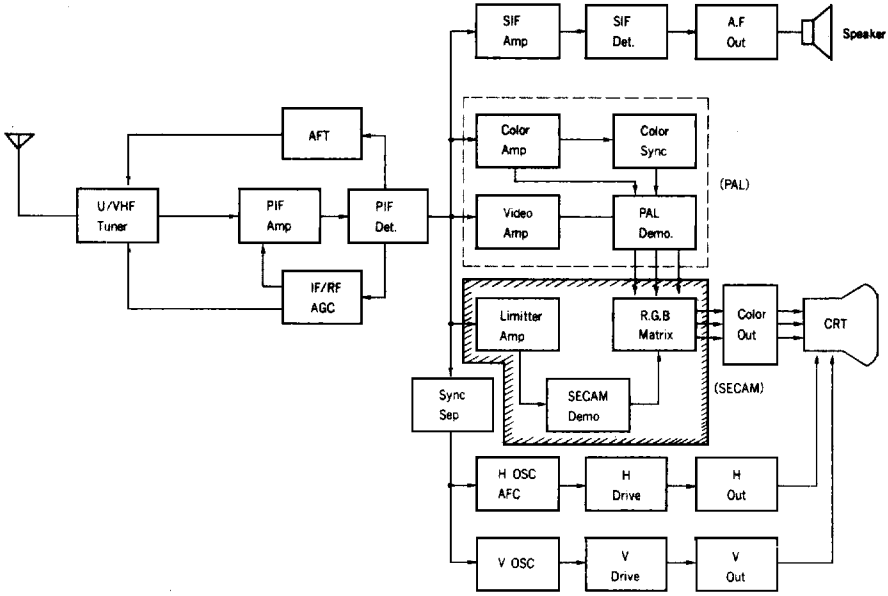
PACKAGE DIMENSIONS in millimeters



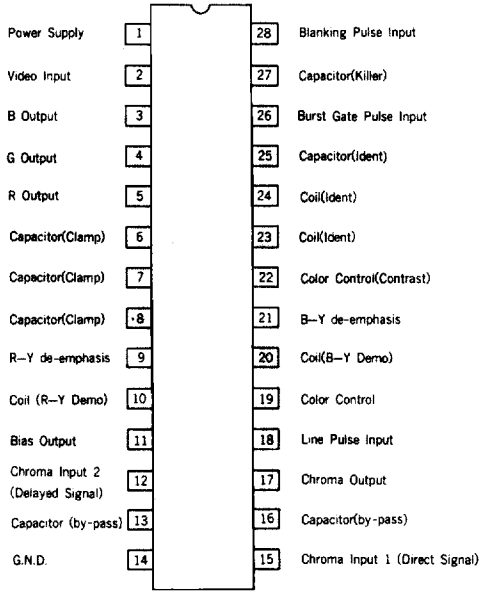
BLOCK DIAGRAM



TV BLOCK DIAGRAM (PAL-SECAM DUAL SYSTEM)



PIN CONNECTION (Top View)



STANDARD USING CONDITIONS

Supply Voltage	12	V
Chroma Input Signal (Burst Signal)	200	mV_{p-p}
Video Input Signal	1	V_{p-p}
Video Input Signal (Black Level)	10	V_{DC}
Burst Gate Pulse	3	V_p
Line Pulse	3	V_p
Blanking Pulse	3	V_p
R.G.B. Output Black Level	2	V
Color Controlling Voltage (Pin 19)	5.2 to 6.7 to 8.2	V
Color Controlling Voltage (Pin 22) (Relative Contrast)	5.9 to 7.4 to 8.9	V

ABSOLUTE MAXIMUM RATINGS (Ta = 25 °C Unless otherwise)

Supply Voltage	V_{CC}		15	V
Signal Input Voltage	e_i		5	V_{p-p}
Pulse Input Voltage	e_p		±6	V
Power Dissipation	P_d	(Ta = +70° C)	750	mW
Operating Temperature	T_{opt}		-20 to +70	°C
Storage Temperature	T_{stg}		-40 to +125	°C

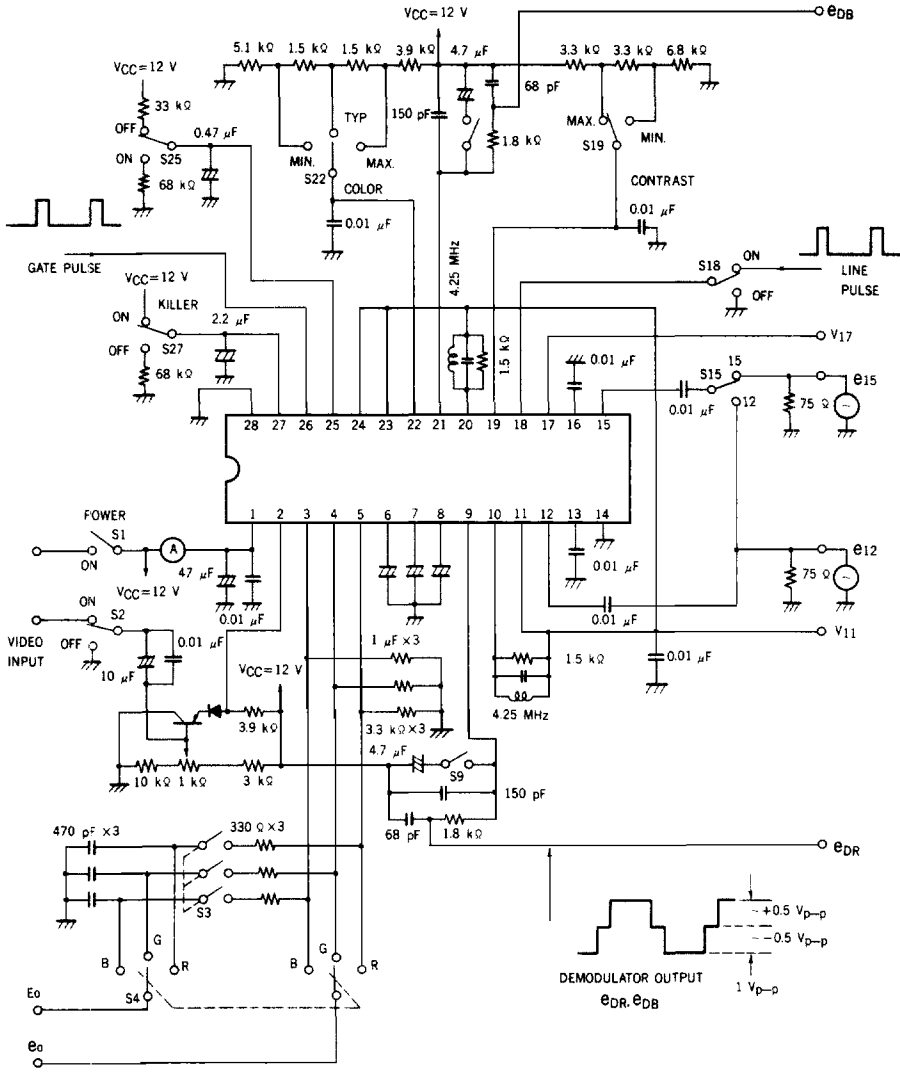
6

ELECTRICAL CHARACTERISTICS (Ta = 25 °C unless otherwise noted, V_{CC} = 12 V) Contrast max, Color typ.

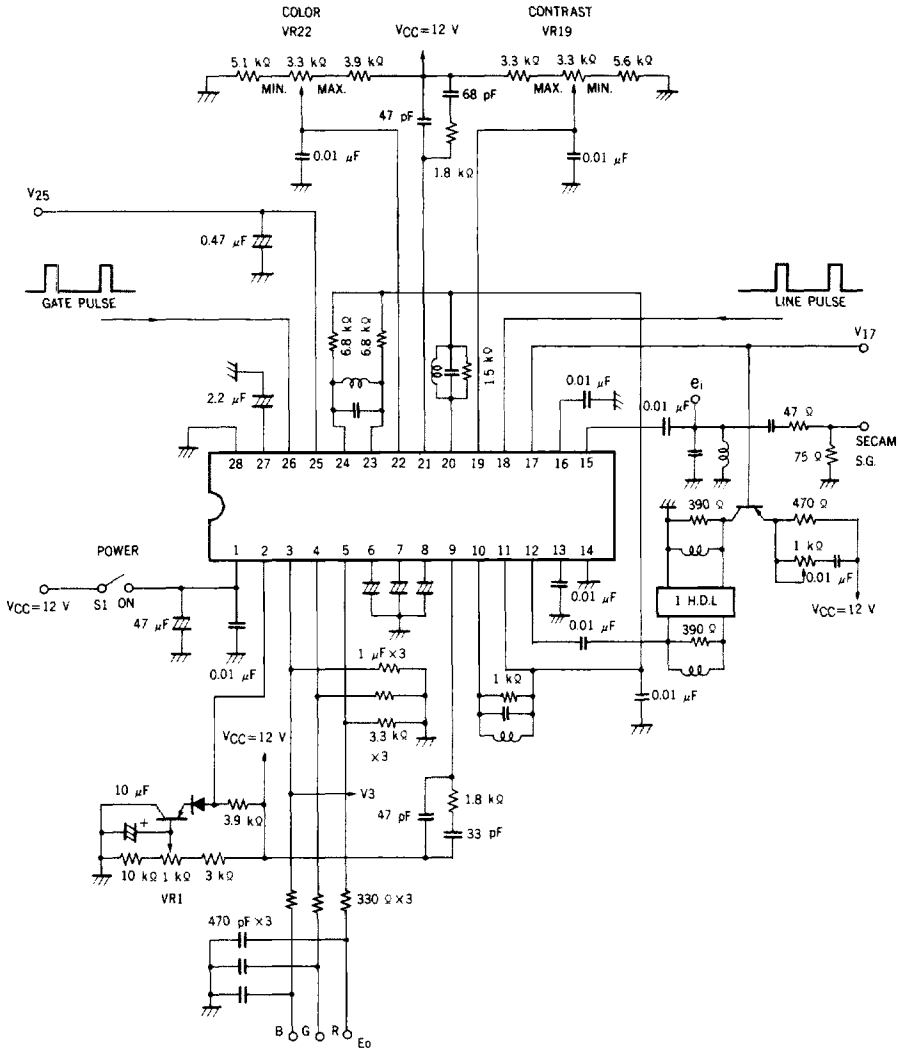
NO	CHARACTERISTIC	SYMBOL	TEST CKT	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
1	Supply Current	I_{CC}	1	33	45	57	mA	No Input Signal, Killer on V3 = 3.5 V
2	Pin 11 Voltage	V_{11}	1	1.9	2.3	2.7	V	Same as No. 1
3	Pin 17 Voltage (Killer off)	V_{17}	1	8.0	8.6	9.2	V	Same as No. 1, Killer off
4	Pin 17 Voltage (Killer on)	V_{17k}	1	11.0	11.3	11.6	V	Same as No. 1, Killer on
5	Demodulator Output	e_{DB}, e_{DR}	1	0.6	0.9	1.3	V_{p-p}	f12 = 4.02 MHz, f15 = 4.48 MHz, $e12 = e15 = 200\ mV_{p-p}$
6	Limitting Sensitivity	e_L	1	2.5	5	10	mV_{p-p}	f_{15} = 4.25 MHz ±230 kHz, $e_{DB} = -3$ dB
7	A.M. Reject Ratio	AMR	1	34	40	–	dB	f15 = 4.25 MHz, AM mod = 30 %, fm = 1 kHz, $e15 = 200\ mV_{p-p}$, Line Pulse off, Compare with e_{DB}
8	Cross talk Level	CT	1	37	43	–	dB	f12 = 4.30 MHz, f15 = 4.25 MHz beat frq. = 50 kHz, Compare with e_{DB}, e_{DR}
9	Residual Carrier Level	e_{car}	1	–	100	200	mV_{p-p}	$e12 = e15 = 200\ mV_{p-p}$, f12 = f15 = 4.25 MHz
10	Maximum Color Differential Output	e_{OM}	1	4.5	5.7	–	V_{p-p}	Set $e_{DB} = e_{DR} = 1\ V_{p-p}$ (±0.5 V_{p-p}) by f12, f15, Color max.
11	(B-Y), (R-Y) Color Differential Output	e_{OB}, e_{OR}	1	2.0	3.0	4.0	V_{p-p}	Same as No. 10 Color typ.
12	Demodulator (G-Y)/(B-Y) Ratio	G/B	1	0.17	0.19	0.21	times	Same as No. 11, $e_{DR} = 0\ V_{p-p}$
13	Demodulator (G-Y)/(R-Y) Ratio	G/R	1	0.46	0.51	0.56	times	Same as No. 11, $e_{DB} = 0\ V_{p-p}$
14	Maximum Color Gain	A_{CR}, A_{CB}	1	17	19	21	dB	Set $e_{DB} = e_{DR} = 0.3\ V_{p-p}$ by f12, f15 Color max.
15	Color Gain Relative Ratio	A_{CR}/A_{CB}	1	–	0	±7	%	Same as No. 14
16	Contrast Cont. Range	e_{OC}	1	15	17	19	dB	Contrast max. to min., Color typ. Set $e_{OB} = e_{OR} = 1\ V_{p-p}$ by f12, f15 at Contrast max.
17	Residual Color Level (Killer on)	e_{OK}	1	–	–	30	mV_{p-p}	Set $e_{OB} = e_{OR} = 1\ V_{p-p}$ by f12, f15, at Killer off, Killer on
18	DC Output Voltge	Eo	1	2.7	3.5	4.3	V	No Input Signal, Killer on, V2 = 10.3 V
19	DC Output Difference Voltage	Ex-y	1	-200	0	200	mV	No Input Signal, Killer on, V3 = 3.5 V
20	Eo Temperature Coefficient	ΔEo/ΔT	1	-2	0	+2	mV/°C	V3 = 3.5 V at Ta = 25 °C, Ta = -20 to +70 °C
21	Ex-y Temperature Coefficient	ΔEx-y (T)	1	–	0	±60	mV	Same as No. 20
22	Ex-y Supply Voltage Coefficient	ΔEx-y (V)	1		0	±60	mV	V3 = 3.5 V at V_{CC} = 12 V, V_{CC} = 12 V ± 20 %
23	Y Amp. Voltage Gain	Ay	1	4.3	4.8	5.3	times	$e_y = 0.5\ V_{p-p}$, f = 10 kHz, V3 = 3.5 V, Killer on
24	Y Amp. Frequency Characteristic	f_y	1	5	6	–	MHz	$e_y = 0.5\ V_{p-p}$, 0 dB = Ay, -3 dB
25	Over all Color Differential Output Voltage	e_{OT}	2	2.5	3.6	5.0	V_{p-p}	$e_{in} = 200\ mV_{p-p}$, Color bar Signal, Color typ., Contrast max., B Output
26	Killer Sensitivity	e_k	2	28	34	40	dB	0 dB = e_{in} 200 mV_{p-p}, Color bar Signal, Attenuator Level at Killer on
27	White Balance Changing Level By Input	ΔEx-y (IN)	2		–	±60	mV	e_{in} = 20 to 400 mV_{p-p}, White Signal
28	White Balance Changing Level By Color Cont.	ΔEx-y (Color)	2		0	±60	mV	$e_{in} = 200\ mV_{p-p}$, White Signal, Contrast max., Color max. to min.

NO	CHARACTERISTIC	SYMBOL	TEST CKT	MIN.	TYP.	MAX.	UNIT	TEST CONDITION
29	White Balance Changing Level by Contrast Cont	ΔEx-y (Contrast)	2		0	±60	mV	e_{in} = 200 mV_{p-p}, White Signal, Color typ., Contrast max. to min.
30	Pin 15 Input Impedance	Ri_{15} Ci_{15}	3	2.8 4.5	4 6.6	5.6 9.5	kΩ pF	f = 4.4 MHz, 100 mV_{p-p}
31	Pin 12 Input Impedance	Ri_{12} Ci_{12}	3	2.8 3.7	4 5.5	5.6 8.0	kΩ pF	f = 4.4 MHz, 100 mV_{p-p}
32	Pin 10 Input Impedance	Ri_{10} Ci_{10}	3		17 15		kΩ pF	Same as No. 31
33	Pin 20 Input Impedance	Ri_{20} Ci_{20}	3		17 15		kΩ pF	Same as No. 31
34	Pin 23, 24 Input Impedance	$Ri_{23,24}$ $Ci_{23,24}$	3		25 13		kΩ pF	Same as No. 31
35	Pin 17 Output Resistance	Ro_{17}	–	120	180	270	Ω	
36	Pin 9, 21 Output Resistance	$Ro_{9,21}$	–	4.0	6.0	8.0	kΩ	
37	Minimum Gate Pulse Voltage	$V_{C\ (min)}$				1.5	V	
38	Minimum Trigger Pulse Voltage	V_{FF}				1.5	V	
39	Minimum Blanking Pulse Voltage	V_{BLK}			–	2.0	V	

TEST CIRCUIT 1



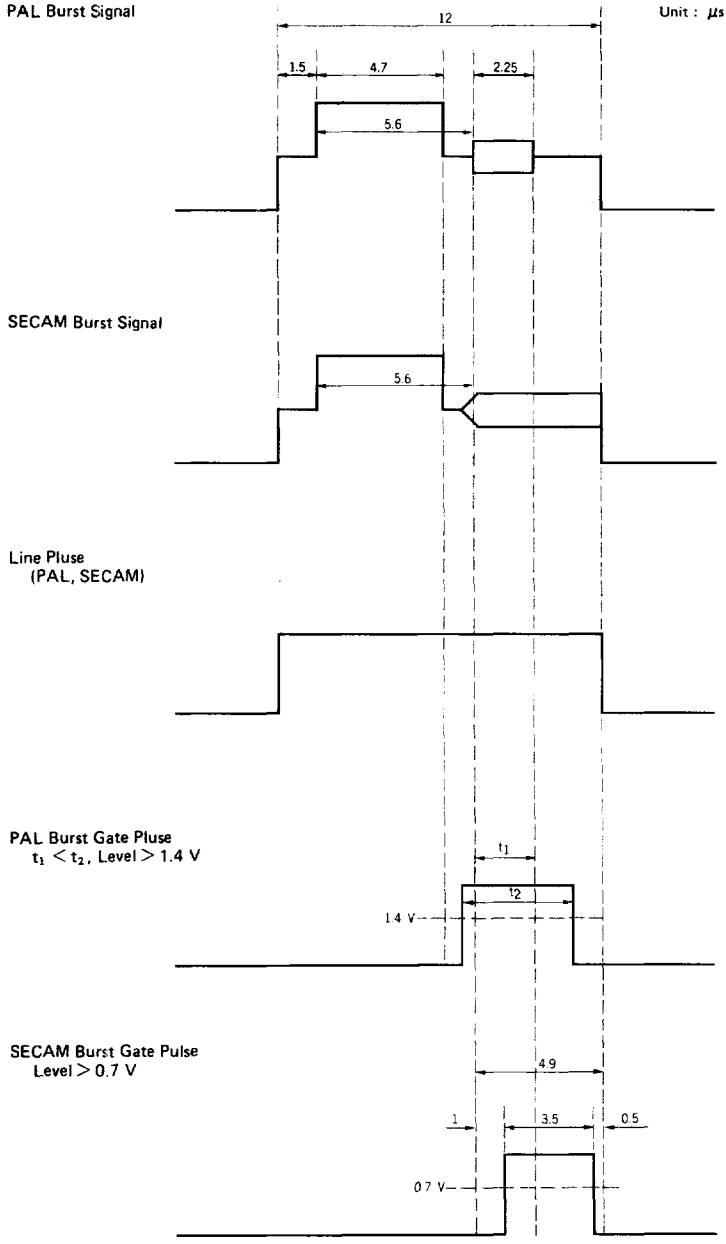
TEST CIRCUIT 2

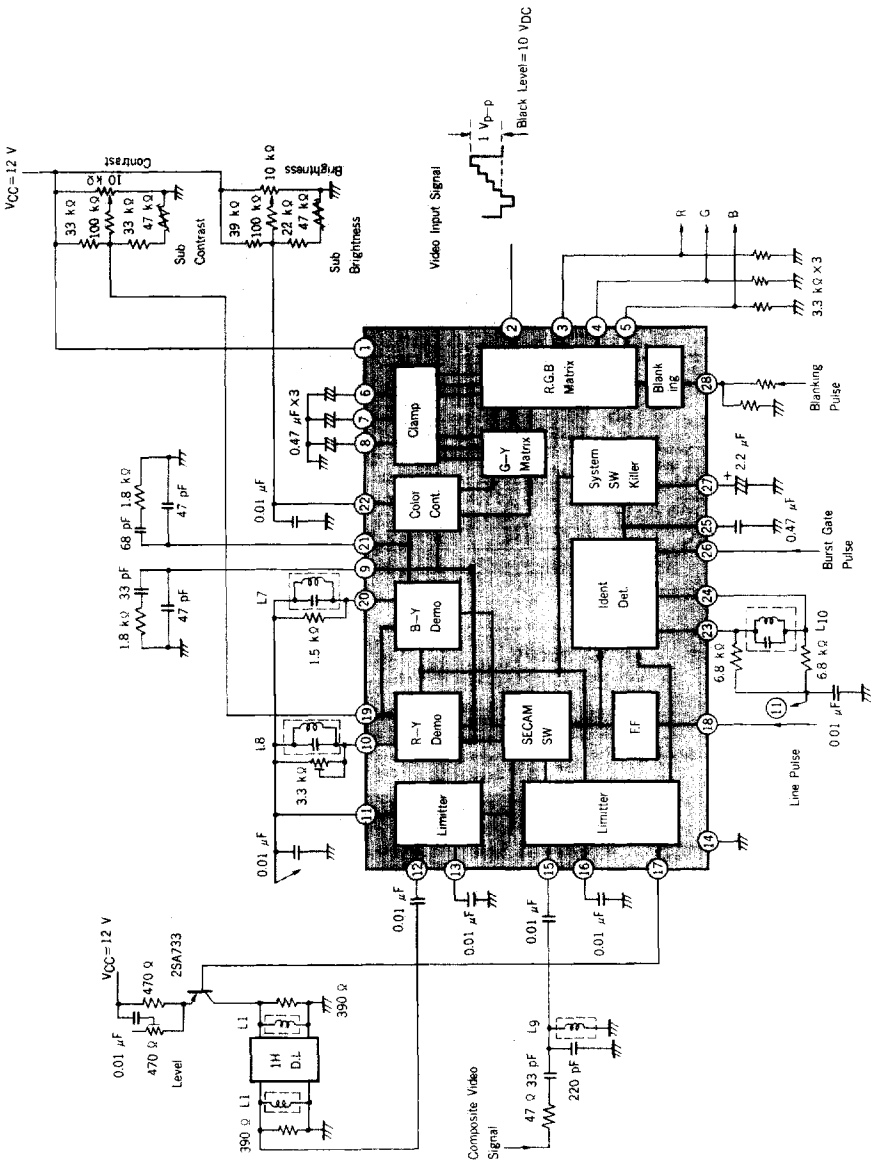


No	SYMBOL	Test Circuit	S1 Power	S2 Video Input	S3 LPF	S4 RGB	S9 R-Y Detect	S15 Chrome Input	S18 Line Pulse Input	S19 Contrast	S21 B-Y Detect	S22 Color	S25 Reset	S27 Color Killer	VR2 Video DC Input	VR19 Contrast Linked	VR22 Color Control	Input level and etc.	Measuring point and instrument
1	I_{CC}	1	OFF→ON	OFF	ON	R	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$	Pin 1 (DC Ammeter)
2	V_{11}	1	OFF→ON	OFF	ON	R	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$	Pin 11 (Digital Voltmeter)
3	V_{17}	1	OFF→ON	OFF	ON	R	OFF	15	ON	MAX	OFF	TYP	OFF	OFF	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$	Pin 17 (Digital Voltmeter)
4	V_{17K}	1	OFF→ON	OFF	ON	R	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$	Pin 17 (Digital Voltmeter)
5	e_{DB}, e_{DR}	1	OFF→ON	OFF	ON	R	OFF	15	ON	MAX	OFF	TYP	OFF	OFF	V_3 = 3.5 V	–	–	e_{15} = 200 $mV_{p\text{-}p}$ (4.48 MHz) e_{12} = 200 $mV_{p\text{-}p}$ (4.02 MHz)	e_{DB}, e_{DR} Output (Oscilloscope)
6	e_L	1	OFF→ON	OFF	ON	R	OFF	15	OFF	MAX	OFF	TYP	ON	OFF	V_3 = 3.5 V			e_{15} = 200 $mV_{p\text{-}p}$ (4.25 MHz, Δf = ±230 kHz) e_{12} = 0 $mV_{p\text{-}p}$	e_{15} input level providing −3 dB of regular e_{DB} output (Oscilloscope)
7	AMR	1	OFF→ON	OFF	ON	R	OFF	15	OFF	MAX	OFF	TYP	ON	OFF	V_3 = 3.5 V	–	–	e_{15} = 200 $mV_{p\text{-}p}$ (4.25 MHz, AM 30% MOD, f_M = 1 kHz) e_{12} = 0 $mV_{p\text{-}p}$	Calculate ratio of values of e_{DS} among this condition and No.5 condition (Oscilloscope)
8	CT	1	OFF→ON	OFF	ON	R	OFF	15	OFF	MAX	OFF	TYP	ON	OFF	V_3 = 3.5 V	–	–	e_{15} = 200 $mV_{p\text{-}p}$ (4.25 MHz) e_{12} = 200 $mV_{p\text{-}p}$ (4.30 MHz)	Calculate ratio among the beat output of e_{DB}, e_{DR}, and No.5 values (Oscilloscope)
9	e_{car}	1	OFF→ON	OFF	OFF	RGB	OFF	12	ON	MAX	OFF	TYP	OFF	OFF	V_3 = 3.5 V	–	–	e_{15} = 200 $mV_{p\text{-}p}$ (4.25 MHz) e_{12} = 200 $mV_{p\text{-}p}$ (4.25 MHz)	Remain carrier level of e_{01} in tracing period (Oscilloscope)
10	e_{OM}	1	OFF→ON	OFF	ON	RB	OFF	15	ON	MAX	OFF	MAX	OFF	OFF	V_3 = 3.5 V	–	–	Set $e_{DB} = e_{DR}$ = 1 $V_{p\text{-}p}$ e_{15} = 200 $mV_{p\text{-}p}$ (roughly 4.48 MHz) e_{12} = 200 $mV_{p\text{-}p}$ (roughly 4.02 MHz)	e_{01} output (Oscilloscope)
11	e_{DB}, e_{DR}	1	OFF→ON	OFF	ON	RB	OFF	15	ON	MAX	OFF	TYP	OFF	OFF	V_3 = 3.5 V	–	–	Set $e_{DB} = e_{DR}$ = 1 $V_{p\text{-}p}$ e_{15} = 200 mV (roughly 4.48 MHz) e_{12} = 200 mV (roughly 4.02 MHz)	e_{01} Output (Oscilloscope)
12	G/B	1	OFF→ON	OFF	ON	GB	ON	15	ON	MAX	OFF	TYP	OFF	OFF	V_3 = 3.5 V	–	–	Set $e_{DB} = e_{DR}$ = 1 $V_{p\text{-}p}$ e_{15} = 200 mV (roughly 4.48 MHz) e_{12} = 200 mV (roughly 4.02 MHz)	e_{01} Output (Oscilloscope) Calculate ratio of G/B
13	G/R	1	OFF→ON	OFF	ON	RG	OFF	15	ON	MAX	ON	TYP	OFF	OFF	V_3 = 3.5 V	–	–	Set $e_{DB} = e_{DR}$ = 1 $V_{p\text{-}p}$ e_{15} = 200 $mV_{p\text{-}p}$ (roughly 4.48 MHz) e_{12} = 200 $mV_{p\text{-}p}$ (roughly 4.02 MHz)	e_{01} Output (Oscilloscope) Calculate ratio of G/R
14	A_{CR}, A_{CB}	1	OFF→ON	OFF	ON	RB	OFF	15	ON	MAX	OFF	MAX	OFF	OFF	V_3 = 3.5 V			Set $e_{DB} = e_{DR}$ = 0.3 $V_{p\text{-}p}$ e_{15} = 200 $mV_{p\text{-}p}$ (roughly 4.32 MHz) e_{12} = 200 $mV_{p\text{-}p}$ (roughly 4.18 MHz)	e_{01} output (oscilloscope) Calculate gain in case of $e_{DB} = e_{DR}$ = 0.3 $V_{p\text{-}p}$
15	A_{CR}/A_{CB}	1	OFF→ON	OFF	ON	RB	OFF	15	ON	MAX	OFF	MAX	OFF	OFF	V_3 = 3.5 V			Set $e_{DB} = e_{DR}$ = 0.3 $V_{p\text{-}p}$ e_{15} = 200 $mV_{p\text{-}p}$ (roughly 4.32 MHz) e_{12} = 200 $mV_{p\text{-}p}$ (roughly 4.18 MHz)	Calculate ratio among A_{CR} and A_{CB} of No. 5

No.	SYMBOL	Test Circuit	S1 Power	S2 Video Input	S3 LPF	S4 RGB	S9 R-Y Detect	S15 Chrome Input	S18 Line Pulse Input	S19 Contrast	S21 B-Y Detect	S22 Color	S25 Reset	S27 Color Killer	VR2 Video DC Input	VR19 Contrast Linked	VR22 Color Control	Input level and etc.	Measuring point and instrument
16	e_{OC}	1	OFF→ON	OFF	ON	RB	OFF	15	ON	MAX ↓ MIN	OFF	TYP	OFF	OFF	V_3 = 3.5 V	–	–	Set $e_{DB} = e_{DR} = 1\ V_{p\text{-}p}$ e_{15} = 200 $mV_{p\text{-}p}$ (roughly 4.48 MHz) e_{12} = 200 $mV_{p\text{-}p}$ (roughly 4.02 MHz)	e_{01} output between MAX and MIN of contrast (Oscilloscope)
17	e_{OK}	1	OFF→ON	OFF	ON	RB	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	Color killer is OFF Set $e_{DB} = e_{DR} = 1\ V_{p\text{-}p}$ e_{15} = 200 mV (roughly 4.48 MHz) e_{12} = 200 mV (roughly 4.02 MHz)	Color killer ON e_{01} output (Oscilloscope)
18	e_o	1	OFF→ON	OFF	ON	RGB	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_2 = 10.3 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$ Set V_3 = 10.3 V by VR2	e_{01} DC output voltage (Digital Voltmeter)
19	$E_{x\text{-}y}$	1	OFF→ON	OFF	ON	RGB	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$	Difference among two values of RGB output DC voltage of No. 18 (Digital voltmeter)
20	$\Delta E_o/\Delta T$	1	OFF→ON	OFF	ON	RGB	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$ Set V_3 = 3.5 V at Ta = 25 °C Ta = −20 °C to +70 °C	e_{01} DC output voltage Calculate temperature coefficient of E_o (Digital voltmeter)
21	$\Delta E_{x\text{-}y}(T)$	1	OFF→ON	OFF	ON	RGB	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$ Set V_3 = 3.5 V at Ta = 25 °C Ta = −20 °C to +70 °C	e_{01} DC output voltage Maximum change of $E_{x\text{-}y}$ against Ta (Digital voltmeter)
22	$\Delta E_{x\text{-}y}(V)$	1	OFF→ON	OFF	ON	RGB	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$ Set V_3 = 3.5 V at V_{CC} = 12 V V_{CC} = 12 V ± 20 %	e_{01} DC output voltage Maximum change of $E_{x\text{-}y}$ against V_{CC} (Digital voltmeter)
23	A_V	1	OFF→ON	ON 0.5 $V_{p\text{-}p}$ 10 MHz	OFF	RGB	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$ e_y = 0.5 $V_{p\text{-}p}$ (10 kHz)	e_{02} (AC voltmeter) Calculate gain in case of input level is 0.5 $V_{p\text{-}p}$
24	f_V	1	OFF→ON	ON 0.5 $V_{p\text{-}p}$ 10 MHz	OFF	RGB	OFF	15	ON	MAX	OFF	TYP	OFF	ON	V_3 = 3.5 V	–	–	$e_{15} = e_{12} = 0\ mV_{p\text{-}p}$ e_y = 0.5 $V_{p\text{-}p}$	Input frequency (frequency counter) in case of A_V is −3 dB of No. 23
25	e_{OT}	2	OFF→ON	–	–	–	–	–	–	–	–	–	–	–	V_3 = 3.5 V	MAX	TYP V_{22} = 6.6 V	SECAM Signal (Color bar) Input level 200 $mV_{p\text{-}p}$	B output (Oscilloscope)
26	e_k	2	OFF→ON	–	–	–	–	–	–	–	–	–	–	–	V_3 = 3.5 V	MAX	TYP V_{22} = 6.6 V	SECAM Signal (Color bar) 0 dB. Adjust V_{25} to maximum at input level is 200 $mV_{p\text{-}p}$ (Identification coil)	Color killer is ON $V_{17} \geq 11$ V (Digital voltmeter) Attenuation (Attenuator) SECAM input signal level
27	$\Delta E_{x\text{-}y}(IN)$	2	OFF→ON	–	–	–	–	–	–	–	–	–	–	–	V_3 = 3.5 V	MAX	TYP V_{22} = 6.6 V	Adjust white level of R and B at SECAM signal (White) input level is 200 $mV_{p\text{-}p}$ (R−Y, B−Y Detection coil)	Difference among RGB (Digital voltmeter) Maximum change of $E_{x\text{-}y}$ between 20 and 400 $mV_{p\text{-}p}$ of input level
28	$\Delta E_{x\text{-}y}(Color)$	2	OFF→ON	–	–	–	–	–	–	–	–	–	–	–	V_3 = 3.5 V	MAX	MAX to MIN	Adjust white level of R and B at SECAM signal (White) input level is 200 $mV_{p\text{-}p}$ (R−Y, B−Y Detection coil)	Difference among RGB (Digital voltmeter) Maximum change of $E_{x\text{-}y}$ between MIN and MAX of Color Control
29	$\Delta E_{x\text{-}y}(Contrast)$	2	OFF→ON	–	–	–	–	–	–	–	–	–	–	–	V_3 = 3.5 V	MAX to MIN	TYP V_{22} = 6.6 V	Adjust white level of R and B at SECAM signal (White) input level is 200 $mV_{p\text{-}p}$ Contrast is MAX (R−Y, B−Y Detection Coil)	Difference among RGB (Digital voltmeter) Maximum change of $E_{x\text{-}y}$ between MIN and MAX of Contrast Control

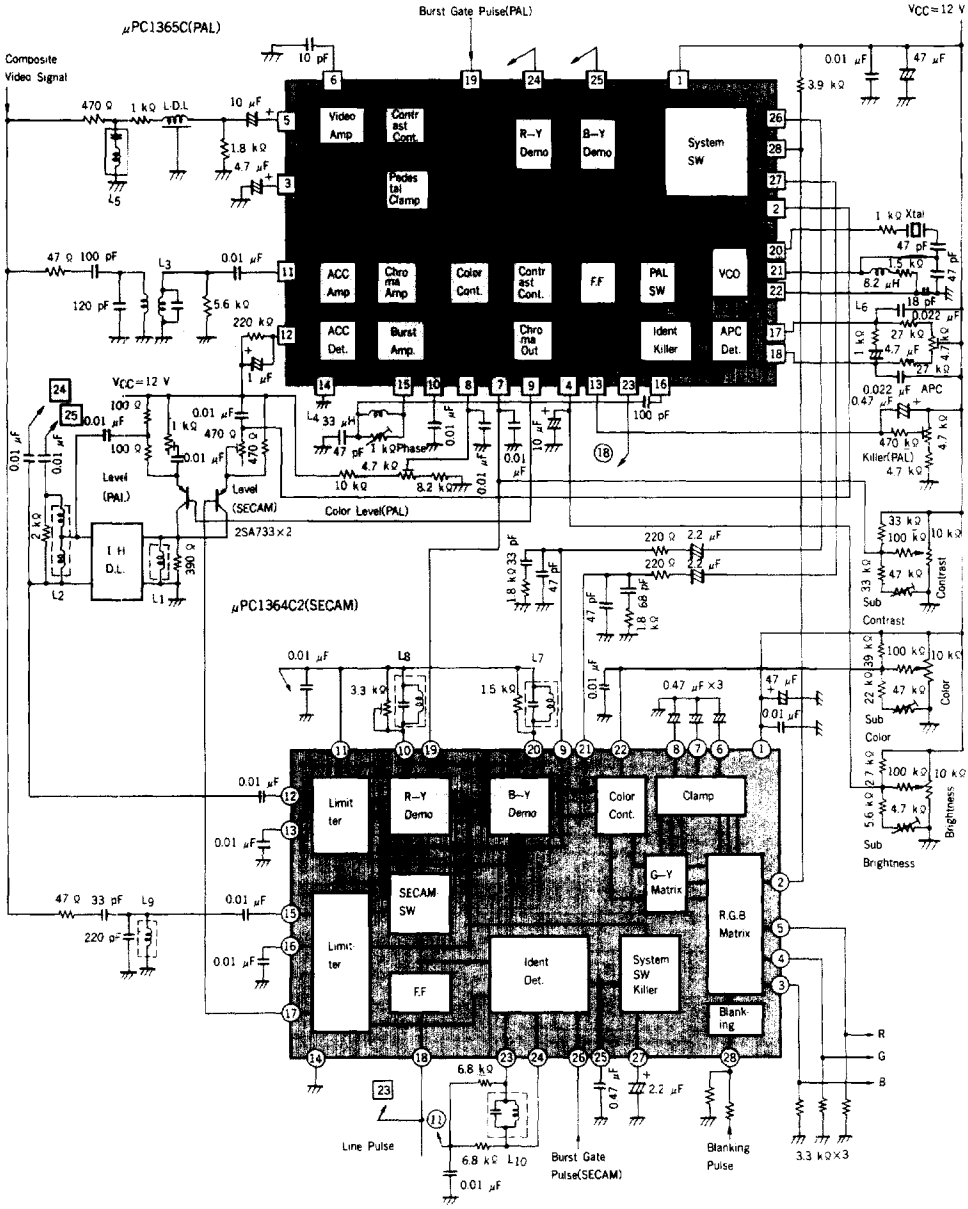
μPC1364C (SECAM), μPC1365C (PAL) INPUT SIGNAL AND PULSE TIME RELATION



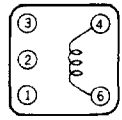

VCC = 12 V
Contrast
10 kΩ
33 kΩ
100 kΩ
33 kΩ
47 kΩ
Sub Contrast
Brightness
10 kΩ
39 kΩ
100 kΩ
22 kΩ
47 kΩ
Sub Brightness
Video Input Signal
1 Vp-p
Black Level = 10 VDC
R
G
B
3.3 kΩ × 3
Blanking Pulse
Burst Gate Pulse
Line Pulse
Composite Video Signal
Level
2SA733
VCC = 12 V
470 Ω
470 Ω
0.01 μF
1H D.L
390 Ω
390 Ω
47 Ω
33 pF
220 pF
Lg
L1
L7
L8
L10
1.5 kΩ
3.3 kΩ
6.8 kΩ
6.8 kΩ
1.8 kΩ
68 pF
1.8 kΩ
33 pF
47 pF
47 pF
0.47 μF × 3
0.01 μF
0.47 μF
2.2 μF
Clamp
Color Cont.
B–Y Demo
R–Y Demo
Limitter
Limitter
R.G.B Matrix
G–Y Matrix
SECAM SW
Ident Det.
FF
Blank ing
System SW Killer

μPC1364C2

PAL-SECAM DUAL SYSTEM



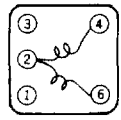
L1 1H D.L. Matching
Input Coil
(PAL, SECAM)



Type No. TKRNS – 24984NK (Pink Core)
Toko Corp.

fo ; 4.43 MHz
6 - 4 ; 18 T
C out ; 330 pF (4 - 6)
Qu ; 59 ± 20 %
Wire Material ; 0.1/UEW

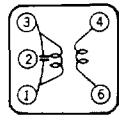
L2 1H D.L. Matching
Output Coil
(PAL, SECAM)



Type No. TKRNS – 24985VN (Black Core)
Toko Corp.

fo ; 4.43 MHz
4 - 2 ; 18 T
2 - 6 ; 18 T
C out ; 75 pF (4 - 6)
Qu ; 44 ± 20 %
Wire Material ; 0.1/UEW

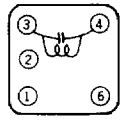
L3 Chroma Input Coil
(PAL)



Type No. 163NEF – 1148 WWJ (No Core)
Toko Corp.

fo ; 4.43 MHz
6 - 4 ; 35 ¼ T
3 - 1 ; 76 T
C in ; 47 pF
Wire Material ; 0.1/UEW

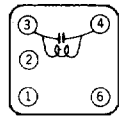
L7 (B-Y) Demodulator
(SECAM)



Type No. TKRES – 25656AYC (Yellow Core)
Toko Corp.

fo ; 4.25 MHz
3 - 4 ; 33 ½ T
C in ; 82 pF (3 - 4)
Qu ; 75 ± 20 %
Wire Material ; 0.1/OUEW

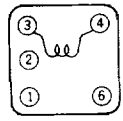
L8 (R-Y) Demodulator
(SECAM)



Type No. TKRES – 25658AYK (Green Core)
Toko Corp.

fo ; 4.406 MHz
3 - 4 ; 32 ½ T
C in ; 82 pF
Qu ; 75 ± 20 %
Wire Material ; 0.1/OUEW

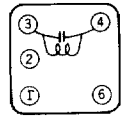
L9 Bell Filter
(SECAM)



Type No. TKRNS – 25657AYC (Red Core)
Toko Corp.

3 - 4 ; 19 ½ T
C out ; 220 pF
Qu ; 70 ± 20 %
Wire Material ; 0.12/OUEW

L10 Ident Detector



Type No. TKRES – 25659AYC (Orange Core)
Toko Corp.

fo ; 4.406 MHz
3 - 4 ; 39 ½ T
C in ; 68 pF
Qu ; 63 ± 20 %
Wire Material ; 0.1/OUEW