

AN5635N, AN5635NS

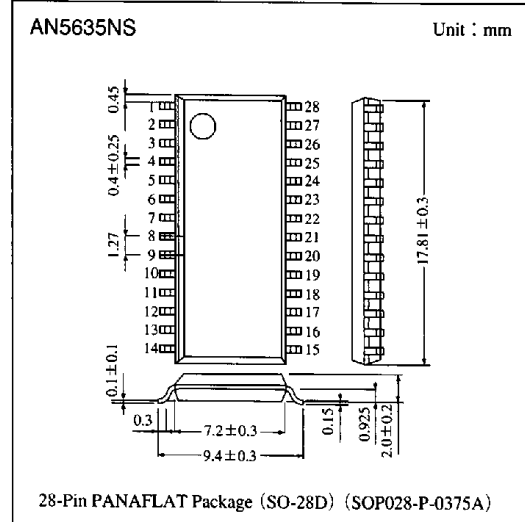
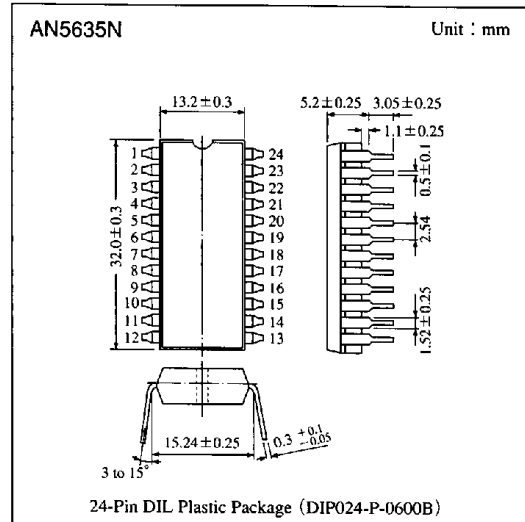
Chrominance Signal Processing ICs for SECAM System Color TV

Overview

The AN5635N and the AN5635NS are integrated circuits designed for SECAM system color TV chrominance signal processing circuit.

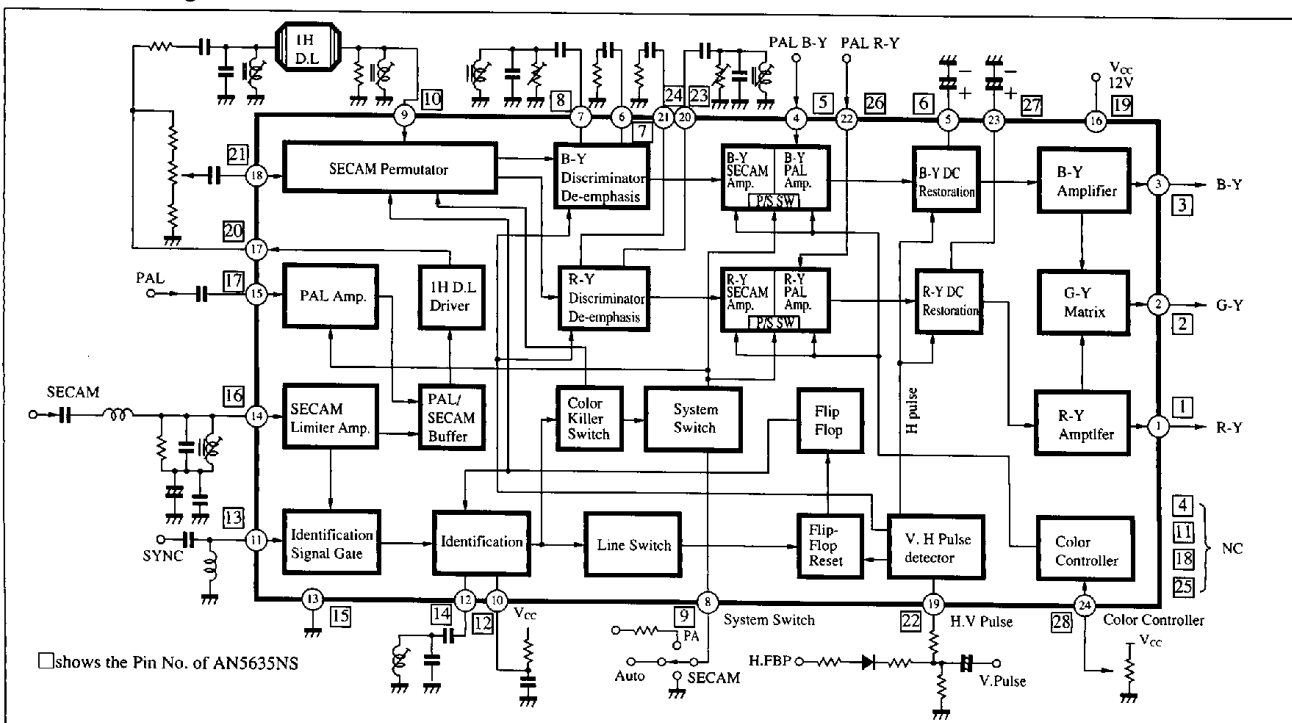
Features

- Incorporates all chrominance signal processing circuits for SECAM system color TV receiver, on a single chip
- By incorporating color matrix circuit, color difference signals are provided
- Built-in color control circuit
- Built-in PAL/SECAM system switch
- Includes color killer function



ICs for TV

Block Diagram



6932852 0014388 79T

Panasonic

Pin Descriptions () shows the Pin No. of AN5635NS

Pin No.	Pin name	Pin No.	Pin name
1(1)	R-Y signal output	13(15)	GND
2(2)	G-Y signal output	14(16)	SECAM signal input
3(3)	B-Y signal output	15(17)	PAL signal input
4(5)	PAL B-Y demodulated sig. input	16(19)	V _{CC}
5(6)	B-Y clamp capacitor	17(20)	Chrominance signal output
6(7)	B-Y de-emphasis	18(21)	Permutator input (direct)
7(8)	B-Y discriminator	19(22)	H-V pulse input
8(9)	System ident. switch	20(23)	R-Y discriminator
9(10)	Permutator input (1H delayed)	21(24)	R-Y de-emphasis
10(12)	System ident. capacitor	22(26)	PAL R-Y demodulated sig. input
11(13)	Gate pulse input	23(27)	R-Y clamp capacitor
12(14)	System ident. discriminator	24(28)	Color control

In case of AN5635NS, No. ④, ⑪, ⑱, ⑳, are NC

Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating		Unit
Supply voltage	AN5635N	V _{CC} (V ₁₆₋₁₃)	14.4		V
	AN5635NS	V _{CC} (V ₁₉₋₁₃)	12.0		
Circuit voltage (AN5635N)		V _{8, 11-13}	0	V ₁₆₋₁₃	V
		V _{19, 24-13}	-0.4	V ₁₆₋₁₃	V
		V _{4, 9, 14, 15, 18, 22-13}	0	9	V
Circuit voltage (AN5635NS)		V _{9, 13-15}	0	V ₁₉₋₁₅	V
		V _{22, 28-15}	-0.4	V ₁₉₋₁₅	V
		V _{5, 10, 16, 17, 21, 26-15}	0	9	V
Circuit current		I _{1, 2, 3}	-25	10	mA
Circuit current (AN5635N)		I _{5, 6, 21, 23}	-5	10	mA
		I ₁₀	-10	10	mA
		I ₁₇	-25	0	mA
Circuit current (AN5635NS)		I _{6, 7, 24, 27}	-5	10	mA
		I ₁₂	-10	10	mA
		I ₂₀	-25	0	mA
Power dissipation	AN5635N	P _D	1159		mW
	AN5635NS	P _D	567		
Operating ambient temperature		T _{opr}	-20 to +70		°C
Storage temperature	AN5635N	T _{stg}	-55 to +150		°C
	AN5635NS		-55 to +125		

Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Total circuit current	I_{tot}	$V_{CC}=12.0V$	49	58	67	mA
Circuit voltage	AN5635N	$V_{9,14,18-13}$	1.7	2.4	3.1	V
	AN5635NS	$V_{10,16,21-15}$				
	AN5635N	V_{15-13}	2.7	3.4	4.1	V
	AN5635NS	V_{17-15}				
	AN5635N	V_{17-13}				
AN5635NS	V_{20-15}	$V_{CC}=12.0V, Pin① 3k\Omega$ GND	6.6	7.3	8.0	V
Limiter amp. output voltage 1	e_{lim-1}	Sine wave 4.4MHz 100mV _{P-P} (0dB)	2.1	2.6	3.1	V _{P-P}
Limiter amp. output voltage 2	e_{lim-2}	Sine wave 4.4MHz 5mV _{P-P} (-26dB)	0.55	1.05	1.55	V _{P-P}
PAL amp. gain	A_{vPAL}	Sine wave 4.4MHz 300mV _{P-P}	0.75	1.0	1.25	—
SECAM output R-Y	e_{01R-Y}	Color bar input standard 100mV _{P-P}	4.1	5.2	6.2	V _{P-P}
SECAM output G-Y	e_{01G-Y}		1.7	2.2	2.6	V _{P-P}
SECAM output B-Y	e_{01B-Y}		3.7	4.6	5.5	V _{P-P}
Color control TYP	e_{01typ}	6V radio for eol B-Y Pin② 12V	0.18	0.28	0.38	times
Color killer level	e_k	Input at killer operating time (100mV _{P-P}=0dB)}	-46	-39	-32	dB
System discrimination 1	AN5635N	V_{8-13}	1.1	1.3	1.5	V
	AN5635NS	V_{9-15}				
System discrimination 2	AN5635N	V_{8-13}	0	0.15	0.3	V
	AN5635NS	V_{9-15}				
System discrimination 3	AN5635N	V_{8-13}	1.1	1.3	1.5	V
	AN5635NS	V_{9-15}				
PAL R-Y/B-Y amp. gain	$A_{vR-Y, B-Y}$	Sine wave 10kHz 500mV _{P-P}	7.2	9.0	10.8	times
Residual color difference output	e_{04}	Color-bar input standard Pin④ = 1.5V	—	—	60	mV _{P-P}
Demodulation DC output voltage	$E_{O(DC)}$	Non-input signal	6.7	7.1	7.6	V
E_o (DC) supply voltage dependency	$\Delta E_{O(DC)}/V_{CC}$	$V_{CC}=12V \pm 20\%$	0.4	0.55	0.7	V/V
ΔE_{x-y} supply voltage dependency	ΔE_{x-y}	Non-input signal	—	—	± 300	mV
Output DC differential voltage ΔE_{x-y}	$\Delta E_{x-y}(V_{CC})$	$V_{CC}=12V \pm 20\%$	—	—	± 100	mV
ΔE_{x-y} color change	$\Delta E_{x-y}(C)$	Color min. to max.	—	—	± 70	mV
E_{x-y} system SW change	$\Delta E_{x-y}(SW)$	System SW change from PAL to SECAM	—	—	± 50	mV
System discrimination sampling pulse voltage range	V_{SIG}	Sampling pulse voltage for system discrimination operation	1.5	—	2.4	V
F. F. gate voltage range	V_{F-F}	F. F. reverse pulse voltage	5.5	—	10	V
Blanking voltage range	V_{BLK}	Blanking operating pulse voltage	1.5	—	4.5	V

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