

# AN5635N, AN5635NS

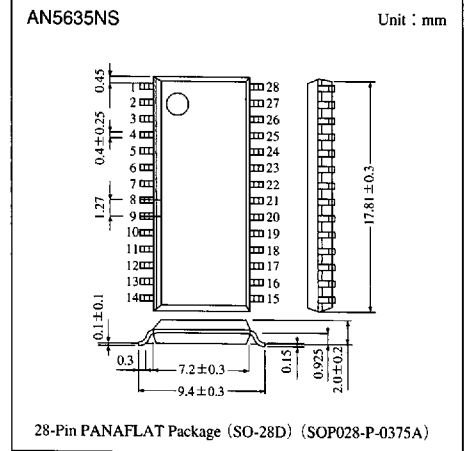
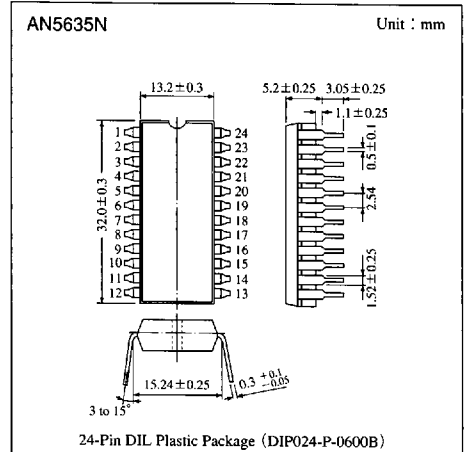
## Chrominance Signal Processing ICs for SECAM System Color TV

### Overview

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

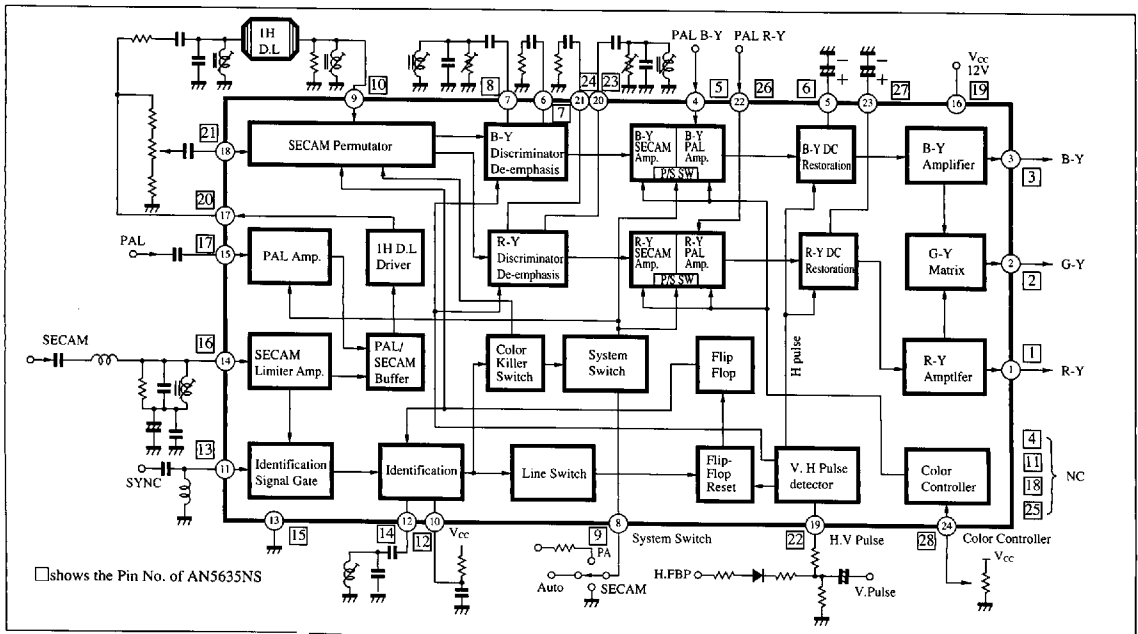
### Features

- 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 <sub>cc</sub>
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** (T<sub>a</sub> = 25°C)

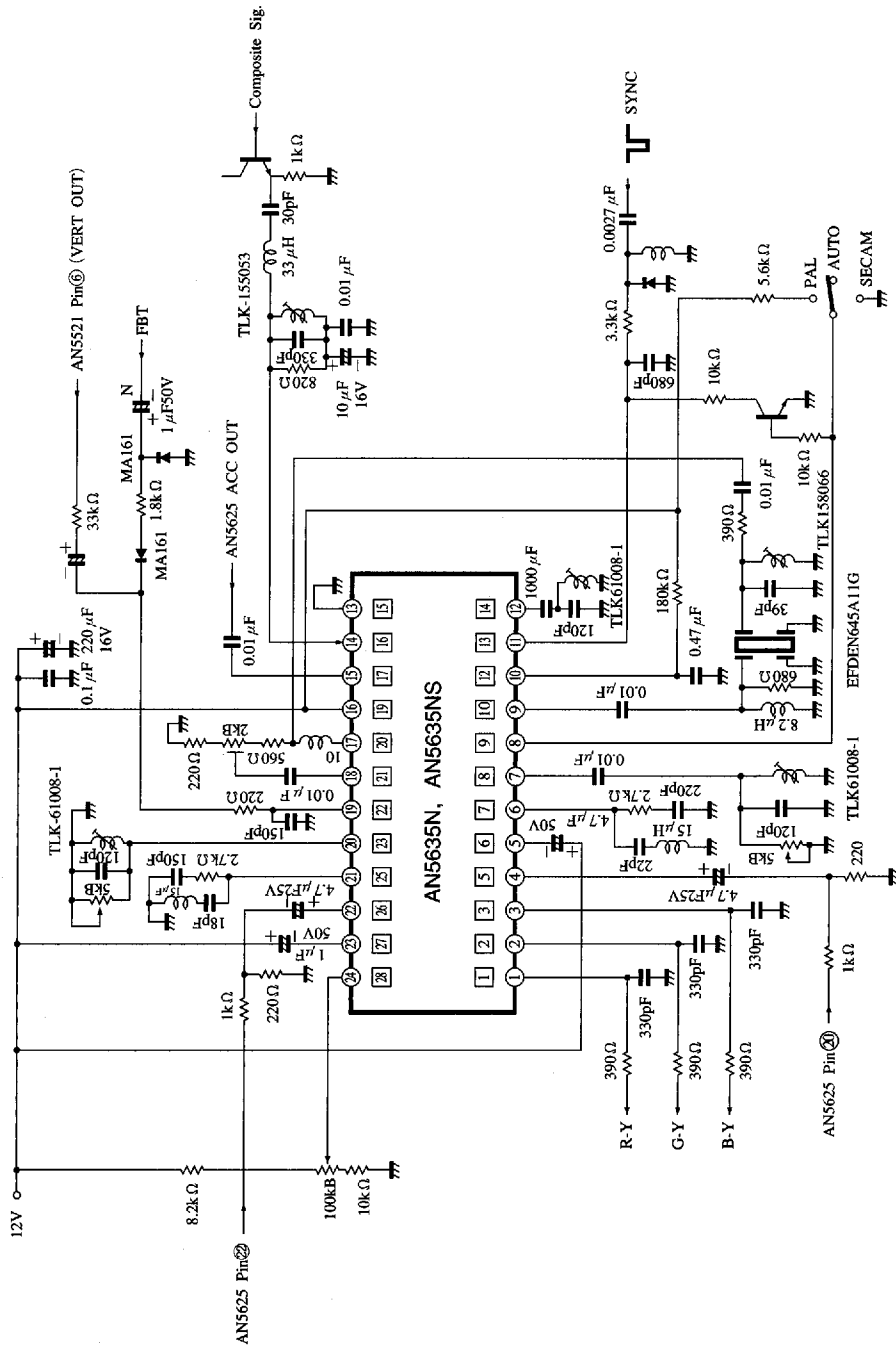
Parameter		Symbol	Rating		Unit
Supply voltage	AN5635N	V <sub>CC</sub> (V <sub>16-13</sub> )	14.4		V
	AN5635NS	V <sub>CC</sub> (V <sub>19-13</sub> )	12.0		
Circuit voltage (AN5635N)		V <sub>8, 11-13</sub>	0	V <sub>16-13</sub>	V
		V <sub>19, 24-13</sub>	-0.4	V <sub>16-13</sub>	V
		V <sub>4, 9, 14, 15, 18, 22-13</sub>	0	9	V
Circuit voltage (AN5635NS)		V <sub>9, 13-15</sub>	0	V <sub>19-15</sub>	V
		V <sub>22, 28-15</sub>	-0.4	V <sub>19-15</sub>	V
		V <sub>5, 10, 16, 17, 21, 26-15</sub>	0	9	V
Circuit current		I <sub>1, 2, 3</sub>	-25	10	mA
Circuit current (AN5635N)		I <sub>5, 6, 21, 23</sub>	-5	10	mA
		I <sub>10</sub>	-10	10	mA
		I <sub>17</sub>	-25	0	mA
		I <sub>6, 7, 24, 27</sub>	-5	10	mA
Circuit current (AN5635NS)		I <sub>12</sub>	-10	10	mA
		I <sub>20</sub>	-25	0	mA
Power dissipation	AN5635N	P <sub>D</sub>	1159		mW
	AN5635NS	P <sub>D</sub>	567		
Operating ambient temperature		T <sub>opr</sub>	-20 to +70		°C
Storage temperature	AN5635N	T <sub>stg</sub>	-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 <sub>CC</sub> =12.0V	49	58	67	mA	
Circuit voltage	AN5635N	V <sub>9, 14, 18-13</sub>	V <sub>CC</sub> =12.0V	1.7	2.4	3.1	V
	AN5635NS	V <sub>10, 16, 21-15</sub>					
	AN5635N	V <sub>15-13</sub>	V <sub>CC</sub> =12.0V	2.7	3.4	4.1	V
	AN5635NS	V <sub>17-15</sub>					
	AN5635N	V <sub>17-13</sub>	V <sub>CC</sub> =12.0V, Pin① 3kΩ GND	6.6	7.3	8.0	V
	AN5635NS	V <sub>20-15</sub>					
Limiter amp. output voltage 1	e <sub>lim-1</sub>	Sine wave 4.4MHz 100mV <sub>P-P</sub> (0dB)	2.1	2.6	3.1	V <sub>P-P</sub>	
Limiter amp. output voltage 2	e <sub>lim-2</sub>	Sine wave 4.4MHz 5mV <sub>P-P</sub> (-26dB)	0.55	1.05	1.55	V <sub>P-P</sub>	
PAL amp. gain	A <sub>vPAL</sub>	Sine wave 4.4MHz 300mV <sub>P-P</sub>	0.75	1.0	1.25	—	
SECAM output R-Y	e <sub>01R-Y</sub>	Color bar input standard 100mV <sub>P-P</sub>	4.1	5.2	6.2	V <sub>P-P</sub>	
SECAM output G-Y	e <sub>01G-Y</sub>		1.7	2.2	2.6	V <sub>P-P</sub>	
SECAM output B-Y	e <sub>01B-Y</sub>		3.7	4.6	5.5	V <sub>P-P</sub>	
Color control TYP	e <sub>01typ</sub>	6V radio for eol B-Y Pin② 12V	0.18	0.28	0.38	times	
Color killer level	e <sub>k</sub>	Input at killer operating time (100mV <sub>P-P</sub> =0dB)	-46	-39	-32	dB	
System discrimination 1	AN5635N	V <sub>8-13</sub>	Color-bar input -52dB	1.1	1.3	1.5	V
	AN5635NS	V <sub>9-15</sub>					
System discrimination 2	AN5635N	V <sub>8-13</sub>	Color-bar input -26dB	0	0.15	0.3	V
	AN5635NS	V <sub>9-15</sub>					
System discrimination 3	AN5635N	V <sub>8-13</sub>	PAL input-burst 100mV <sub>P-P</sub>	1.1	1.3	1.5	V
	AN5635NS	V <sub>9-15</sub>					
PAL R-Y/B-Y amp. gain	A <sub>vR-Y, B-Y</sub>	Sine wave 10kHz 500mV <sub>P-P</sub>	7.2	9.0	10.8	times	
Residual color difference output	e <sub>04</sub>	Color-bar input standard Pin②=1.5V	—	—	60	mV <sub>P-P</sub>	
Demodulation DC output voltage	E <sub>0(DC)</sub>	Non-input signal	6.7	7.1	7.6	V	
E <sub>0</sub> (DC) supply voltage dependency	ΔE <sub>0(DC)/V<sub>CC</sub></sub>	V <sub>CC</sub> =12V±20%	0.4	0.55	0.7	V/V	
ΔE <sub>x-y</sub> supply voltage dependency	ΔE <sub>x-y</sub>	Non-input signal	—	—	±300	mV	
Output DC differential voltage ΔE <sub>x-y</sub>	ΔE <sub>x-y(V<sub>CC</sub>)</sub>	V <sub>CC</sub> =12V±20%	—	—	±100	mV	
ΔE <sub>x-y</sub> color change	ΔE <sub>x-y(C)</sub>	Color min. to max.	—	—	±70	mV	
E <sub>x-y</sub> system SW change	ΔE <sub>x-y(SW)</sub>	System SW change from PAL to SECAM	—	—	±50	mV	
System discrimination sampling pulse voltage range	V <sub>SIG</sub>	Sampling pulse voltage for system discrimination operation	1.5	—	2.4	V	
F. F. gate voltage range	V <sub>F-F</sub>	F. F. reverse pulse voltage	5.5	—	10	V	
Blanking voltage range	V <sub>BLK</sub>	Blanking operating pulse voltage	1.5	—	4.5	V	

 ICs for  
TV

Application Circuit



□ shows the Pin No. of AN5635NS (Pin No. 4, 11, 16, 25 are NC)

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