

# AN5352N

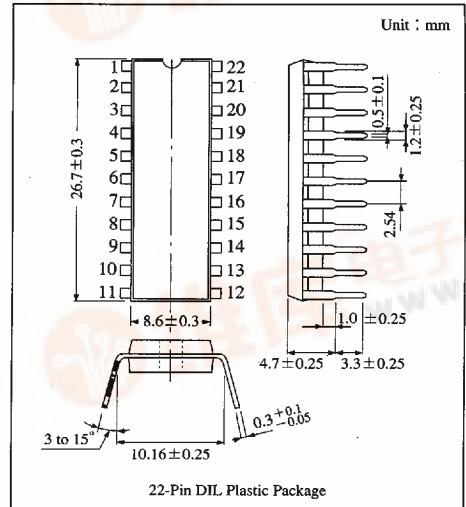
## Character and Pattern Interface IC

### Overview

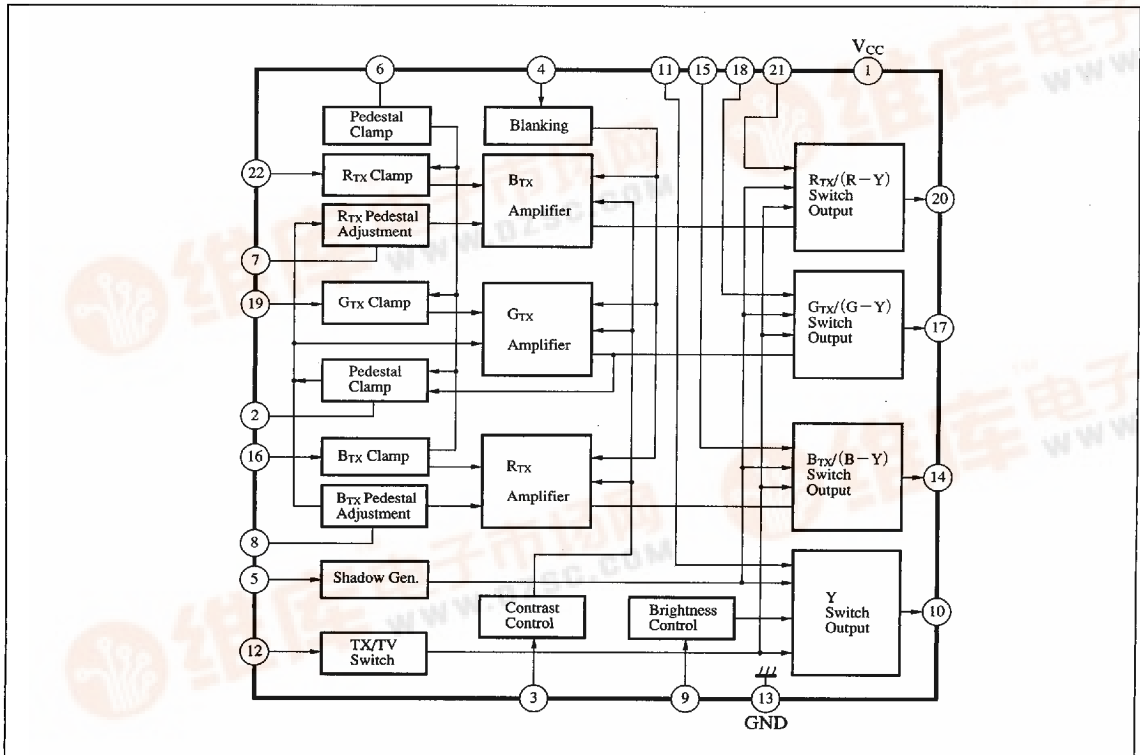
The AN5352N is an integrated circuit designed for interface between the color output stage and the teletext system decoder output, or external analog input signal.

### Features

- The AN5352N provides analog signal processing for character signal input
- High speed switching  
Rise and Fall time...35ns, Delay time...20ns
- Including DC controller of Brightness, Contrast, R-adjustment and B-adjustment for character signal input
- Y amplifier linear area's bottom...2.0V



### Block Diagram



### ■ Absolute Maximum Ratings (Ta=25°C)

Parameter		Symbol	Rating		Unit
Voltage	Supply voltage	V <sub>CC</sub>	14.4		V
	Circuit voltage	V <sub>1-13</sub>	0	14.4	V
		V <sub>3, 6, 8, 9-13</sub>	0	V <sub>1-13</sub>	V
		V <sub>11-13</sub>	2	(V <sub>1-13</sub> ) - 1	V
		V <sub>15, 18, 21-13</sub>	0	(V <sub>1-13</sub> ) - 1	V
Current	Circuit current	I <sub>10, 14, 17, 20</sub>	-30	10	mA
		I <sub>16, 19, 22</sub>	-1	3	mA
Power dissipation (Ta=70°C)		P <sub>D</sub>	1040		mW
Temperature	Ambient temperature	T <sub>opr</sub>	-20 to +70		°C
	Storage temperature	T <sub>stg</sub>	-55 to +150		°C

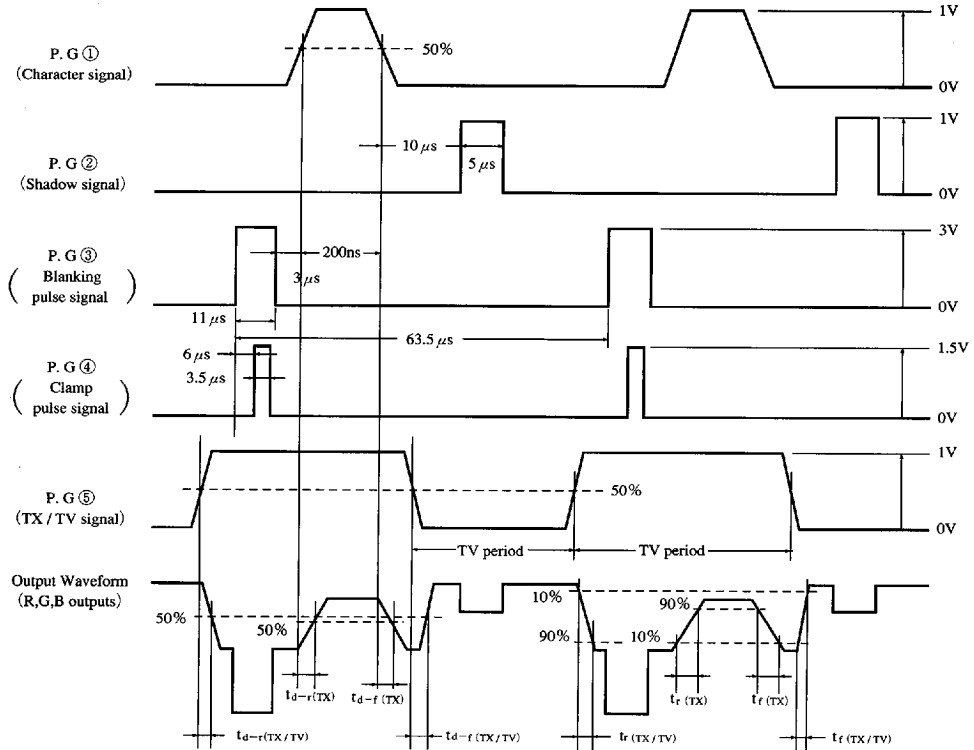
### ■ Electrical Characteristics (V<sub>CC</sub>=12V, Ta=25°C)

Parameter	Symbol	Condition	min	typ	max	Unit
Total circuit current	I <sub>tot</sub>	V <sub>CC</sub> =12V	32	47	62	mA
Circuit voltage	V <sub>10,14,17,20-13</sub>	V <sub>CC</sub> =12V	7.7	8.0	8.3	V
	V <sub>16,19,22-13</sub>		3.0	3.5	4.0	V
TV signal voltage amplification	A <sub>V1</sub>	f=500kHz, Sine wave signal 1 V <sub>P-P</sub>	0.95	0.98	1.00	times
AV <sub>1</sub> relative voltage amplification	ΔA <sub>V1</sub>	f=500kHz, Sine wave signal 1 V <sub>P-P</sub>	0.95	1.00	1.05	times
TV signal frequency characteristics	f <sub>v</sub>	Sine wave signal 1 V <sub>P-P</sub> , Frequency in which A <sub>V1</sub> becomes -3dB	20	—	—	MHz
Character signal voltage amplifications	A <sub>V2</sub>	Character input 1 V <sub>P-P</sub> , Contrast max.	3.0	3.4	3.8	times
AV <sub>2</sub> relative voltage amplifications	ΔA <sub>V2</sub>	Character input 1 V <sub>P-P</sub> , Relative output voltage	0.85	1.00	1.15	times
Character signal contrast ratio	Δe <sub>0</sub>	Contrast max./min.	3.0	3.5	4.0	times
Character signal rise/fall time	t <sub>r(TX)</sub> , t <sub>f(TX)</sub>	V <sub>3</sub> =V <sub>9</sub> =6V	—	35	60	ns
Character signal rise delay time	t <sub>d-r(TX)</sub>	V <sub>3</sub> =V <sub>9</sub> =6V	—	25	60	ns
Character signal fall delay time	t <sub>d-f(TX)</sub>	V <sub>3</sub> =V <sub>9</sub> =6V	—	30	60	ns
Character signal t <sub>dr</sub> , t <sub>df</sub> 3-channel mutual difference	Δt <sub>d(TX)</sub>	V <sub>3</sub> =V <sub>9</sub> =6V	—	—	20	ns
TX-TV changeover rise delay time	t <sub>d-r(TX/TV)</sub>	V <sub>3</sub> =V <sub>9</sub> =6V	—	60	80	ns
TX-TV changeover fall delay time	t <sub>d-f(TX/TV)</sub>	V <sub>3</sub> =V <sub>9</sub> =6V	—	50	70	ns
TX-TV changeover t <sub>dr</sub> , t <sub>df</sub> mutual difference	Δt <sub>d(TX/TV)</sub>	V <sub>3</sub> =V <sub>9</sub> =6V	—	—	20	ns
TX-TV discrimination level	V <sub>i(TX/TV)</sub>		0.50	0.65	0.70	V
Crosstalk between TV signal channels	CT <sub>TV</sub>		40	45	—	dB
Crosstalk between TV signal channels	CT <sub>TX</sub>		40	45	—	dB
TV-to-character changeover crosstalk	CT <sub>TX/TV</sub>		40	45	—	dB
Pedestal deviation by character signal contrast change	ΔE <sub>TP-C</sub>	Brightness typ., Contrast min. to max.	—	0	±150	mV
TV signal input DC level standard	TV <sub>1</sub>	TV input signal level [(R-Y) <sub>TV</sub> , (G-Y) <sub>TV</sub> , (B-Y) <sub>TV</sub> , Y <sub>TV</sub> ]	2.0	—	10.5	V
Character signal input level standard	TX <sub>1</sub>	Character input signal level [R <sub>TX</sub> , G <sub>TX</sub> , B <sub>TX</sub> ]	—	1.0	1.2	V <sub>P-P</sub>
TX-TV signal input level standard	TX/TV <sub>1</sub>		0	—	6.0	V

ICs for TV

**Input/Output Pulse Waveform**

- The rise/fall time of P.G ① to ⑤ should not exceed 5ns.
- Rise/fall time is enlarged in the period corresponding to P.G ① and P.G ⑤ output waveforms.



**Application Circuit**

