

# AN5352N

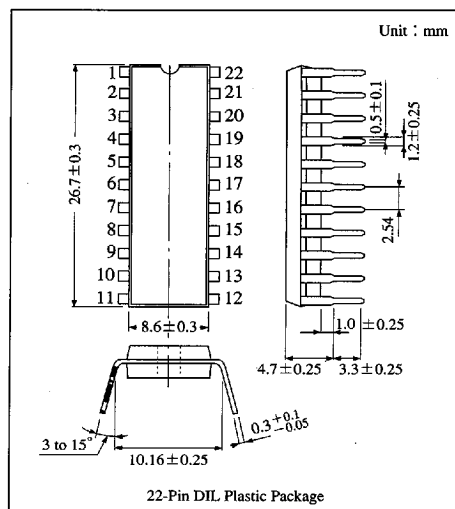
## Character and Pattern Interface IC

### Overview

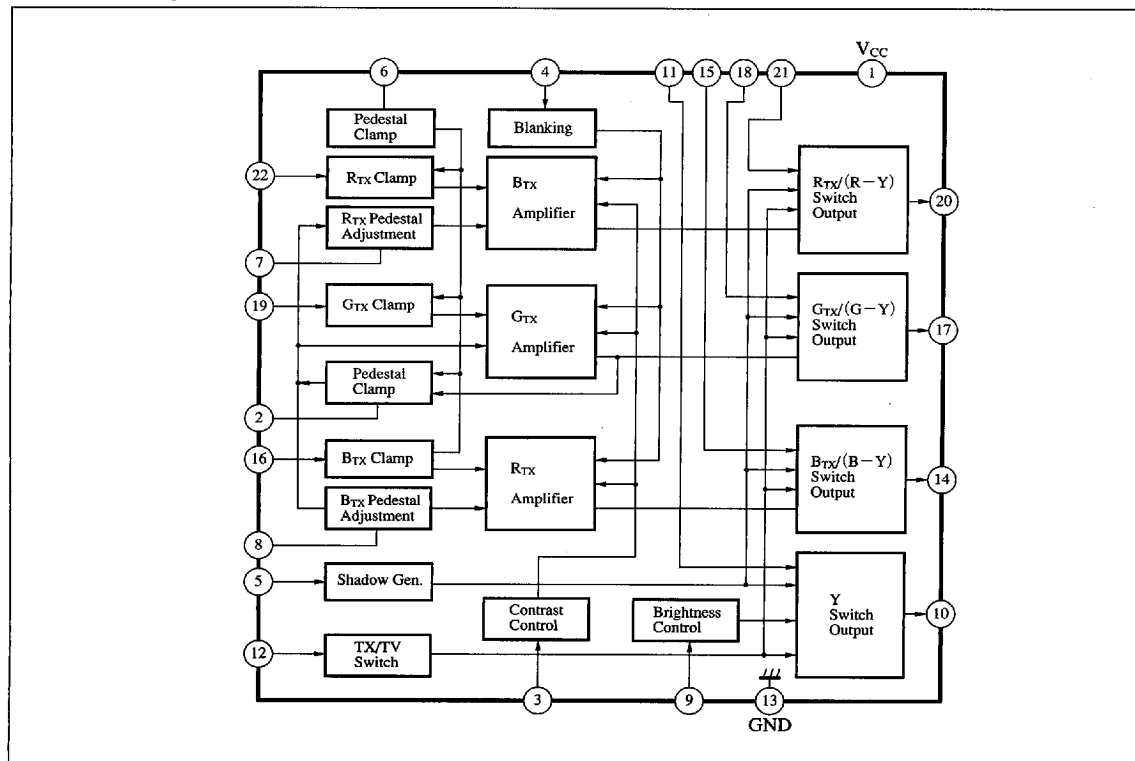
The AN5352N is an integrated circuit designed for interface between the color output stage and the teletext system decoder output, or external analog input signal.

### 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



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# **Absolute Maximum Ratings** ( $T_a=25^{\circ}\text{C}$ )

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>I-13</sub>	V
		V <sub>11-13</sub>	2	(V <sub>I-13</sub> ) - 1	V
		V <sub>15, 18, 21-13</sub>	0	(V <sub>I-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** ( $V_{CC}=12\text{V}$ , $T_a=25^{\circ}\text{C}$ )

Parameter	Symbol	Condition	min	typ	max	Unit
Total circuit current	$I_{tot}$	$V_{CC}=12\text{V}$	32	47	62	mA
Circuit voltage	$V_{10,14,17,20-13}$	$V_{CC}=12\text{V}$	7.7	8.0	8.3	V
	$V_{16,19,22-13}$		3.0	3.5	4.0	V
TV signal voltage amplification	$A_{V1}$	$f=500\text{kHz}$ , Sine wave signal 1 $V_{P-P}$	0.95	0.98	1.00	times
$AV_1$ relative voltage amplification	$\Delta A_{V1}$	$f=500\text{kHz}$ , Sine wave signal 1 $V_{P-P}$	0.95	1.00	1.05	times
TV signal frequency characteristics	$f_V$	Sine wave signal 1 $V_{P-P}$ , Frequency in which $A_{V1}$ becomes -3dB	20	—	—	MHz
Character signal voltage amplifications	$A_{V2}$	Character input 1 $V_{P-P}$ , Contrast max.	3.0	3.4	3.8	times
$AV_2$ relative voltage amplifications	$\Delta A_{V2}$	Character input 1 $V_{P-P}$ , Relative output voltage	0.85	1.00	1.15	times
Character signal contrast ratio	$\Delta e_0$	Contrast max./min.	3.0	3.5	4.0	times
Character signal rise/fall time	$t_r(\text{TX})$ , $t_f(\text{TX})$	$V_3=V_9=6\text{V}$	—	35	60	ns
Character signal rise delay time	$t_{d-r}(\text{TX})$	$V_3=V_9=6\text{V}$	—	25	60	ns
Character signal fall delay time	$t_{d-f}(\text{TX})$	$V_3=V_9=6\text{V}$	—	30	60	ns
Character signal $t_{dr}$ , $t_{df}$ 3-channel mutual difference	$\Delta t_d(\text{TX})$	$V_3=V_9=6\text{V}$	—	—	20	ns
TX-TV changeover rise delay time	$t_{d-r}(\text{TX/TV})$	$V_3=V_9=6\text{V}$	—	60	80	ns
TX-TV changeover fall delay time	$t_{d-f}(\text{TX/TV})$	$V_3=V_9=6\text{V}$	—	50	70	ns
TX-TV changeover $t_{dr}$ , $t_{df}$ mutual difference	$\Delta t_d(\text{TX/TV})$	$V_3=V_9=6\text{V}$	—	—	20	ns
TX-TV discrimination level	$V_i(\text{TX/TV})$		0.50	0.65	0.70	V
Crosstalk between TV signal channels	$CT_{TV}$		40	45	—	dB
Crosstalk between TV signal channels	$CT_{TX}$		40	45	—	dB
TV-to-character changeover crosstalk	$CT_{TX/TV}$		40	45	—	dB
Pedestal deviation by character signal contrast change	$\Delta E_{TP-C}$	Brightness typ., Contrast min. to max.	—	0	$\pm 150$	mV
TV signal input DC level standard	$TV_1$	TV input signal level [ $(R-Y)_{TV}$ , $(G-Y)_{TV}$ , $(B-Y)_{TV}$ , $Y_{TV}$ ]	2.0	—	10.5	V
Character signal input level standard	$TX_1$	Character input signal level [ $R_{TX}$ , $G_{TX}$ , $B_{TX}$ ]	—	1.0	1.2	$V_{P-P}$
TX-TV signal input level standard	$TX/TV_1$		0	—	6.0	V

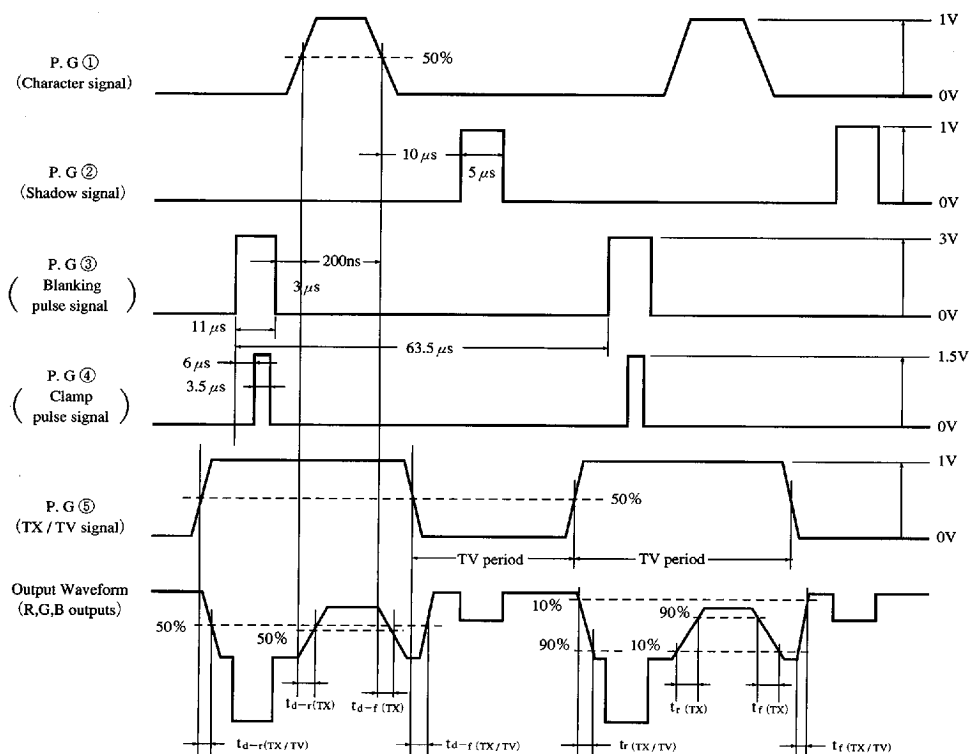
ICs for TV

■ 6932852 0014286 T36 ■

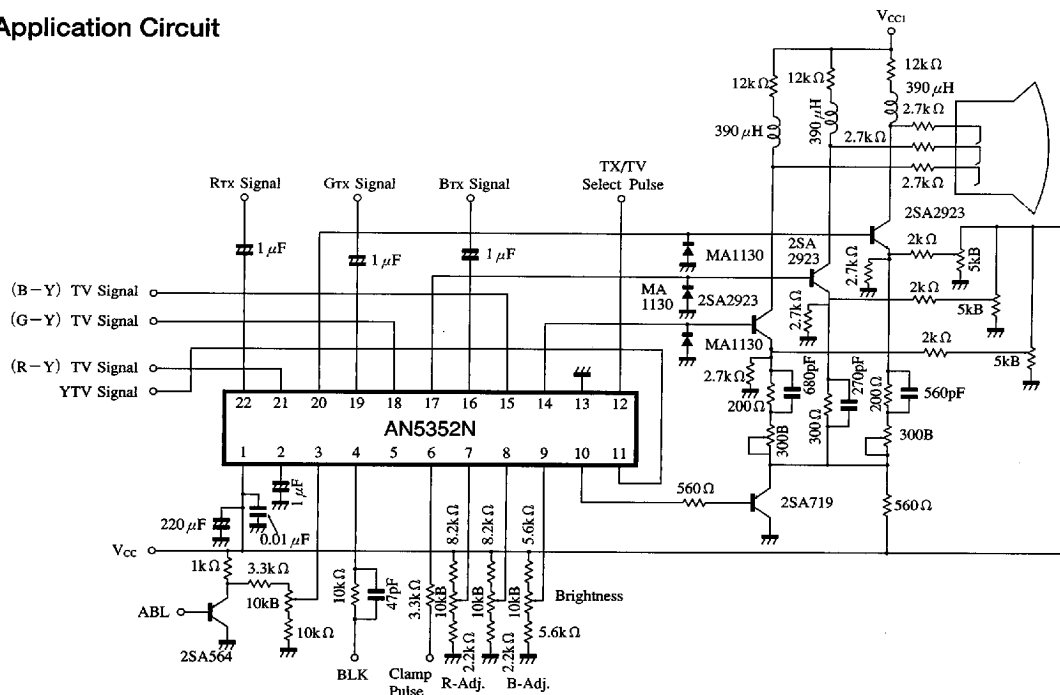
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## Input/Output Pulse Waveform

- 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



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