AN5352N

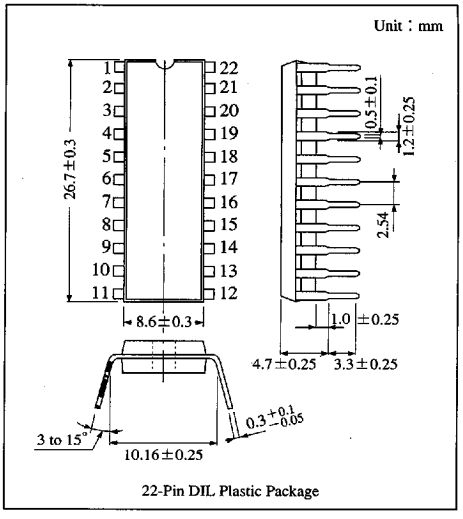
Character and Pattern Interface IC

■ 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.

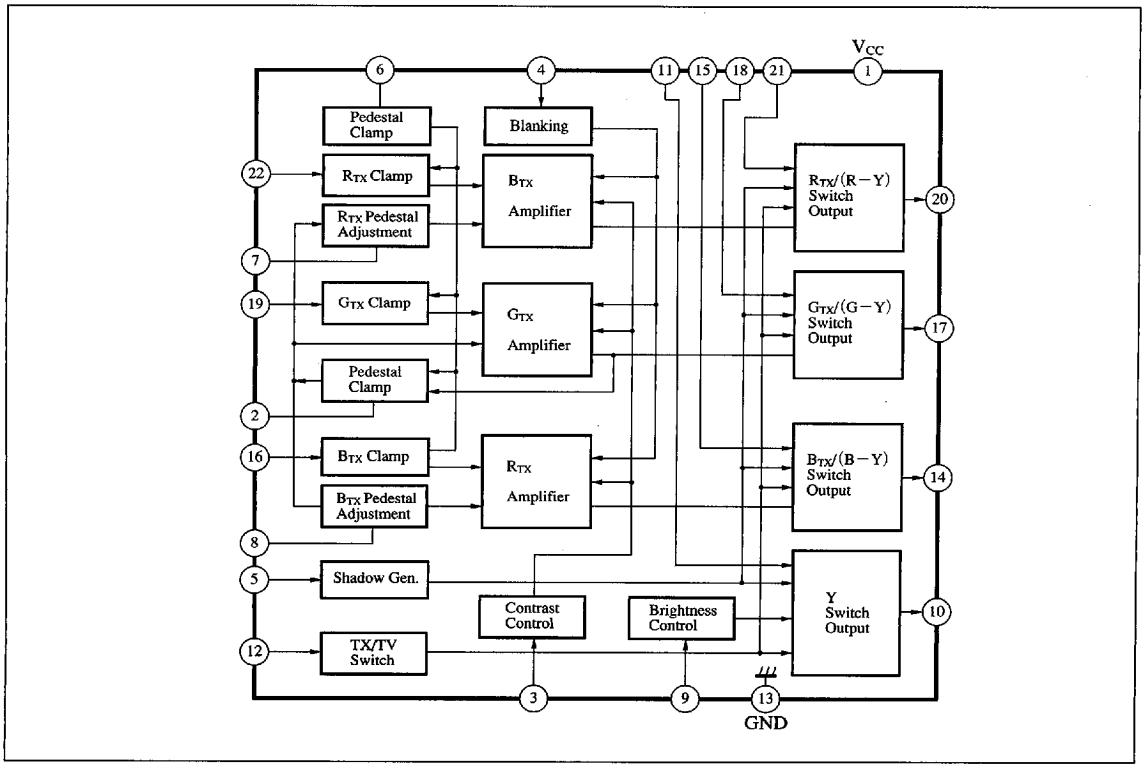
■ Features

- 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



22-Pin DIL Plastic Package

■ Block Diagram



■ Absolute Maximum Ratings (Ta=25℃)

Parameter		Symbol	Rating		Unit
Voltage	Supply voltage	V_{CC}	14.4		V
	Circuit voltage	V_{1-13}	0	14.4	V
		$V_{3,6,8,9-13}$	0	V_{1-13}	V
		V_{11-13}	2	$(V_{1-13})-1$	V
		$V_{15,18,21-13}$	0	$(V_{1-13})-1$	V
Current	Circuit current	$I_{10,14,17,20}$	−30	10	mA
		$I_{16,19,22}$	−1	3	mA
Power dissipation (Ta=70℃)		P_D	1040		mW
Temperature	Ambient temperature	T_{opr}	−20 to +70		℃
	Storage temperature	T_{stg}	−55 to +150		℃

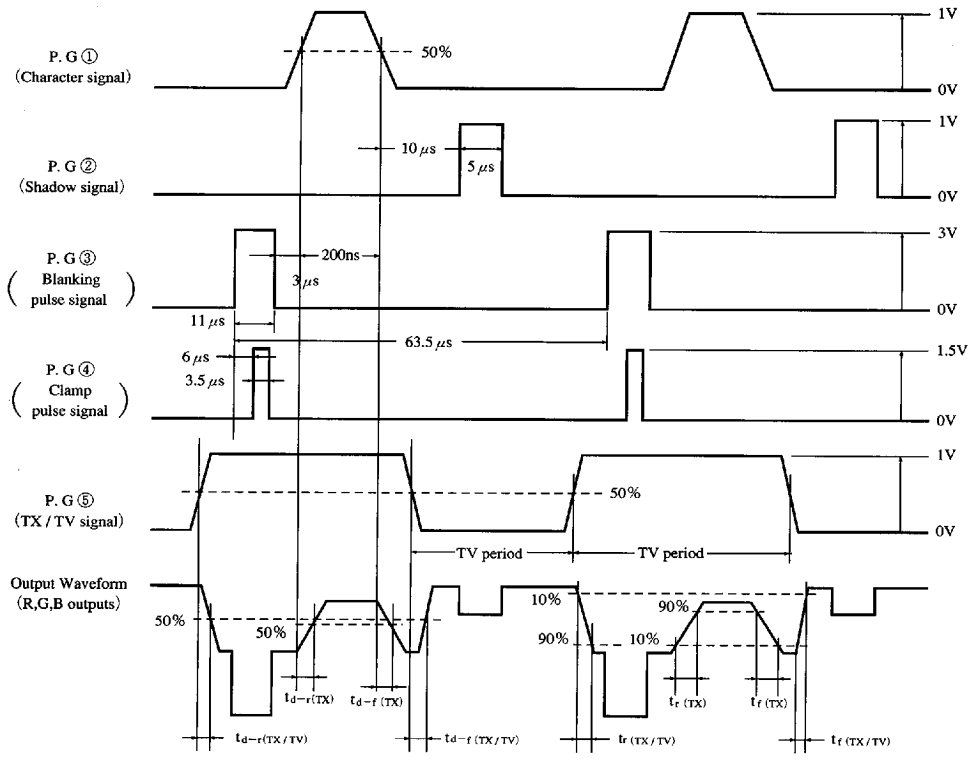
■ Electrical Characteristics (V_{CC}=12V, Ta=25℃)

Parameter	Symbol	Condition	min	typ	max	Unit
Total circuit current	Itot	V_{CC}=12V	32	47	62	mA
Circuit voltage	$V_{10,14,17,20-13}$	V_{CC}=12V	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=500kHz, Sine wave signal 1 V_{P-P}	0.95	0.98	1.00	times
AV_1 relative voltage amplification	ΔA_{V1}	f=500kHz, 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	ΔA_{V2}	Character input 1 V_{P-P}, Relative output voltage	0.85	1.00	1.15	times
Character signal contrast ratio	Δe_0	Contrast max./min.	3.0	3.5	4.0	times
Character signal rise/fall time	$t_{r(TX)}$, $t_{f(TX)}$	$V_3=V_9=6V$	—	35	60	ns
Character signal rise delay time	$t_{d\text{-}r(TX)}$	$V_3=V_9=6V$	—	25	60	ns
Character signal fall delay time	$t_{d\text{-}f(TX)}$	$V_3=V_9=6V$	—	30	60	ns
Character signal t_{dr}, t_{df} 3-channel mutual difference	$\Delta t_{d(TX)}$	$V_3=V_9=6V$	—	—	20	ns
TX-TV changeover rise delay time	$t_{d\text{-}r(TX/TV)}$	$V_3=V_9=6V$	—	60	80	ns
TX-TV changeover fall delay time	$t_{d\text{-}f(TX/TV)}$	$V_3=V_9=6V$	—	50	70	ns
TX-TV changeover t_{dr}, t_{df} mutual difference	$\Delta t_{d(TX/TV)}$	$V_3=V_9=6V$	—	—	20	ns
TX-TV discrimination level	$V_{t(TX/TV)}$		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	ΔE_{TP-C}	Brightness typ., Contrast min. to max.	—	0	±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

■ 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