

# AN5753

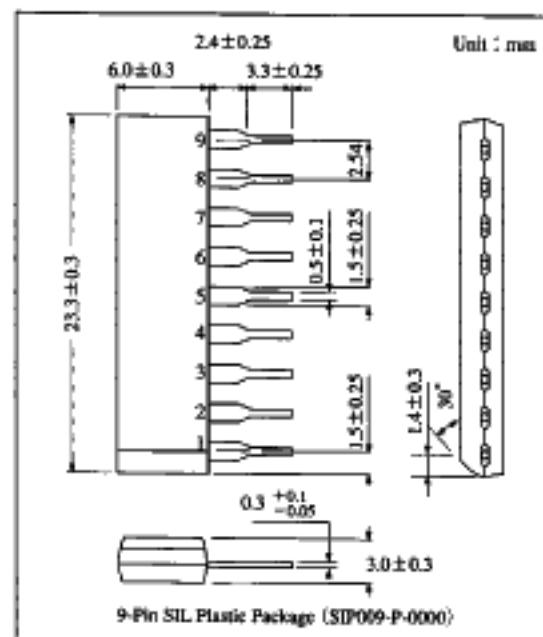
## Horizontal Deflection-Signal Processing IC for B/W TV

### ■ Overview

The AN5753 is one of the AN5700 series for 12V voltage operating Black/White TV. It is an integrated circuit for B/W TV-horizontal deflection-signal processing circuit.

### ■ Features

- Level switch type horizontal oscillation circuit is incorporated, for economical circuit with fewer external components.
- Horizontal oscillator circuit featuring highly stable operation vs. temperature and supply voltage changes
- Low operation starting voltage

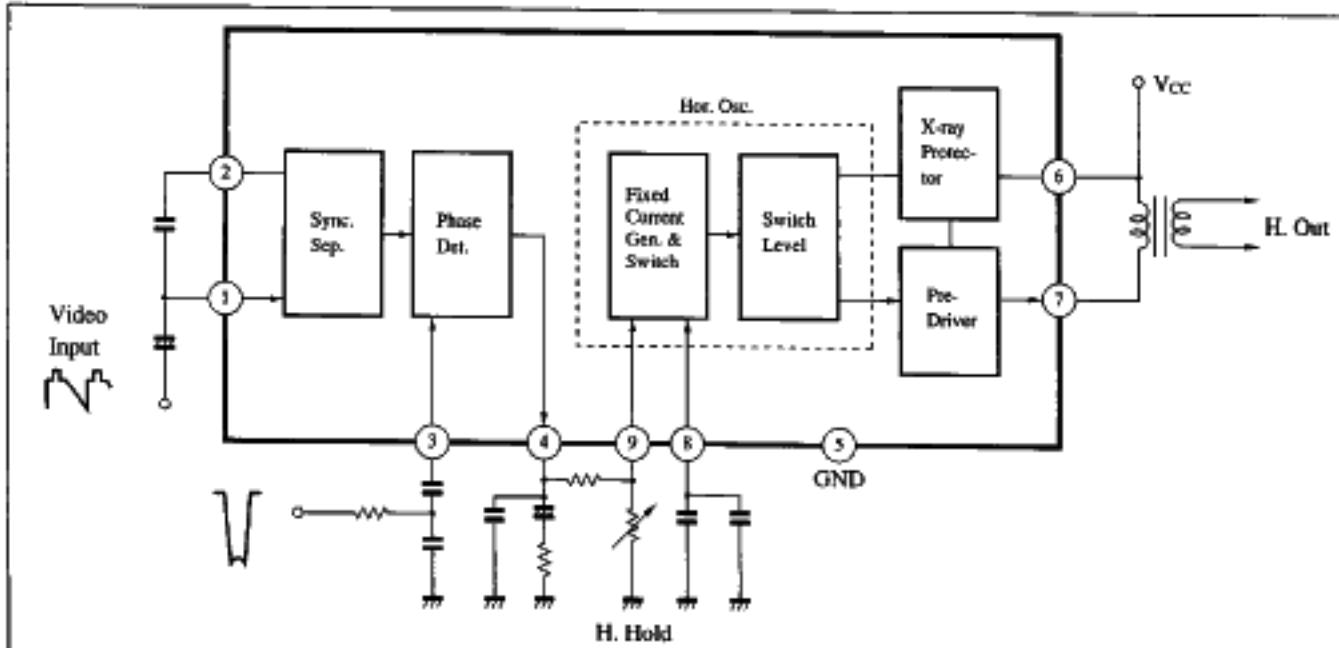


ICs for  
TV

### ■ Pin Descriptions

Pin No.	Pin name	Pin No.	Pin name
1	Video input	6	V <sub>CC</sub>
2	Sync. sep. output	7	Hor. drive output
3	Flyback pulse input	8	Saw-tooth wave generator
4	AFC output	9	Ref. voltage for H-osc. circuit
5	GND		

### ■ Block Diagram



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

Parameter	Symbol	Rating	Unit
Supply voltage	$V_{CC}$	13.2	V
Supply current	$I_{CC}$	50	mA
Power dissipation	$P_D$	660	mW
Temperature	Operating ambient temperature	$T_{OP}$	$^{-20 \text{ to } +70}$ °C
	Storage temperature	$T_{ST}$	$^{-40 \text{ to } +150}$ °C

### Electrical Characteristics ( $T_a=25^\circ\text{C}$ )

Parameter	Symbol	Condition	min	typ	max	Unit
Total circuit current	$I_{ext}$	$V_{CC}=11\text{V}$	25	32	39	mA
Sync. sep. pulse width	$\tau_{(sync)}$	Video input signal 4.5 $\mu\text{s}$ , APL = 50%, 1.5V <sub>PP</sub>	4.1	4.7	5.3	$\mu\text{s}$
Sync. sep. amplification	$v_{(sync)}$	Video input signal 4.5 $\mu\text{s}$ , APL = 50%, 1.5V <sub>PP</sub>	9	—	—	V
Horizontal oscillation starting voltage	$V_{osc\_st}$	$f_{HO} = 11\text{kHz}$ to $19\text{kHz}$	3	—	—	V
Horizontal pulse width (duty)	$\tau_{(osc)}$	$V_{CC}=11\text{V}$	28.5	33	38	%
Horizontal oscillation frequency	$f_{HO}$	$V_{CC}=11\text{V}$	15.0	15.75	16.5	kHz
$f_{HO}$ supply voltage dependency	$\Delta f_{HO}/V_{CC}$	$f_{HO} 8.8\text{V} - f_{HO} 11\text{V}$	—	—	130	Hz
$f_{HO}$ ambient temperature dependency	$\Delta f_{HO}/T_a$	$f_{HO} ^{-20^\circ\text{C}} - f_{HO} 60^\circ\text{C}$	—	—	260	Hz
Frequency control sensitivity	$\beta$	$\Delta I_O = \pm 25\ \mu\text{A}$	14.6	15.6	16.6	$\text{Hz}/\mu\text{A}$
Oscillation output saturation voltage	$V_{7.5}$	$V_{CC}=11\text{V}$ $I_O=3\ \mu\text{A}$	—	1.2	2	V
Oscillation output driving current	$I_T$	$V_{CC}=11\text{V}$ $V_{BS}=9\text{V}$	300	—	—	mA
DC loop gain	$f_{DC}$	$\mu \times \beta$	—	620	—	$\text{Hz}/\mu\text{s}$
X-ray protection circuit operation voltage	$V_{6.5}$		13.3	14.1	14.6	V

### Application Circuit

