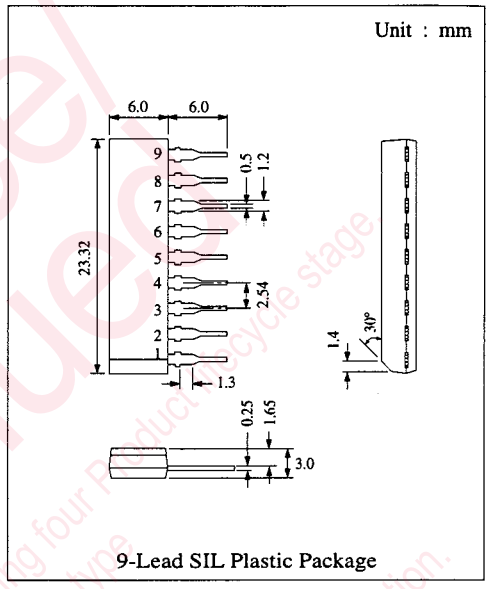
AN5753

B/W TV Horizontal Deflection Signal Processing Circuit

■ Description

The AN5753 is an integrated circuit designed for horizontal deflection signal processing in low voltage operation B/W TV receiver sets.

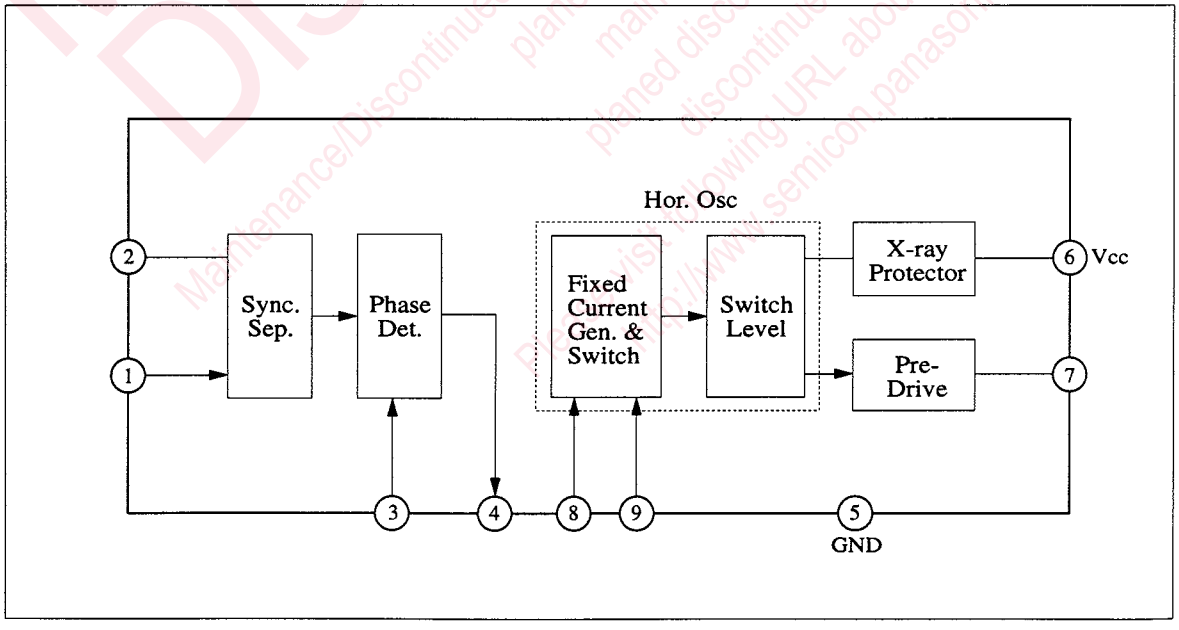


9-Lead SIL Plastic Package

■ Features

- Level Switch type horizontal oscillator circuit
- Few external components
- Horizontal oscillator circuit featuring highly stable operation against fluctuations in temperature and supply voltage
- Low operation starting voltage

■ Block Diagram



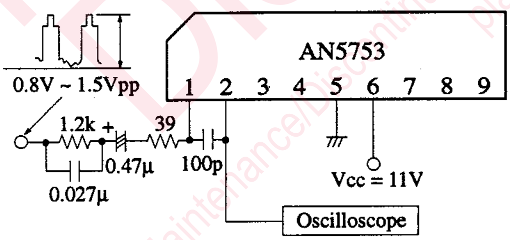
■ Absolute Maximum Ratings (Ta=25°C)

Item	Symbol	Rating	Unit
Supply Voltage	V_{CC}	13.2	V
Supply Current	I_{CC}	50	mA
Power Dissipation	P_D	660	mW
Operating Ambient Temperature	Topr	-20 ~ +70	°C
Storage Temperature	Tstg	-40 ~ +150	°C

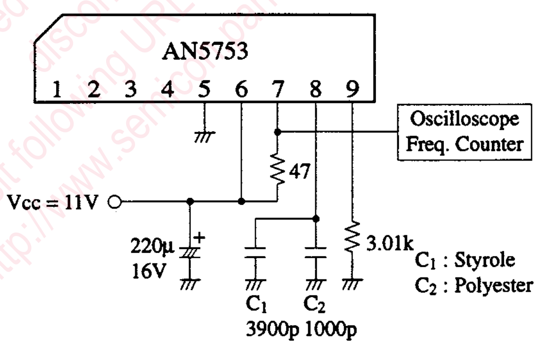
■ Electrical Characteristics (Ta=25°C)

Item	Symbol	Test Cct.	Condition	min.	typ.	max.	Unit
Total Circuit Current	I_{tot}		V_{CC} = 11V	25	32	39	mA
Sync. Sep. Pulse Width	$\tau_{(sync)}$	1	Video input signal 4.5μs APL 50%, 1.5Vpp	4.1	4.7	5.3	μs
Sync. Sep. Amplitude	$\mathcal{V}_{(sync)}$	1		9			V
Hor. Osc. Starting Voltage	V_{OSC-S}	2	f_{HO} = 11kHz ~ 19kHz	3			V
Hor. Pulse Width (Duty)	τ_{HO}	2	V_{CC} = 11V	28.5	33	38	%
Hor. Osc. Freq.	f_{HO}	2	V_{CC} = 11V	15.0	15.75	16.5	kHz
f_{HO}, V_{CC} Parameter	$\Delta f_{HO}/V_{CC}$	2	f_{HO}| 8.8V ~ f_{HO}| 11V			130	Hz
f_{HO}, Ta Parameter	$\Delta f_{HO}/Ta$	2	f_{HO}| -20°C ~ f_{HO}| 60°C			260	Hz
Freq. Control Sensitivity	β	3	ΔI_O = ±25μA	14.6	15.6	16.6	Hz/μA
Osc. Output Saturation Voltage	V_{7-5}		V_{CC} = 11V, I_1 = 3μA		1.2	2	V
Osc. Driver Current	I_7		V_{CC} = 11V, V_{8-5} = 9V	300			mA
DC Loop Gain	f_{DC}		μ x β		620		Hz/μs
X-ray Protection Starting Voltage	V_{6-5}	4		13.3	14.1	14.6	V

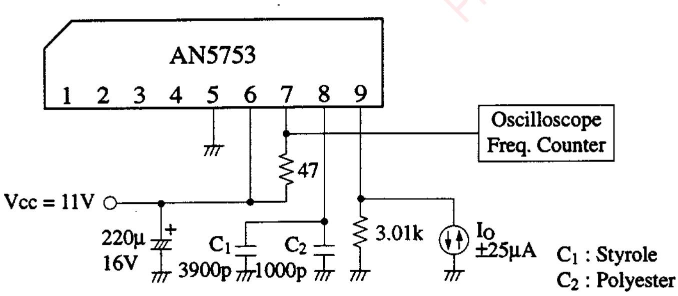
Test Circuit 1 ($\tau_{(sync)}$, $\mathcal{V}_{(sync)}$)



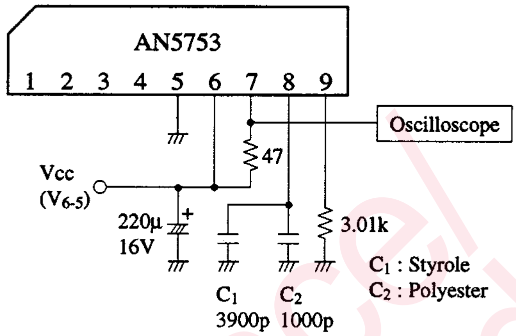
Test Circuit 2 (V_{OSC-S}, τ_{HO}, f_{HO}, $\Delta f_{HO}/V_{CC}$, $\Delta f_{HO}/Ta$)



Test Circuit 3 (β)

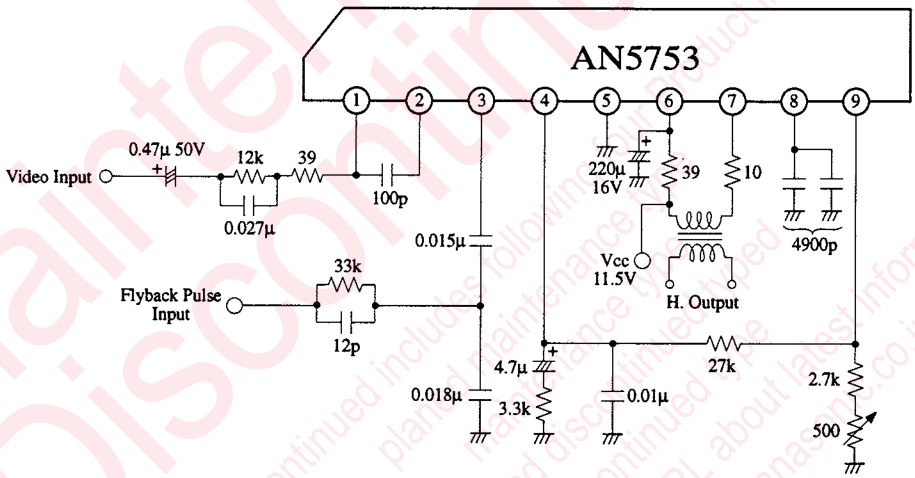


Test Circuit 4 (V_{6-5})



Increase the supply voltage (V_{6-5}) slowly until the oscillation at pin 7 stops. Record this V_{6-5}

■ Application Circuit



■ Pin Descriptions

Pin No.	Pin Name
1	Video Input
2	Sync. Sep. Output
3	Flyback Pulse Input
4	AFC Output
5	GND
6	Vcc
7	Hor. Drive Output
8	Saw-tooth Wave Generator
9	Ref. Voltage for H-Osc. Circuit

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