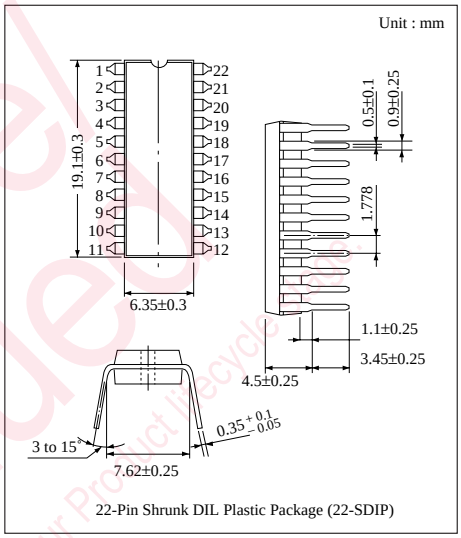
AN5422K

Deflection-Signal-Processing IC for TV/Display

■ Overview

The AN5422K is an integrated circuit for TV/display deflection-signal-processing circuit. Horizontal oscillation frequency is up to 120kHz. The duty of a horizontal output pulse can be changed by the external bias so that the display is designed easily.

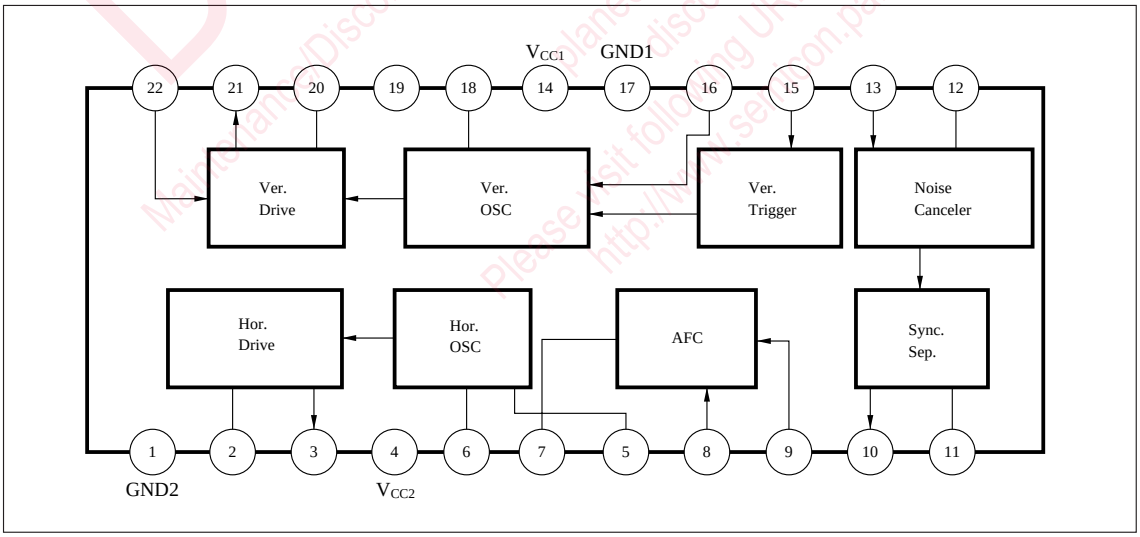


22-Pin Shrunk DIL Plastic Package (22-SDIP)

■ Features

- Noise canceller circuit built-in (with lock-out preventive circuit)
- The duty of a horizontal output pulse can be changed by the external bias.
- Horizontal oscillation frequency : max. 120kHz
- X-ray protector built-in (shutdown)
- Vertical drive circuit built-in

■ Block Diagram



■ Absolute Maximum Ratings (Ta= 25˚C)

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	(V_{14-17}) 14.4	V
Supply current	I_{CC}	(I_{14}) 30	mA
		(I_4) 40	
Power dissipation (Ta=70˚C)	P_D	1290	mW
Operating ambient temperature	T_{opr}	– 20 to + 70	˚C
Storage temperature	T_{stg}	– 55 to +150	˚C

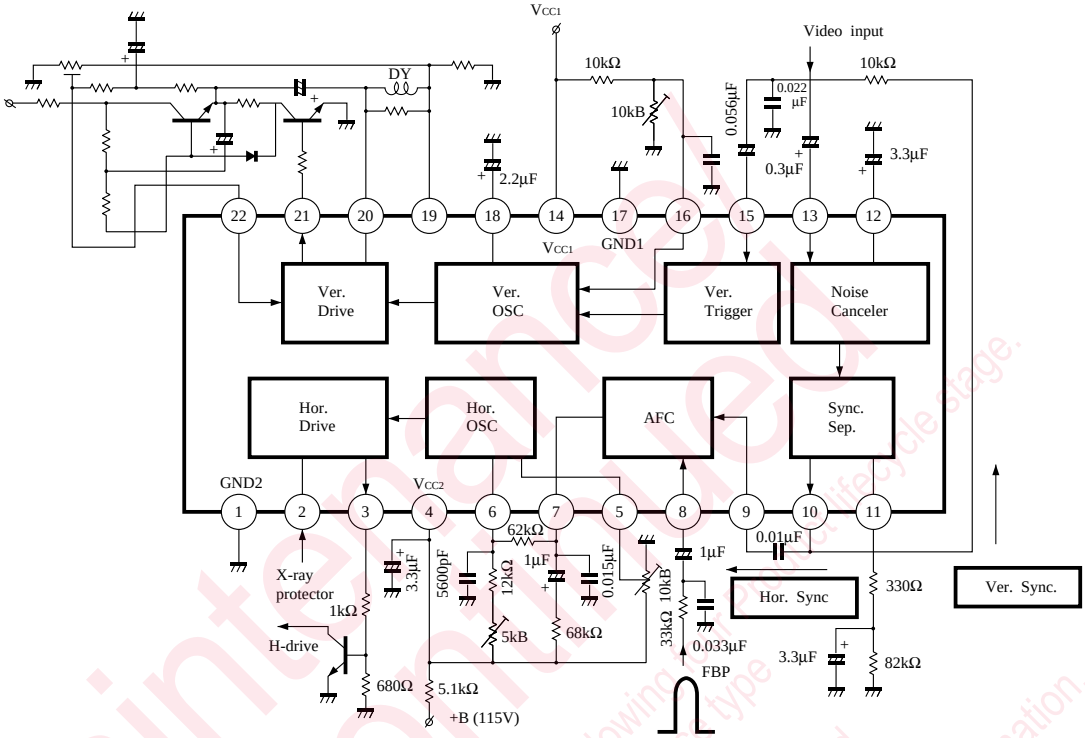
■ Recommended Operating Range (Ta=25˚C)

Parameter	Symbol	Range
Operating supply voltage range	V_{CC}	9.6V to 14.4V

■ Electrical Characteristics (Ta= 25˚C)

Parameter	Symbol	Condition	min	typ	max	Unit
Overvoltage-protective-ciucuit operation-input voltage	V_{2-1}		0.65	0.71	0.76	V
SYNC.SEP horizontal synchronous pulse width	$\tau_{sync(1)}$	Video input 1.4V_{P-P}, V_{CC1}=12V	4.4	4.8	5.2	µs
Horizontal AFC horizontal synchronous pulse width	$\tau_{sync(2)}$	Video input 1.4V_{P-P}, V_{CC1}=12V	4.5	4.9	5.3	µs
Noise detection sensitivity (1)	e_{n1}	f= 60Hz, 4µs, 0.7V_{PP}	10.5	—	—	V_{PP}
Noise detection sensitivity (2)	e_{n2}	f= 3.58MHz, 1.2V_{PP}	—	—	0.5	V_{PP}
Vertical oscillation frequency	f_{VO}	V_{CC1}=12V	51	55	59	Hz
Vertical output pulse width	τ_{VO}	Free running f_{VO}= 55Hz, V_{CC1}=12V	750	950	1150	µs
Vertical pull-in range	f_{pv}	Input 0.7V_{P-P}, 60Hz, pulse width 200µs	—	35	37	Hz
Horizontal oscillation frequency	f_{HO}	Adjust to f_{HO}=15.75kHz by typical sample	15	15.75	16.5	kHz
Horizontal oscillatin pulse duty	τ_{HO}	Adjust to f_{HO}=15.75kHz by typical sample	30	35	39	%
Horizontal oscillation control sensitivity	β	Change in oscillation frequency when ΔI=±25µA	130	160	190	Hz/µA
Phase detection sensitivity	µ	V_{CC1}=12V	13	19	25	µA/µs
Horizontal oscillation output pin voltage (H)	$V_{3-1(H)}$		4.1	5.1	6.2	V
Horizontal oscillation output pin voltage (L)	$V_{3-1(L)}$		–1.4	– 0.7	0.3	V

■ Application Circuit



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