

SANYO

No.4613

STK79315A**Vertical Deflection Processor + Output Amplifier for CRT Displays (I_O max = 2A)****Overview**

The STK79315A is a vertical deflection output IC that incorporates a vertical signal processor, output amplifier and related functions into a single package.

Applications

- Large screen, ultra-high definition CRT displays

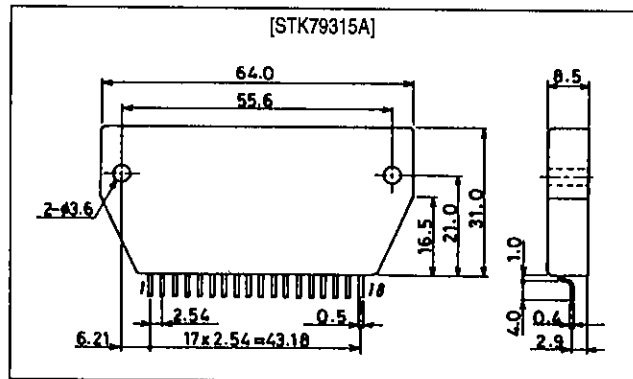
Features

- Vertical deflection basic functions (vertical oscillator, sawtooth waveform generator, output amplifier) built-in
- Vertical centering correction circuit built-in, variable over a wide range, DC controllable
- Pump-up circuit built-in for low power dissipation
- Supply-independent pump-up circuit to cover different trace times
- High-current, high withstand voltage output amplifier (I_{OP-P} max = 4A at V_{CC} max = 160V)
- Wide vertical pull-in range (> 120Hz), adjustment-free oscillator
- DC controllable vertical amplitude
- Excellent frequency characteristics for an S-curve correction range
- Good interlace characteristics
- Quiescent current adjustment for zero crossover distortion in the output amplifier
- Wide supply range for all loads

Package Dimensions

unit:mm

4144



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Specifications

Maximum Ratings at Ta = 25°C

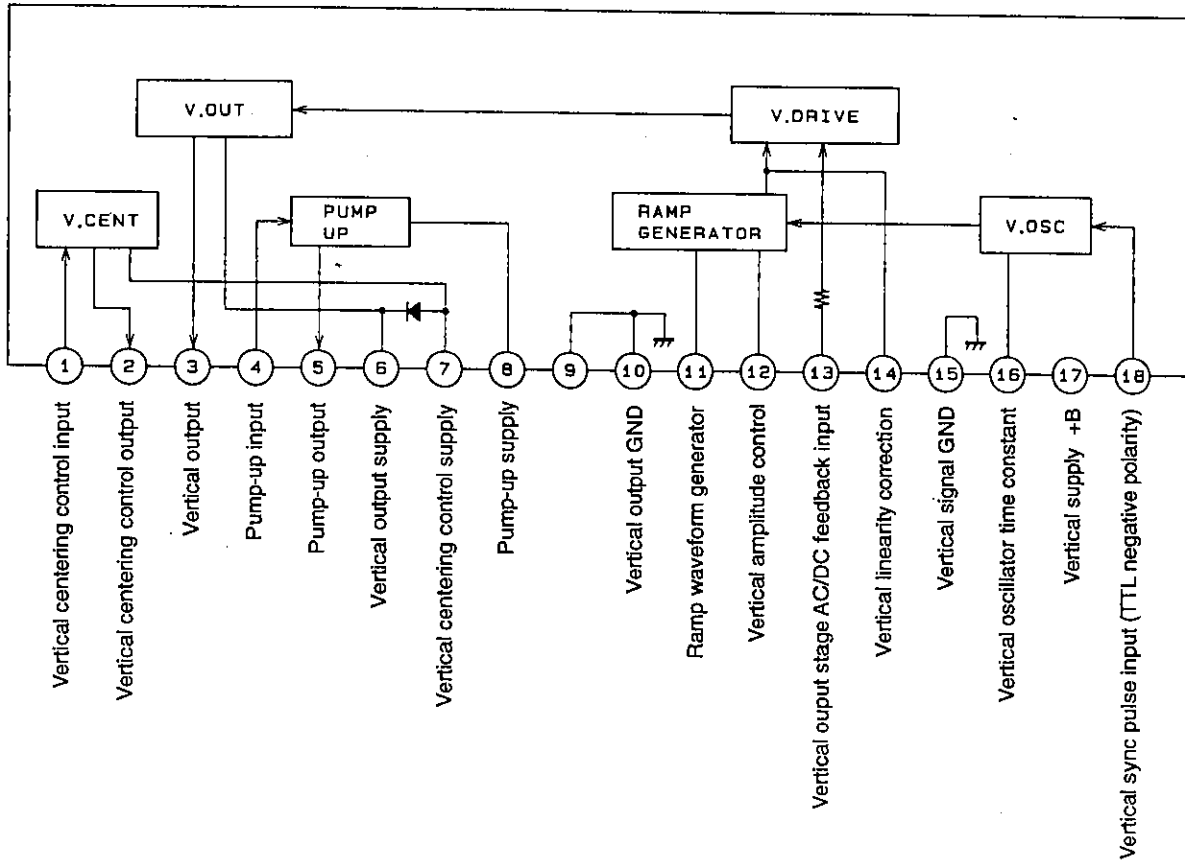
Parameter	Symbol	Conditions	Ratings	Unit
Vertical output block				
Supply voltage	V _{CC6}	Pin 6	160	V
	V _{CC7,8}	Pins 7 and 8	80	V
Deflection current	I _{P-O}	Pin 3	±2.0	A
Output current	I _O	Pin 2	±0.7	A
Thermal resistance	θ _{j-c1}	Vertical output transistors 11 and 12	6.0	°C/W
	θ _{j-c2}	Vertical centering correction transistors 18 and 19	20	°C/W
Deflection signal processor block				
Supply voltage	V _{CC17}	Pin 17	14	V
Junction temperature	T _J		150	°C
Operating substrate temperature	T _c		105	°C
Storage temperature	T _{stg}		-30 to +125	°C

Operating Characteristics at Ta = 25°C, V_{CC17} = 12V

Parameter	Symbol	Conditions	min	typ	max	Unit
Deflection processor block						
Pin 17 current consumption	I _{CC17}		10	-	20	mA
Vertical frequency pull-in range	f _{VP}	V _{sync} f = 160Hz	120	-	-	Hz
Vertical free-running oscillator frequency	f _{VOSC}	f _{VOSC} center = 55Hz	50	-	60	Hz
Vertical frequency adjustment voltage characteristic	Δf _{VW}	55Hz at V _{CC17} = 12 ± 1V	-0.1	-	+0.1	Hz
Vertical oscillator start voltage	V _{VOSC}		-	-	4.0	V
Vertical frequency temperature characteristic	f _{VT}		-0.028	-	+0.028	Hz/°C
Vertical amplitude control pin voltage	V12		5.9	6.1	6.3	V
Ramp waveform generator current	I11		55	60	65	μA
Vertical AC/DC feedback pin voltage	V13		6.0	6.3	6.6	V
Vertical output block						
Idling current	I _{CCO6}	V6 = V7 = 35V	-	30	-	mA
Neutral voltage	V _{N3}	V6 = V7 = 35V	-	21	-	V
Deflection output saturation voltage (lower)	V _{sat3-9}	Between pins 3 and 9, V6 = V7 = 35V, I3 = +1.3A	-	-	2.0	V
Deflection output saturation voltage (upper)	V _{sat6-3}	Between pins 6 and 3, V6 = V7 = 35V, I3 = -1.3A	-	-	3.2	V
Pump-up charge saturation voltage (1)	V _{sat5-9}	Between pins 5 and 9, V8 = 35V, I5 = +30mA	-	-	2.0	V
Pump-up charge saturation voltage (2)	V _{sat8-5}	Between pins 8 and 5, V8 = 35V, I5 = -1.3A	-	-	3.0	V
Center correction saturation voltage (lower)	V _{sat2-9}	Between pins 2 and 9, V7 = 35V, I1 = +0.7A	-	-	2.0	V
Center correction saturation voltage (upper)	V _{sat7-2}	Between pins 7 and 2, V7 = 35V, I1 = -0.7A	-	-	2.0	V

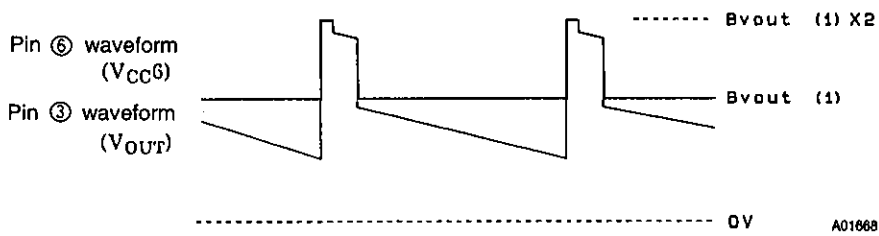
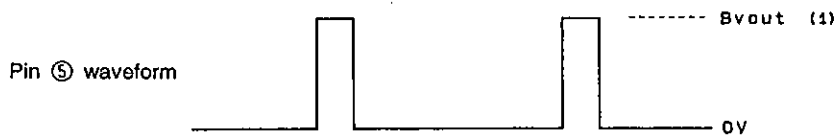
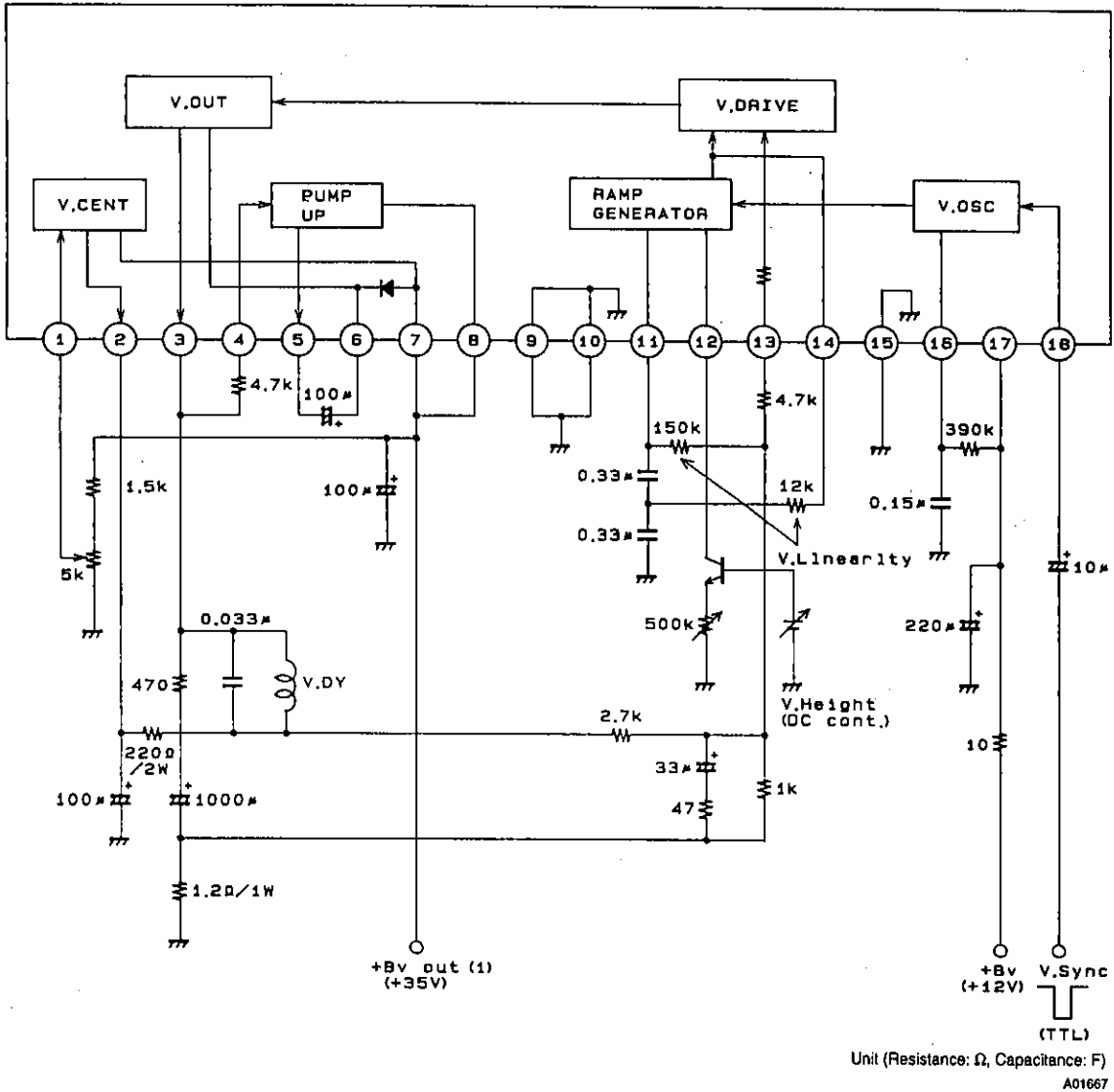
Note. Supply is of constant-voltage type.

Block Diagram



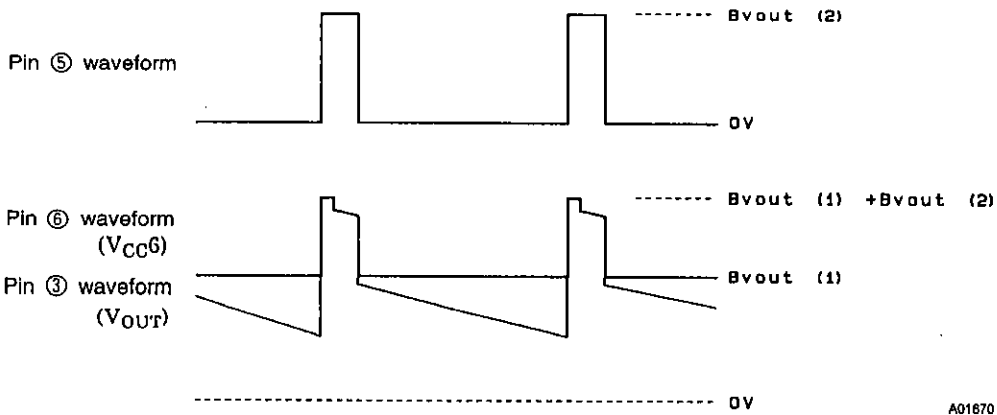
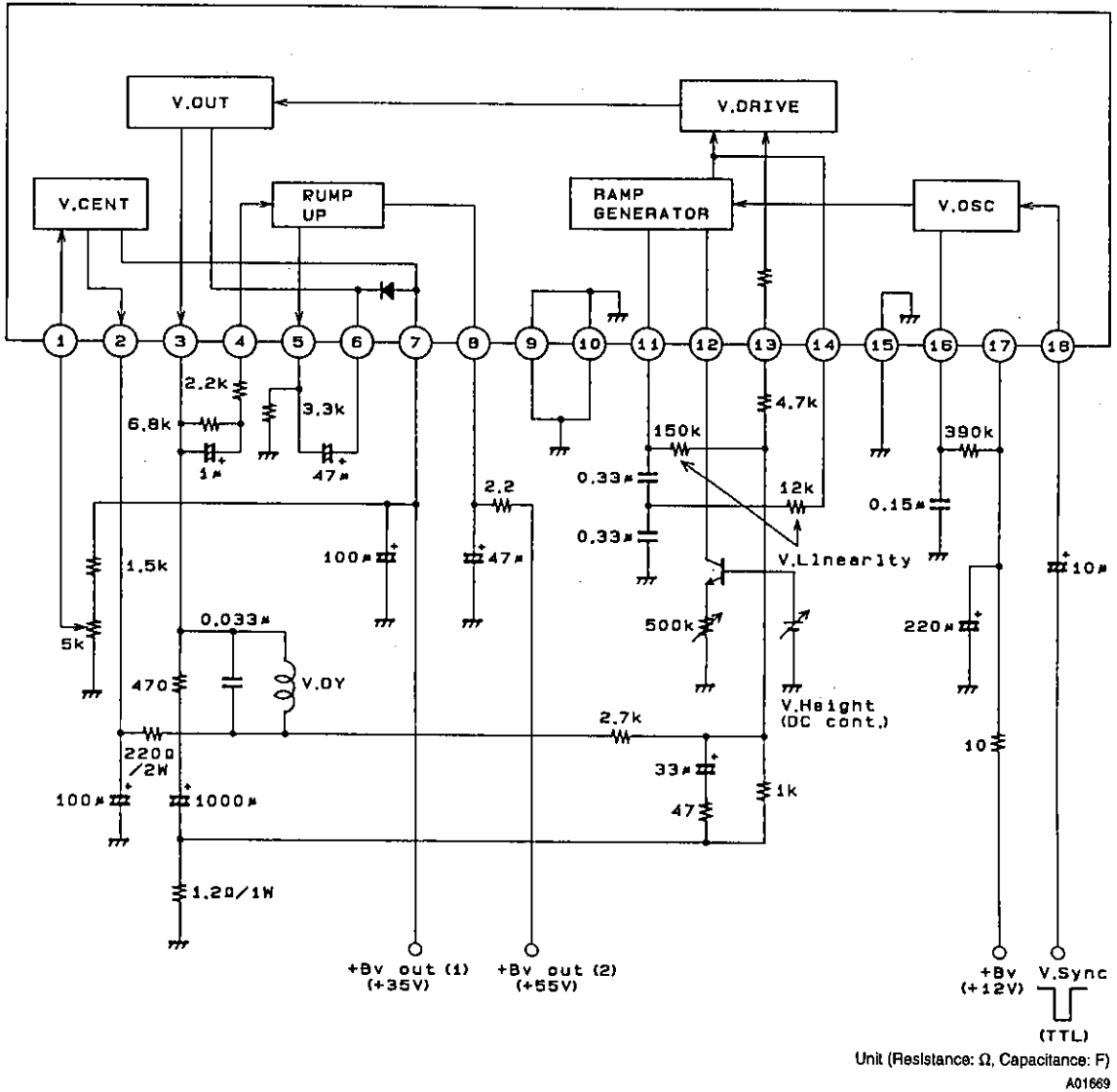
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Sample Application Circuit (1)
Single-Supply Vertical Output Stage



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Sample Application Circuit (2)
Dual-Supply Vertical Output Stage



Sample Application Circuit (3)

Dual-Supply Switching Vertical Output Stage

