

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

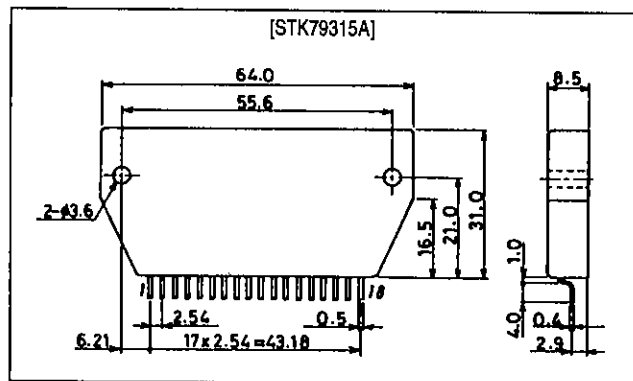
Features

- 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



- No products described or contained herein are intended for use in surgical implants, life-support systems, aerospace equipment, nuclear power control systems, vehicles, disaster/crime-prevention equipment and the like, the failure of which may directly or indirectly cause injury, death or property loss.
- Anyone purchasing any products described or contained herein for an above-mentioned use shall:
 - ① Accept full responsibility and indemnify and defend SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors and all their officers and employees, jointly and severally, against any and all claims and litigation and all damages, cost and expenses associated with such use:
 - ② Not impose any responsibility for any fault or negligence which may be cited in any such claim or litigation on SANYO ELECTRIC CO., LTD., its affiliates, subsidiaries and distributors or any of their officers and employees jointly or severally.
- Information (including circuit diagrams and circuit parameters) herein is for example only; it is not guaranteed for volume production. SANYO believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.

SANYO Electric Co., Ltd. Semiconductor Business Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

Specifications

Maximum Ratings at Ta = 25°C

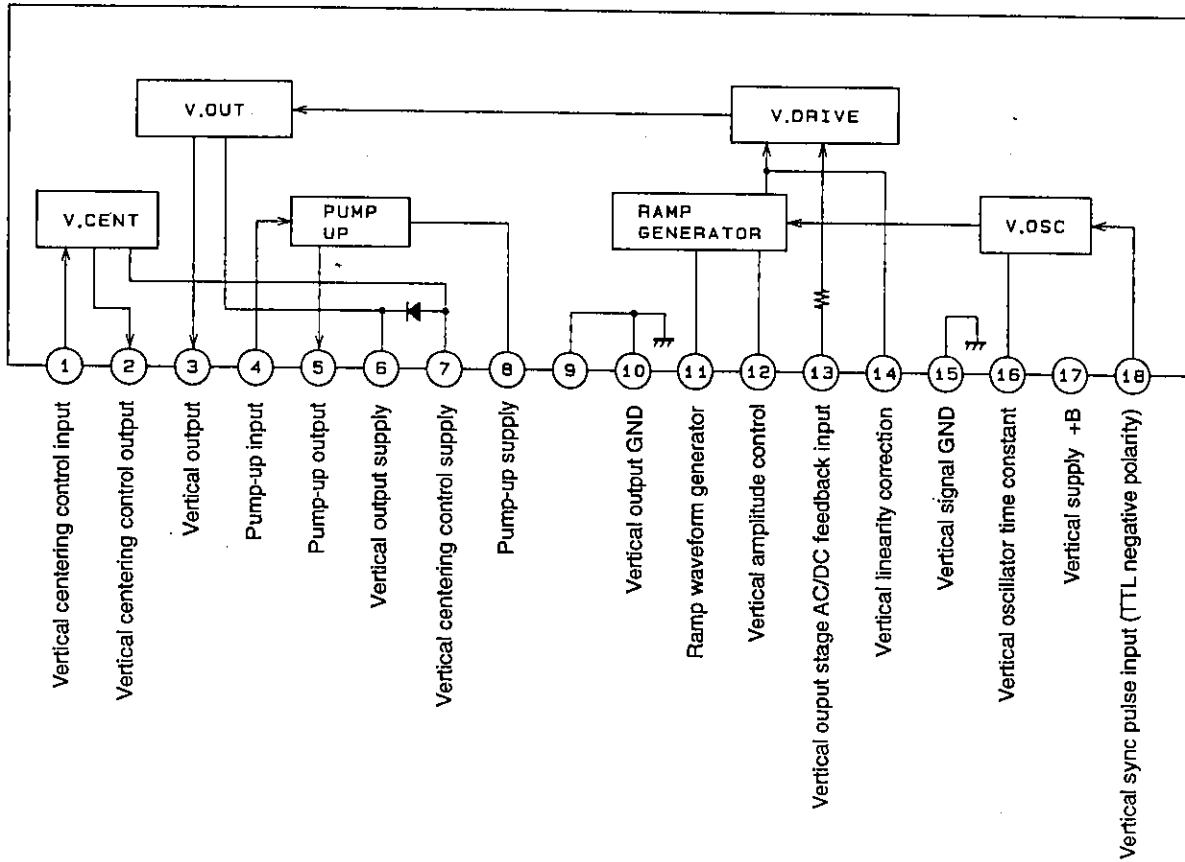
Parameter	Symbol	Conditions	Ratings	Unit
Vertical output block				
Supply voltage	V _{CC6}	Pin 6	160	V
	V _{CC7,8}	Pins 7 and 8	80	V
Deflection current	I _{P-O}	Pin 3	±2.0	A
Output current	I _O	Pin 2	±0.7	A
Thermal resistance	θ _{j-c1}	Vertical output transistors 11 and 12	6.0	°C/W
	θ _{j-c2}	Vertical 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

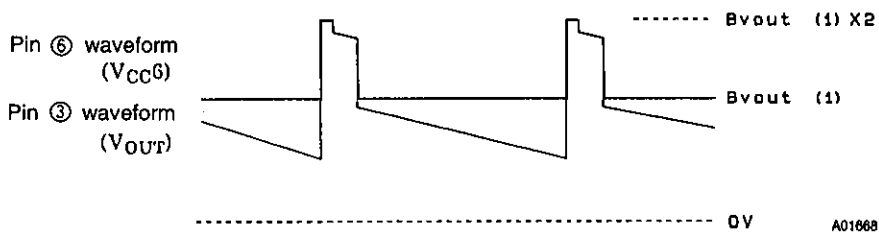
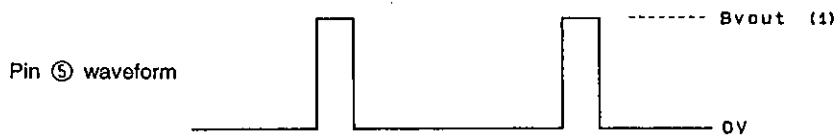
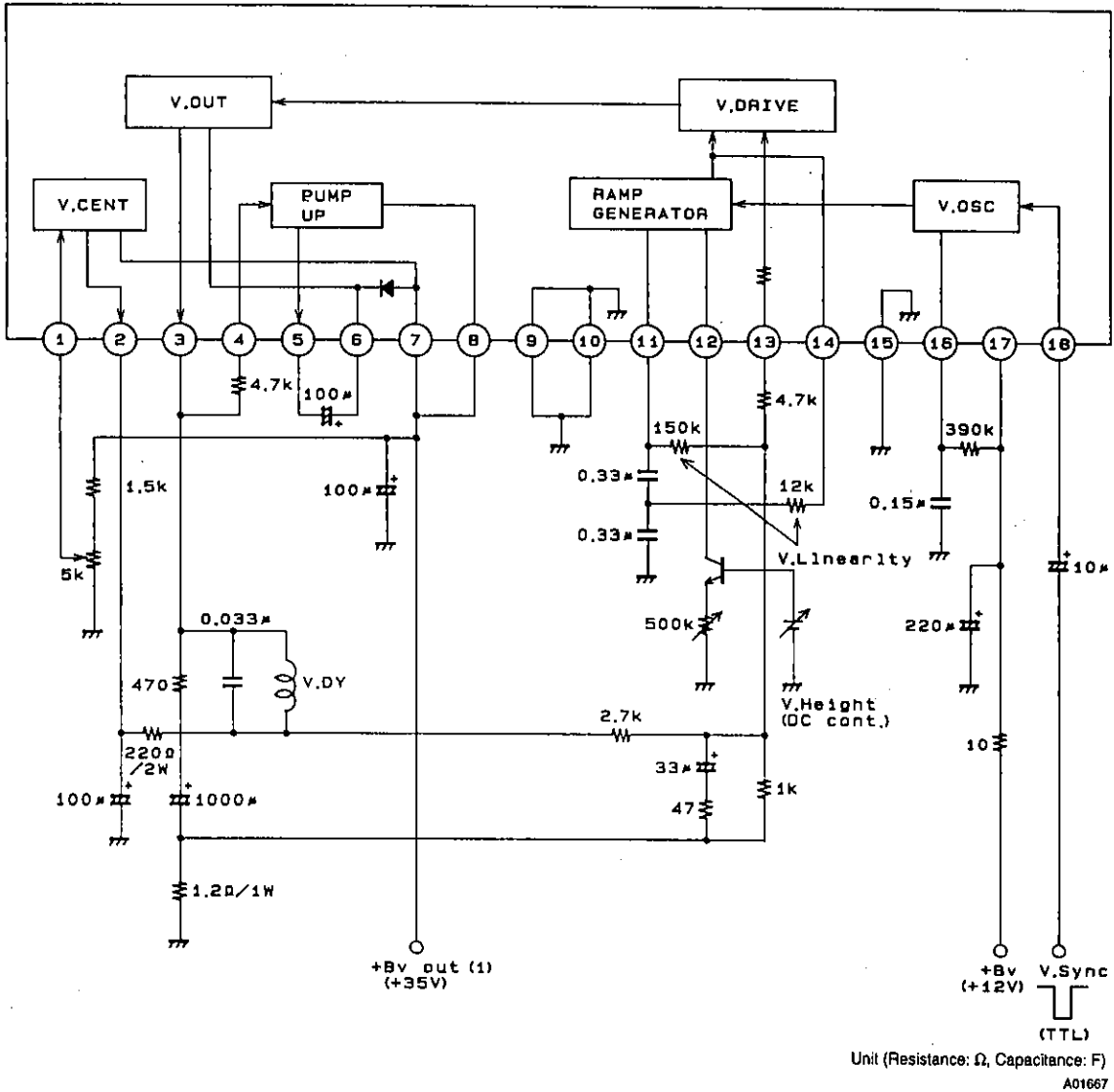
Note. Supply is of constant-voltage type.

Block Diagram

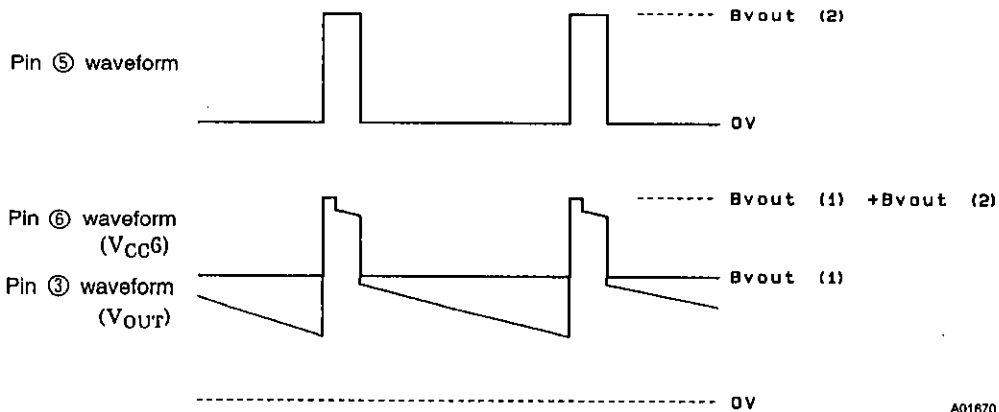
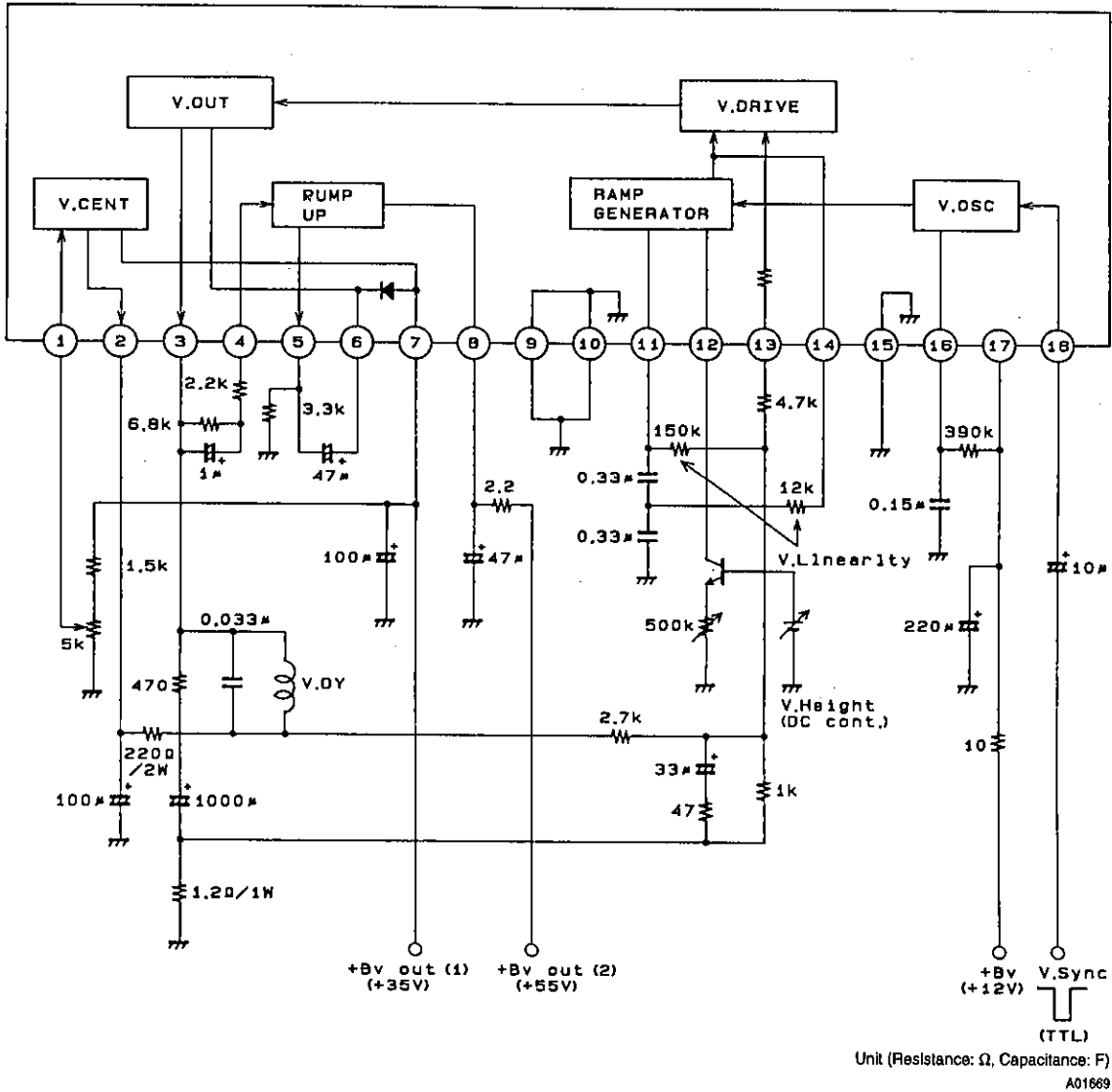


A01666

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



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



A01670

Sample Application Circuit (3)

Dual-Supply Switching Vertical Output Stage

