

# KA2131

# TV VERTICAL OUTPUT CIRCUIT

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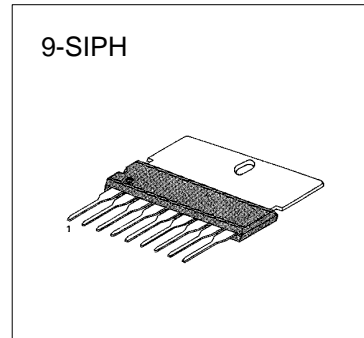
The KA2131 is a monolithic integrated circuit designed for the vertical output stage in color television receivers.

### FUNCTIONS

- Driver stage.
- Output stage.
- Flyback generators.
- Pulse shapers.

### FEATURES

- **Low power consumption, direct deflection coil driving capability**  
(Flyback voltage is two times as high as the supply voltage is supplied during flyback period only).
- **High breakdown voltage: 60V.**



### ORDERING INFORMATION

Device	Package	Operating Temperature
KA2131	9-SIPH	-20°C ~+70°C

### BLOCK DIAGRAM

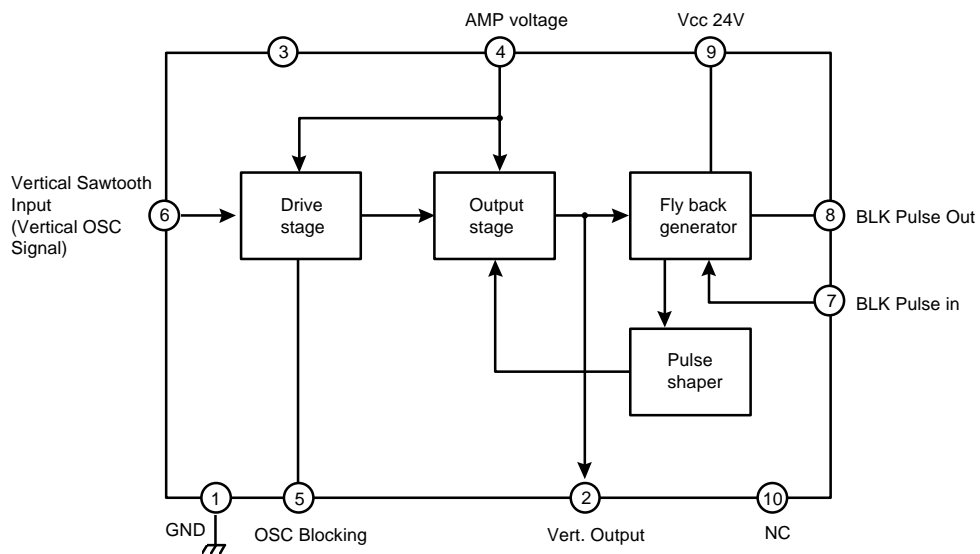
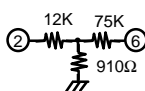


Fig. 1

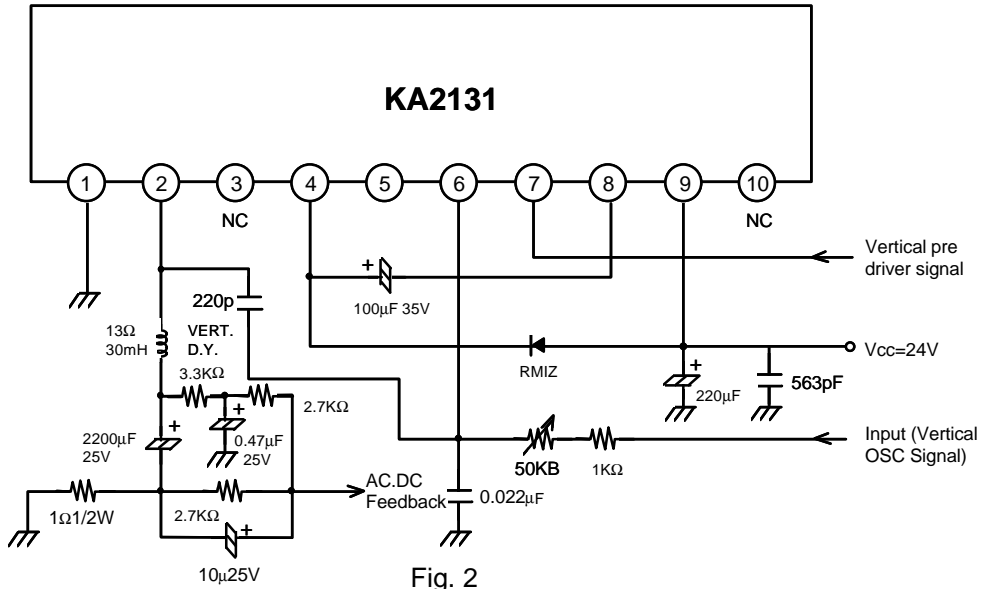
## ABSOLUTE MAXIMUM RATINGS

Characteristic	Symbol	Value	Unit
Supply Voltage	$V_{CC}$	27.6	V
Circuit Voltage	$V_4$	60	V
	$V_6$	2.5	V
	$V_7$	1.3	V
Supply Current	$I_{CC}$	250	mA
Power Dissipation	$P_D$	6.66	W
Circuit Current	$I_2$	-1000~+1000	mA <sub>P-P</sub>
	$I_8$	-1000~+1000	mA <sub>P-P</sub>
Operating Temperature	$T_{OPR}$	-20~+70	°C
Storage Temperature	$T_{STG}$	-55~+150	°C

## ELECTRICAL CHARACTERISTICS

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit
Deflection Current	$I_{Y-P-P}$	SW: 2	860	930	1000	mA <sub>P-P</sub>
Deflection Current Linearity	$\Delta I_Y (+)$	SW: 1	25	–	75	mA <sub>P-P</sub>
	$\Delta I_Y (-)$	SW: 1	22	–	85	mA <sub>P-P</sub>
Deflection Current vs. Operating Temperature	$\Delta I_Y / T_A$	$T_A = -20 \sim +70^\circ\text{C}$	-1.5	–	1.5	%
Center Voltage	$V_{MID}$	SW: 1	12.1	12.6	13.1	V
Flyback Pulse Amplitude	$V(FBP)$	SW: 1	47			V
Flyback Pulse Width	$t_{FBP}$	SW: 1	850	920	980	μsec
Quiescent Circuit Current	$I_{CQ}$	$V_4 = 24\text{V}$ $V_9 = 24\text{V}$ $V_7 = 0\text{V}$ 	7	13	22	mA
Output TR Saturation Voltage	$V_{4-2}$	$V_4 = V_9 = 24\text{V}, \text{pin}_{2-1} = 56\Omega$ $V_6 = 0.3\text{V}, V_7 = 0\text{V}$	–	2.7	3.7	V
	$V_2$	$V_4 = V_9 = 24\text{V}, \text{pin}_{2-4} = 56\Omega$ $V_6 = 1.3\text{V}, V_7 = 0\text{V}$	–	0.6	1.0	V
Saturation Voltage	$V_8$	$V_9 = 24\text{V}, R_{\text{pin}_{9-8}} = 1.2\text{k}\Omega$ $V_7 = 0\text{V}$	–	–	0.5	V
Thermal Resistance	$R_{TH(J-C)}$		–	–	12	°C /W

TYPICAL APPLICATION CIRCUIT



TEST CIRCUIT

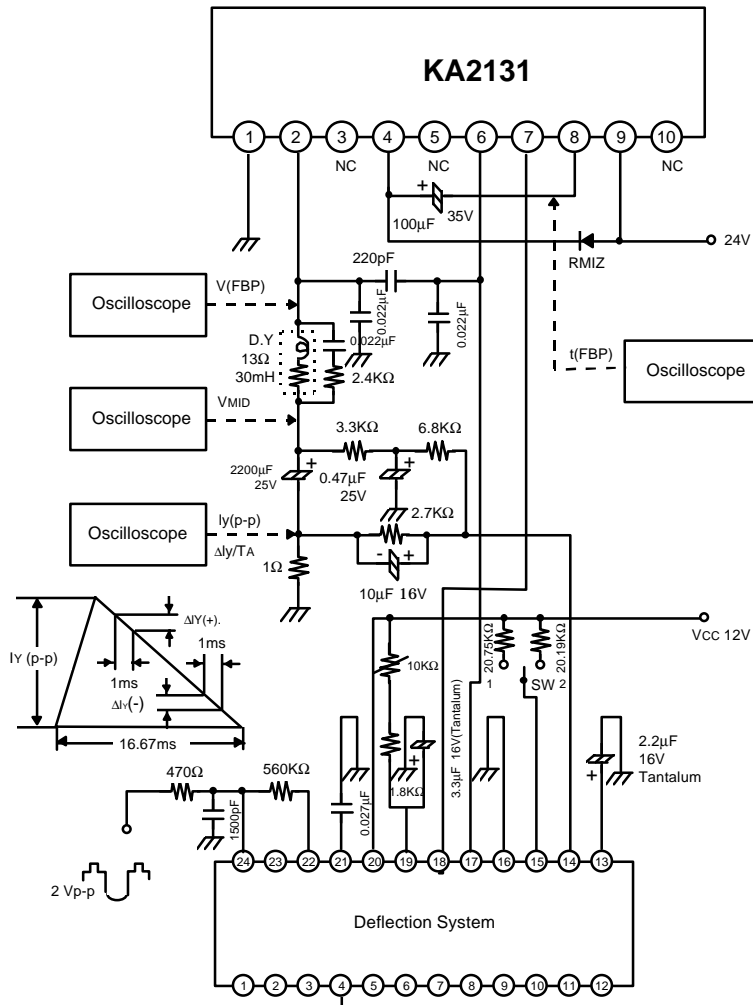


Fig. 3