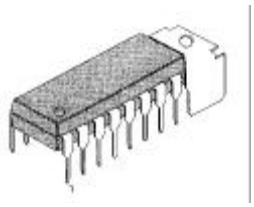
1-CHIP DEFLECTION SYSTEM

The KA2133 consists of a vertical system including an output function and a horizontal system in cluding an AFC function. It is for use in small size color TVs, B/W TV receivers and monitors.

16-DIPH-300



FUNCTIONS

(Horizontal Section)
- SYNC separators
- Horizontal oscillators
- Horizontal predrivers
- Horizontal AFCs
- Shunt regulators (Typ: 6.7V)

(Vertical Section)
- Vertical oscillators
- Vertical predrivers
- Vertical output
- Flyback generators

ORDERING INFORMATION

Device	Package	Operating Temperature
KA2133	16-DIHP-300	-20°C ~+75°C

FEATURES

- Low power consumption, direct deflection coil driving capability (Flyback voltage is two times as high as supply voltage is supplied during flyback period)
- Variable circuit of vertical retrace time on chip.

BLOCK DIAGRAM

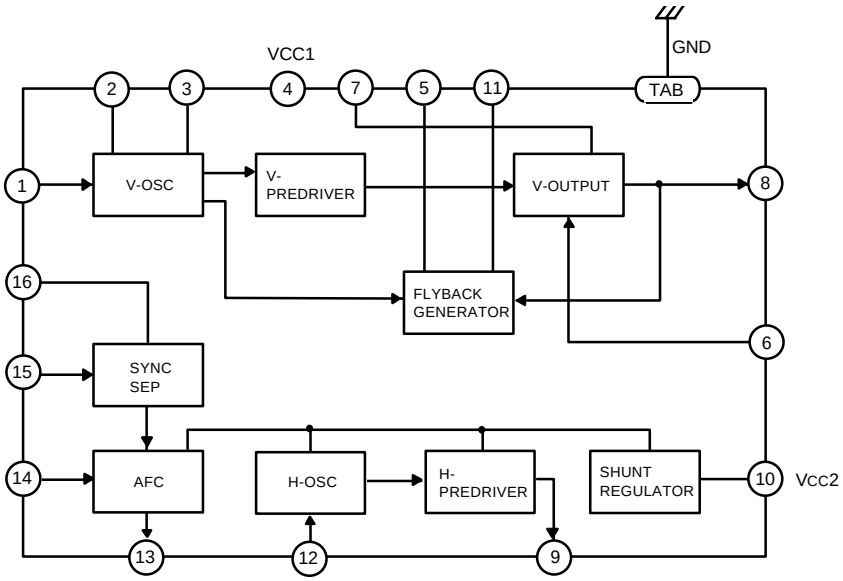


Fig. 1

ABSOLUTE MAXIMUM RATINGS (T_A=25°C)

Characteristic	Symbol	Value	Unit
Vertical Supply Voltage	V_{CC}	15	V
Horizontal Supply Current	I_{10}	30	mA
Vertical Output Current	I_8	-500 ~+500	mA peak
Horizontal Output Current (Pulse)	I_9	15 ~+5	mA
Flyback Generator Output Current	I_5	-500 ~+500	mA peak
Power Dissipation	P_D	1.3	W
Operating Temperature	T_{OPR}	-20 ~+75	°C
Storage Temperature	T_{STG}	-40 ~+150	°C

Characteristic	Symbol	Min	Typ	Max	Unit
Vertical Supply Voltage	V_{CC}	9.6	12.0	14.4	V
Horizontal Supply Current	I_{10}	6.5	12	18	mA

RECOMMENDED OPERATING CONDITIONS (T_A =25°C)

ELECTRICAL CHARATERISTICS (V_{CC} =12V, I10 =12mA, T_A =25°C)

Characteristic	Symbol	Test Condition	Min	Typ	Max	Unit	Test Fig
Vertical Supply Current	I_{CC} (1)	SW_A =2	-	85	100	mA	2
Vertical Supply Current	I_{CC} (2)	No Input Signal SW_A =2	6	12	20	mA	2
Vertical Free Running Frequency	f_{VO}	SW_A =1	55	60	65	Hz	2
Drift of Vertical Free-Running Frequency	$\Delta f_{VO}/V_{CC}$	Δf_{VO} =1f_{VO}(14.4V)-f_{VO}(9.6V)1 SW_A =2	-	0.8	2	Hz	2
	$\Delta f_{VO}/T_A$	Δf_{VO} =1f_{VO}(-20°C) - f_{VO}(+70°C) SW_A =2	-	1.5	2	Hz	2
Vertical Output Center Voltage	V_{MID}	SW_A =2	5.3	5.8	6.3	V	2
Vertical Output Current	I_8	SW_A =2	450	500	550	mA_{P-P}	2
Horizontal Supply Pin Voltage	V_{10}	SW_B =2	6.2	6.7	7.2	V	2
Horizontal Free Running Frequency	f_{HO}	I_{10} =12mA SW_B =1	15.0	15.75	16.5	KHz	2
Horizontal Output Pulse Width	t_{HPW}	f_{HO} =15.75KHz SW_B =2	23	25	27	us	2
Horizontal Output Current	I_9	SW_B =2	0.8	1.3	2.0	mA	2

TEST CIRCUIT

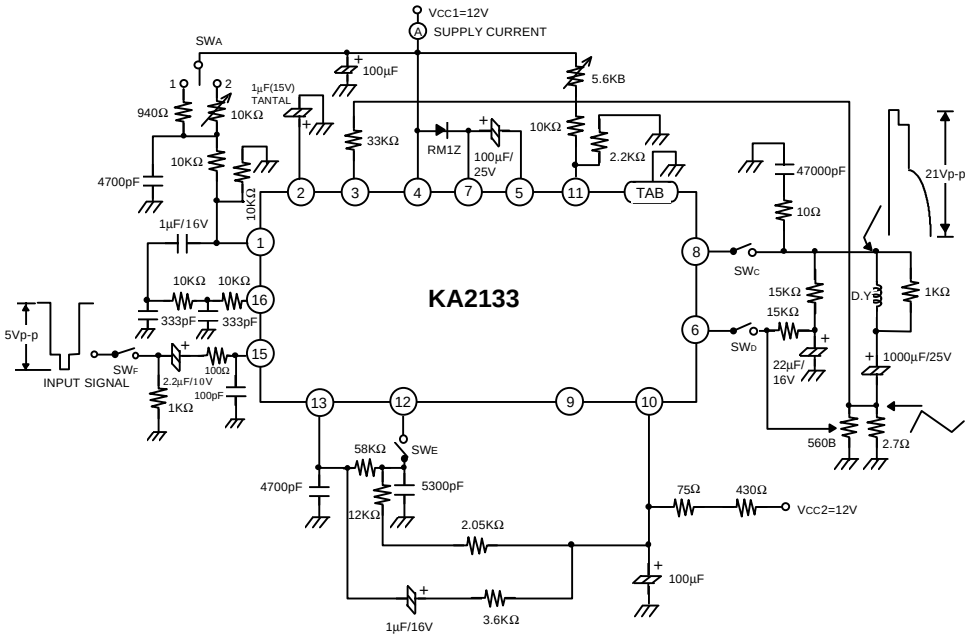


Fig. 2