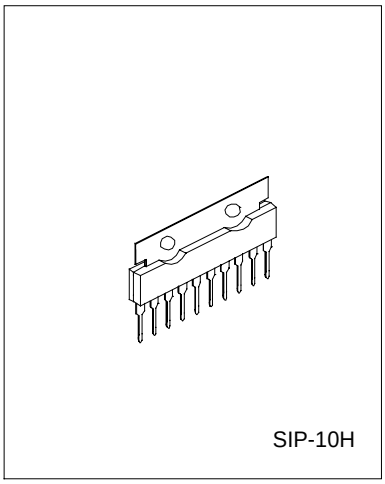
TV VERTICAL DEFLECTION SYSTEM



DESCRIPTION

The UTC1031 is a monolithic integrated circuit designed for use in the vertical deflection circuit of monochrome and small color television receivers. It oscillates vertical synchronizing with the vertical synchronization signal and outputs the vertical deflection current with a single chip.

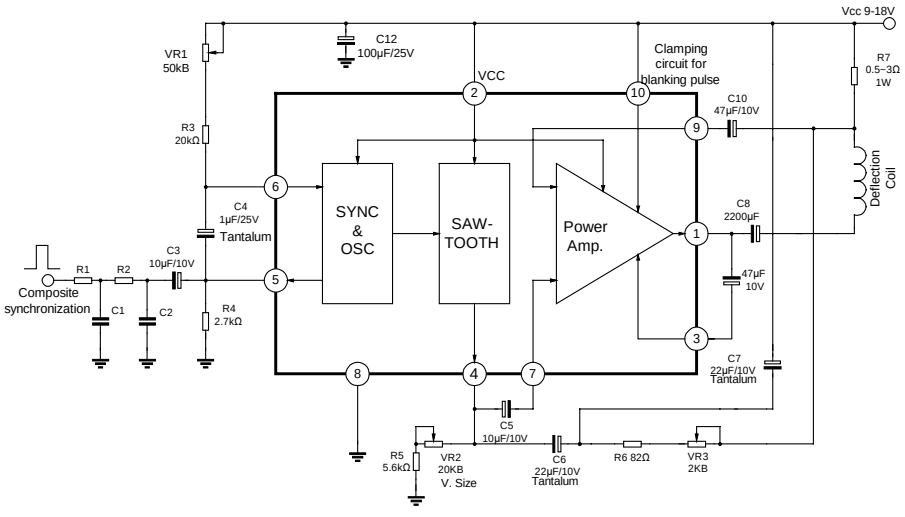
FUNCTIONS

*Vertical synchronization circuit
*Vertical oscillation circuit
*Vertical saw-tooth shape
*Vertical output circuit
*Clamping circuit for blanking pulse
*Temperature compensating circuit

FEATURES

*Less number of external components
*Wide operating voltage
*Freely adjustable pull-in range
*Large output current-capacity
*Built-in adjusting circuit for fly back time.

TYPICAL APPLICATION CIRCUIT



ABSOLUTE MAXIMUM RATINGS(Ta=25°C)

Characteristic	Symbol	Value	Unit
Supply Voltage	Vcc	20	V
Output Current	Ip-p	2	Ap-p
Operating Temperature	Topr	-20 to +70	°C
Storage Temperature	Tstg	-40 to 125	°C
Power dissipation (Ta=75,with aluminum heat sink)	P_{D1}	1.5	mW
Power dissipation (Ta=75,with aluminum heat sink)	P_{D2}	600	mW

ELECTRICAL CHARACTERISTICS

(Ta=25°C,Vcc=12V,unless otherwise specified)

Characteristic	Symbol	Test Condition	Min	Typ.	Max	Unit
Quiescent circuit current	I_{CCQ}	Vi=0,no load	15	30	46	mA
Output Terminal Voltage	Vo	Vi=0,no load	5.6	6.0	6.4	V
Vertical Oscillation Frequency	Fv	Synchronization signal Voltage Applied at Terminal 5 is 1.3Vp-p		50/60	114	Hz
Free-Running Frequency	Fvo	C4= 1μF(Tantalum) Rosc=38.1kΩ	53	60	67	Hz
Pull-in Range	ΔF(pull)	With specified integration circuit, applied voltage of synchronization signal is 1.3Vp-p at Terminal 5	-10	-12		Hz
Drift of free-running frequency vs Power Supply voltage	ΔFvo	Frequency drift from standard frequency(fvo=60hz at Vcc=12V) Vs Power supply voltage (Vcc=12±2V)			±1.0	Hz
Deviation of Pull-in Range vs power supply voltage	ΔF(pull) Vcc	Deviation from the range for pull in (at Vcc=12V) Vs power supply voltage(Vcc=12±2V)			±3.0	Hz
Output Saturation Voltage	Vsat	Output current=0.7A		1.3	1.6	V
Output Pulse width of Terminal 4	To	C4= 1μF(Tantalum) Rosc=38.1kΩ	300	420	600	μS

TEST CIRCUIT

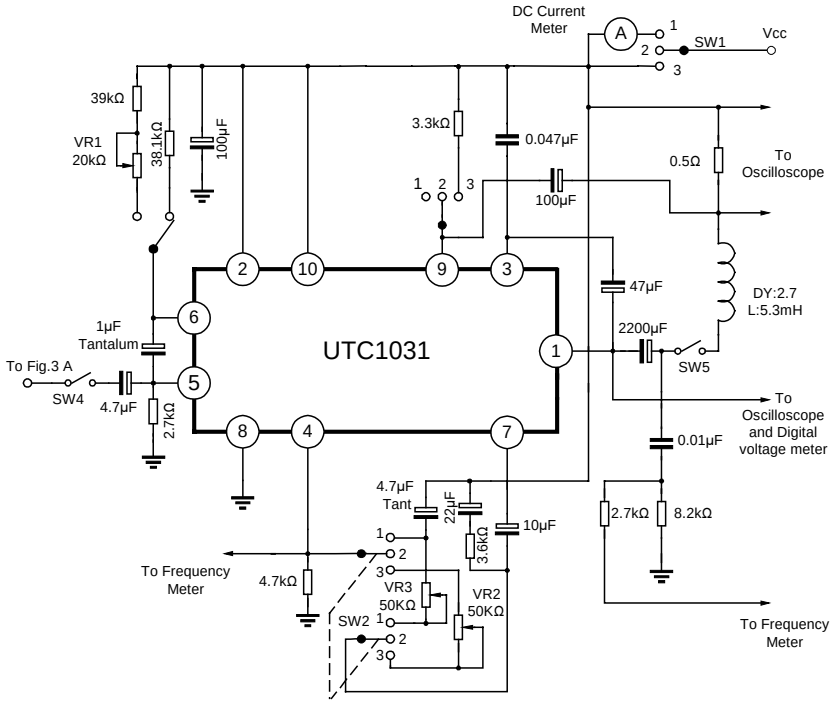


Fig.2

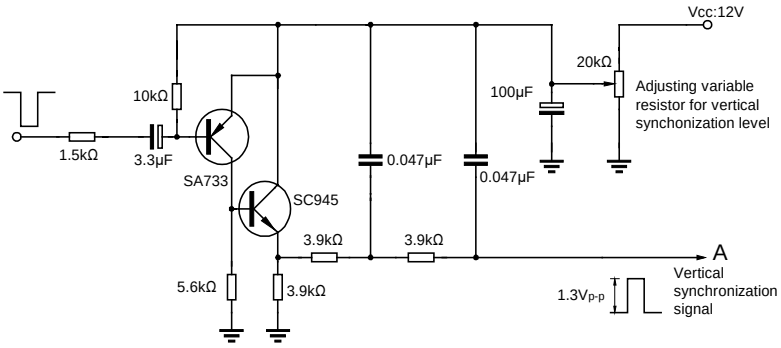


Fig. 3