INTEGRATED CIRCUIT

TECHNICAL DATA

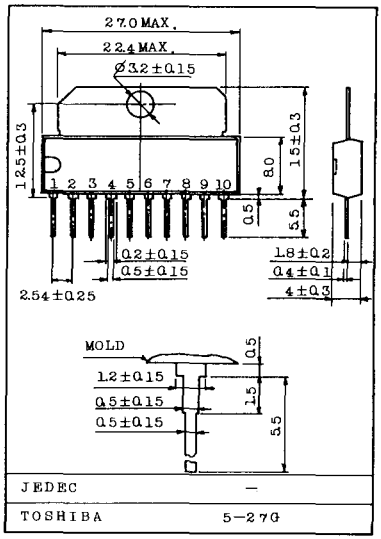
TA7242P

TOSHIBA BIPOLAR LINEAR INTEGRATED CIRCUIT

SILICON MONOLITHIC

TV(B/W) VERTICAL DIFLECTION SYSTEM

Unit in mm



- Vertical Sync Separation
- Vertical Oscillator
- Vertical Pulse Shaper
- Vertical Drive
- Retrace Pulse Clamp

- Minimal Number of External Parts.
- Recommended Power Supply Voltage : 9 ~ 13V
- Adjustable Pull-In Range.
  (Adjust the Time Constant Between Terminal 5 and GND)
- Retrace Time Setting is Possible.
- Maximum Output Current : 2Ap-p
- Including a Retrace Pulse Clamp Circuit.

MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Supply Voltage		V_{CC}	15	V
Output Current		I_{p-p}	2.0	Ap-p
Power Dissipation	Note 1	P_{D1}	1.5	W
	Note 2	P_{D2}	2.15	W
Operating Temperature		T_{opr}	-20 ~ 75	°C
Storage Temperature		T_{stg}	-55 ~ 150	°C

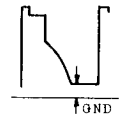
Note 1 : Ta=75°C, Without Heatsink

2 : Ta=75°C, With 31.6 × 31.6 × 1mm Aℓ Heatsink

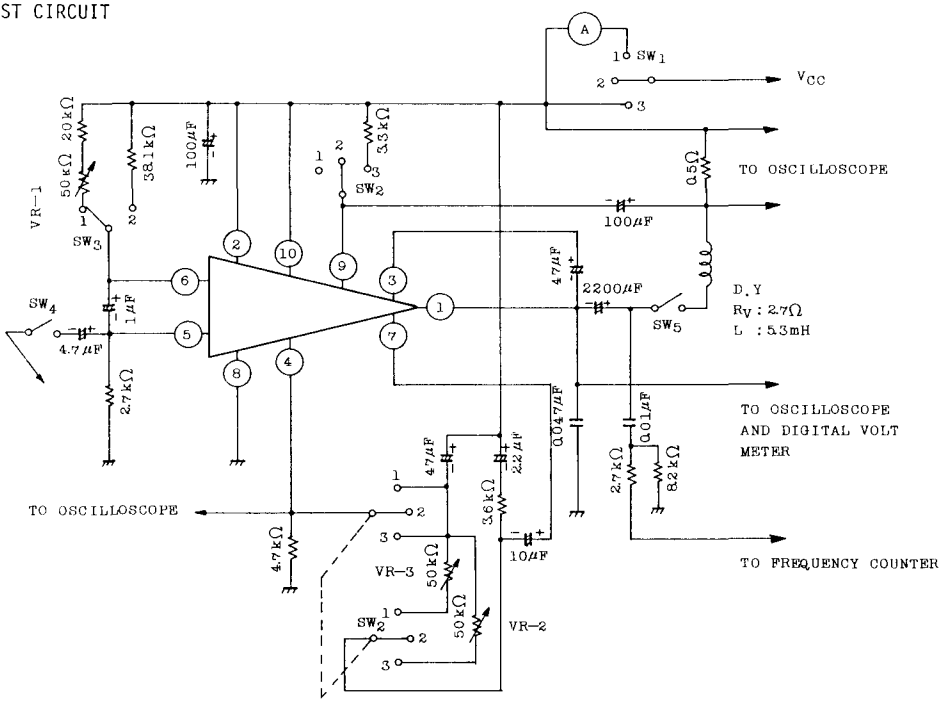
ELECTRICAL CHARACTERISTICS (V_{CC}=12V, Ta=25°C)

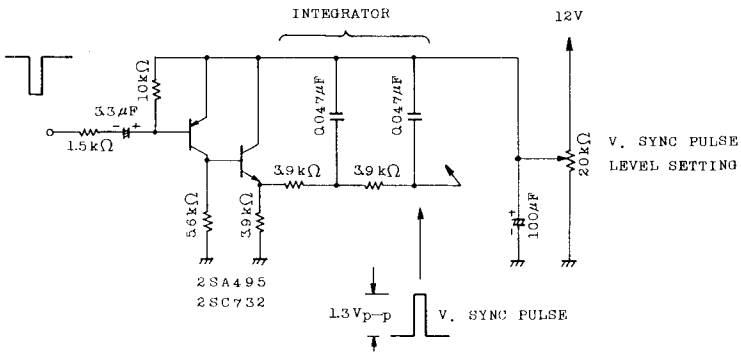
CHARACTERISTIC	SYMBOL	TEST CIRCUIT	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Supply Current	I_{CC}	1	Quiescent Current $R_L=\infty$	15	30	46	mA
Output Terminal Voltage	V_N	1	-	5.6	6.0	6.4	V
Vertical Frequency	f_V	1	Apply V. Sync Pulse, Terminal 5 1.3V_{p-p}	-	50 60	-	Hz
Free Run Frequency	f_{VO}	1	C_{OSC}=1μF (Tantalum), R_{OSC}=38.1kΩ	53	60	67	Hz
Pull-In Range	f_P	1	Apply V.Sync Pulse, Terminal 5 1.3V_{p-p}	-10	-12	-	Hz
Freerun Frequency Change by Supply Voltage Variation	Δf_{VO}	1	Set f_{VO}=60Hz at V_{CC}=12V, Change V_{CC}=12±2V	-	-	±1.0	Hz
Pull-In Range Change by Supply Voltage Variation	Δf_P	1	Pull-In Range Change by Supply Voltage Variation with V_{CC}=12±2V	-	-	∓3.0	Hz
Output Saturation Voltage	V_{sat}	1	I_{OUT}=0.7A	-	1.3	1.6	V
OSC Output Pulse Width	T_O	1	C_{OSC}=1μF (Tantalum), R_{OSC}=38.1kΩ	300	420	600	μS

MEASURING PROCEDURE

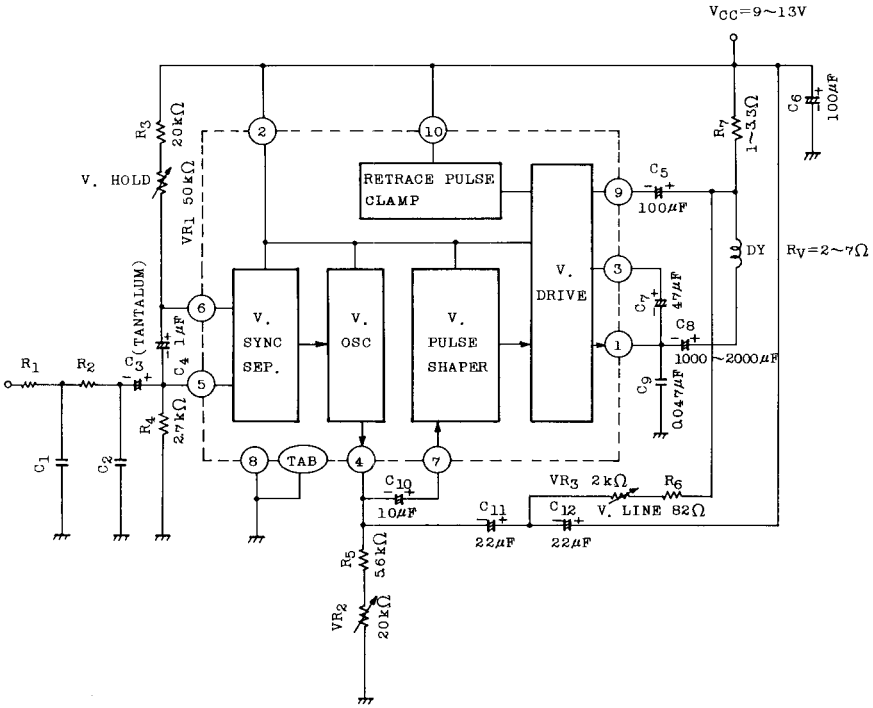
CHARACTERISTIC	SYMBOL	SW_1	SW_2	SW_3	SW_4	SW_5	MEASURING PROCEDURE
Supply Current	I_{CC}	1	2	2	OFF	OFF	-
Output Terminal Voltage	V_N	1	2	2	OFF	OFF	Measure Terminal 1
Vertical Frequency	f_V	3	1	1	ON	ON	-
Freerun Frequency	f_{VO}	3	1	2	OFF	ON	-
Pull-In Range	f_P	3	1	1	OFF ↓ ON	ON	SW4:OFF, Set Freerun Frequency by VR-1 SW4:ON, Check Vertical Frequency is Locked
Freerun Frequency Change by Supply Voltage Variation	Δf_{VO}	3	1	2	OFF	ON	V_{CC}=12±2V
Pull-In Range Change by Supply Voltage Variation	Δf_P	3	1	1	OFF ↓ ON	ON	V_{CC}=12±2V
Output Saturation Voltage	V_{sat}	3	1	1	ON	ON	Set V_{OUT}=0.7V_{p-p} 
OSC Output Pulse Width	T_O	3	2	2	OFF	ON	Measure Terminal 4 T_O 

TEST CIRCUIT





APPLICATION CIRCUIT



EQUIVALENT CIRCUIT