Ordering number : EN 1194C

Monolithic Linear IC

SANYO No.1194C

LA7911

TV Tuner Controller

The LA7911 is a tuner controller IC having such functions as band switch, inverter, low-pass filter, 33V reference Zener. It can be used for frequency synthesizer or voltage synthesizer according to external application.

Functions

- Band switch (Equivalent to LA7900, LA7910 : Refer to the truth table.)
- Inverter
- Low-pass filter (Voltage follower, operational amplifier)
- 33V reference Zener

Features

- 2-input 5-output band switch.
- Band switches of 2 types (LA7900 type or LA7910 type) available by changing-over C pin.
- Large maximum output current and small saturation voltage.
- Meets CATV tuner requirements.
- Usable for frequency synthesizer or voltage synthesizer by changing connection of inverter and operational amplifier.

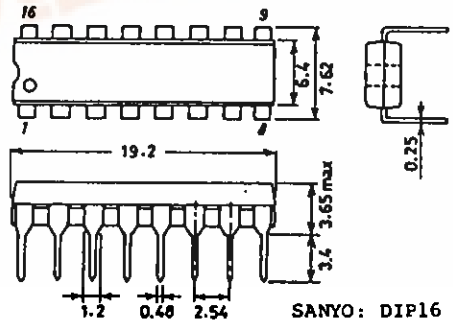
Band Switch Truth Table

Input			Output				
(Pin3) A	(Pin2) B	(Pin4) C	F1(Pin15)	F2(Pin14)	F3(Pin13)	F4(Pin12)	SW(Pin11)
L	L	Open	H	Z	Z	Z	Z
H	L	Open	Z	H	Z	Z	L
L	H	Open	Z	Z	H	Z	L
H	H	Open	Z	Z	Z	H	L
L	L	GND	H	Z	Z	H	Z
H	L	GND	Z	H	Z	H	L
L	H	GND	Z	Z	H	Z	L
H	H	GND	Z	Z	H	H	L

Z : High impedance

Package Dimensions

(unit :mm)
3006B



SANYO: DIP16

Maximum Ratings at T_a=25°C

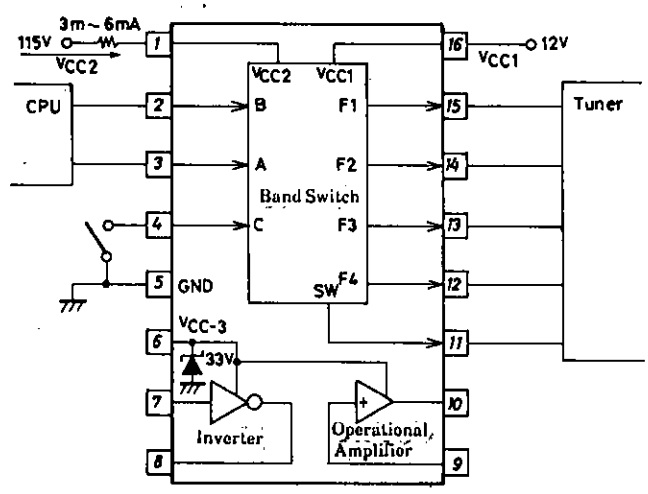
				unit
1.Band Switch				
V_{CC1} Maximum Supply Voltage	V_{16} max		18	V
V_{CC2} Maximum Supply Current	I_1 max		10	mA
Maximum Load Current	I_{12}, I_{13} max	I_1=6mA	-60	mA
	I_{14}, I_{15} max	V_{CC1}=12V		
Maximum Load Current	I_{11} max		25	mA
Maximum AB Input Current	I_2, I_3 max		2	mA
Maximum Applied Voltage (SW)	V_{11} max		35	V
Maximum Applied Voltage	V_{12}, V_{14} max		-18	V
2.Inverter, Operational Amplifier				
V_{CC3} Maximum Supply Current	I_6 max		8	mA
Maximum Applied Voltage	V_8 max		35	V
Maximum Load Current	I_8 max		5	mA
Maximum Input Voltage	V_7 max		8	V
Maximum Input Current	I_7 max		1	mA
Maximum Input Voltage	V_9 max		V_{CC}-1	V
3.Common to 1.2				
Allowable Power Dissipation	$P_d$max	T_a=65°C	600	mW
Operating Temperature	Topr		-20 to +65	°C
Storage Temperature	Tstg		-55 to +125	°C

Operating Characteristics at T_a=25°C

		min	typ	max	unit
1.Band Switch					
Quiescent Current	I_{CC}	0		9	mA
Output Saturation Voltage	F(sat)	0		0.7	V
Output Saturation Voltage	SW(sat)	0		0.7	V
Input Threshold Voltage	V_{TH}	0.8	1.5	3	V
Output Leak Current	I_L	0		-50	μA
2.Inverter, Operational Amplifier, Reference Zener					
Zener Voltage	V_Z	31	33	35	V
Output Saturation Voltage	$V_{8(sat)}$	0		0.3	V
Input Threshold Voltage	V_{TH}	2.5		4.5	V
Input Offset Voltage (1)	V_{10-1}	-100		+100	mV
Input Offset Voltage (2)	V_{10-2}	-100		+100	mV
Input Bias Current	I_{BIAS}			-190	nA

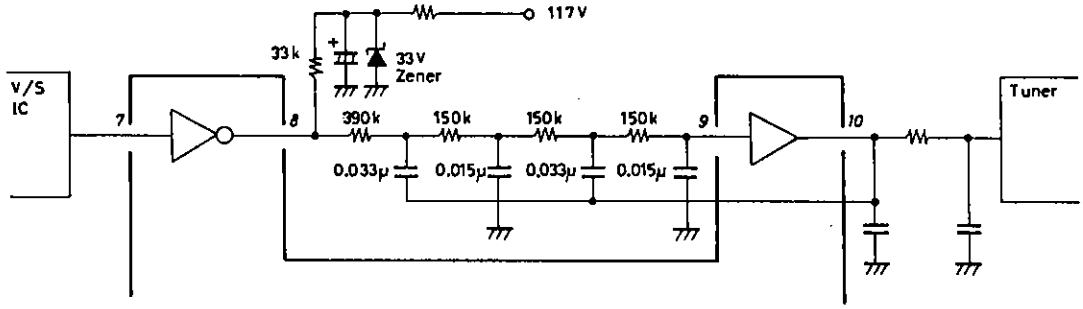
(Note) Current flowing into IC : Plus (no sign)
Current flowing outof IC : Minus

Equivalent Circuit Block Diagram



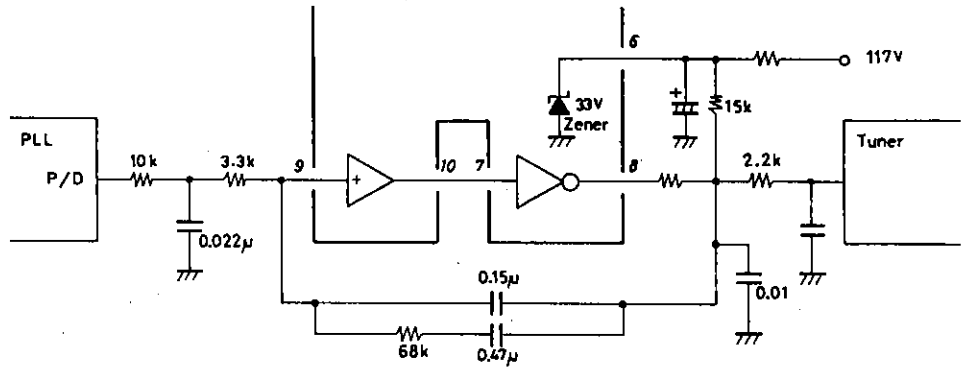
Sample Application Circuit

1. Voltage Synthesizer (f=500Hz)



Unit (resistance:Ω, capacitance:F)

2. Frequency Synthesizer (f_r=1kHz)



Unit (resistance:Ω, capacitance:F)