

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.

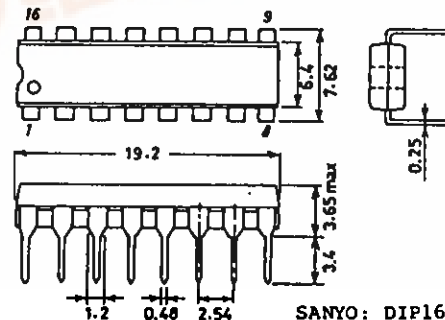
#### Band Switch Truth Table

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

## LA7911

### Maximum Ratings at $T_a=25^\circ\text{C}$

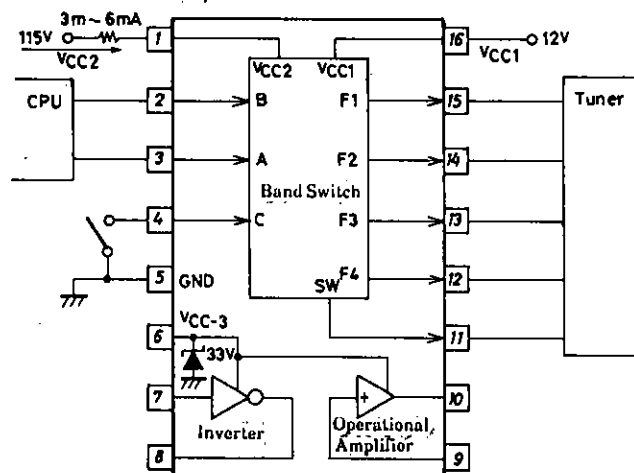
		unit
<b>1. Band Switch</b>		
VCC1 Maximum Supply Voltage	V16 max	18 V
VCC2 Maximum Supply Current	I1 max	10 mA
Maximum Load Current	I12, I13 max	-60 mA
	I14, I15 max	I1=6mA VCC1=12V
Maximum Load Current	I11 max	25 mA
Maximum AB Input Current	I2, I3 max	2 mA
Maximum Applied Voltage (SW)	V11 max	35 V
Maximum Applied Voltage	V12, V14 max	-18 V
<b>2. Inverter, Operational Amplifier</b>		
VCC3 Maximum Supply Current	I6 max	8 mA
Maximum Applied Voltage	V8 max	35 V
Maximum Load Current	I8 max	5 mA
Maximum Input Voltage	V7 max	8 V
Maximum Input Current	I7 max	1 mA
Maximum Input Voltage	V9 max	VCC-1 V
<b>3. Common to 1.2</b>		
Allowable Power Dissipation	Pdmax	Ta=65°C 600 mW
Operating Temperature	Topr	-20 to +65 °C
Storage Temperature	Tstg	-55 to +125 °C

### Operating Characteristics at $T_a=25^\circ\text{C}$

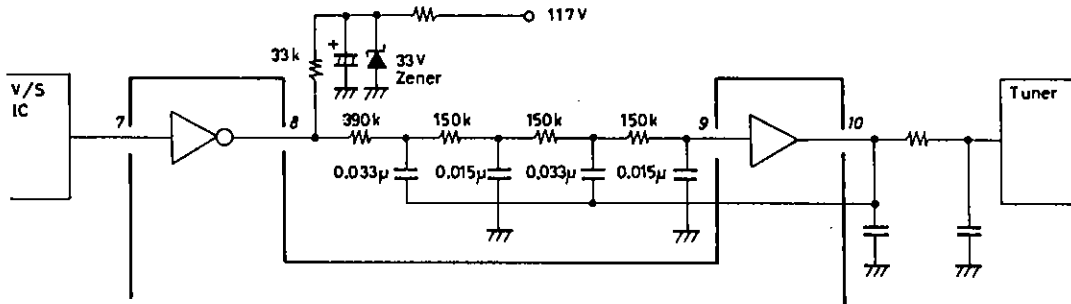
		min	typ	max	unit
<b>1. Band Switch</b>					
Quiescent Current	ICC	0		9	mA
Output Saturation Voltage	F(sat)	0		0.7	V
Output Saturation Voltage	SW(sat)	0		0.7	V
Input Threshold Voltage	VTH	0.8	1.5	3	V
Output Leak Current	IL	0		-50	μA
<b>2. Inverter, Operational Amplifier, Reference Zener</b>					
Zener Voltage	VZ	31	33	35	V
Output Saturation Voltage	V8(sat)	0		0.3	V
Input Threshold Voltage	VTH	2.5		4.5	V
Input Offset Voltage (1)	V10-1	-100		+100	mV
Input Offset Voltage (2)	V10-2	-100		+100	mV
Input Bias Current	IBIAS			-190	nA

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

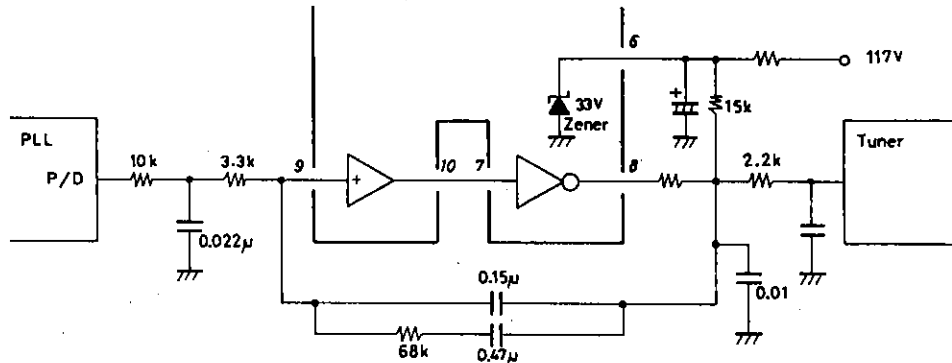
### Equivalent Circuit Block Diagram



## Sample Application Circuit

1. Voltage Synthesizer ( $f=500\text{Hz}$ )

Unit (resistance:Ω, capacitance:F)

2. Frequency Synthesizer ( $f_r=1\text{kHz}$ )

Unit (resistance:Ω, capacitance:F)

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