

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.

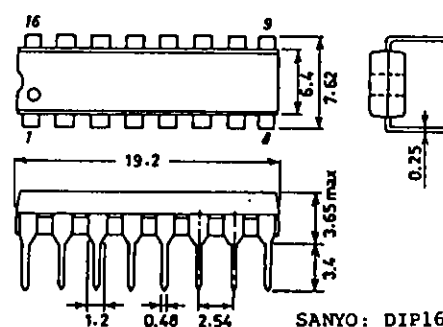
Band Switch Truth Table

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



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

1. Band Switch				unit
VCC1 Maximum Supply Voltage	V16 max		18	V
VCC2 Maximum Supply Current	I1 max		10	mA
Maximum Load Current	I12, I13 max	I1=6mA	-60	mA
	I14, I15 max	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

2. Inverter, Operational Amplifier

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

3. Common to 1.2

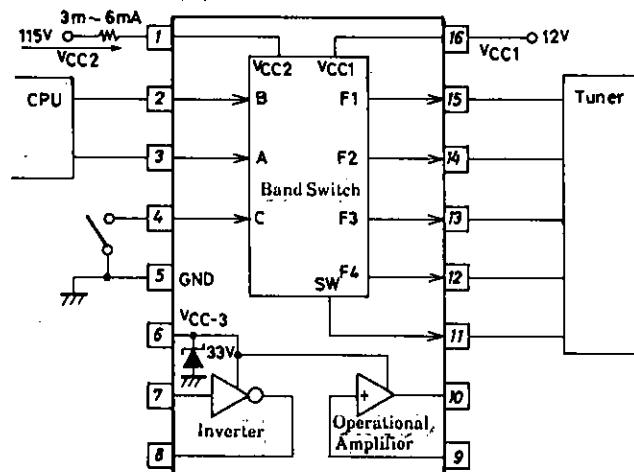
Allowable Power Dissipation	Pdmax	$T_a=65^{\circ}\text{C}$	600	mW
Operating Temperature	Topr		-20 to +65	$^{\circ}\text{C}$
Storage Temperature	Tstg		-55 to +125	$^{\circ}\text{C}$

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

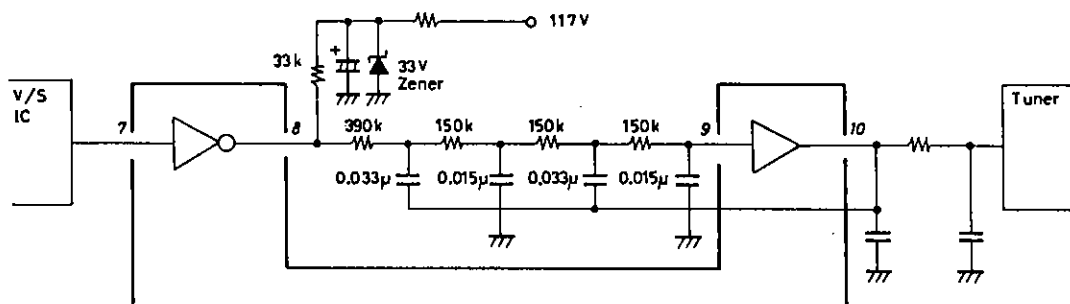
				min	typ	max	unit
1. Band Switch							
Quiescent Current	ICC			0		9	mA
Output Saturation Voltage	F(sat)			0		0.7	V
Output Saturation Voltage	SW(sat)			0		0.7	V
Input Threshold Voltage	VTH			0.8	1.5	3	V
Output Leak Current	IL			0		-50	μA
2. Inverter, Operational Amplifier, Reference Zener							
Zener 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

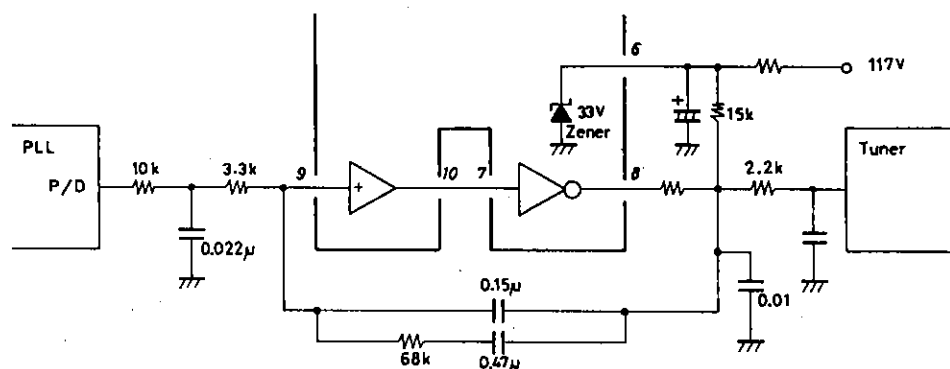
Equivalent Circuit Block Diagram



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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