

SANYO

No. 3651

LA1188A

Monolithic Linear IC

**FM Front-end for Radio Cassette Players
and Music Centers****OVERVIEW**

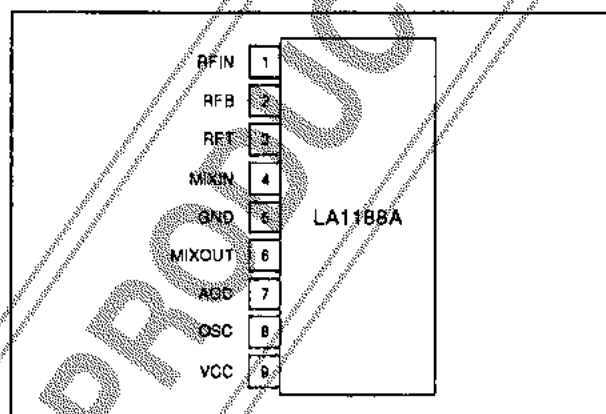
The LA1188A is an FM receiver front-end IC for radio cassette players and music center applications. It comprises an RF amplifier, a double-balanced mixer, a local oscillator, a wideband AGC circuit, a voltage regulator and a voltage reference circuit.

The LA1188A features low cross modulation, low intermodulation distortion and high detection sensitivity. It can also receive television channels 1 to 12.

The LA1188A operates from a 4.5 V supply and is available in 9-pin SIPs.

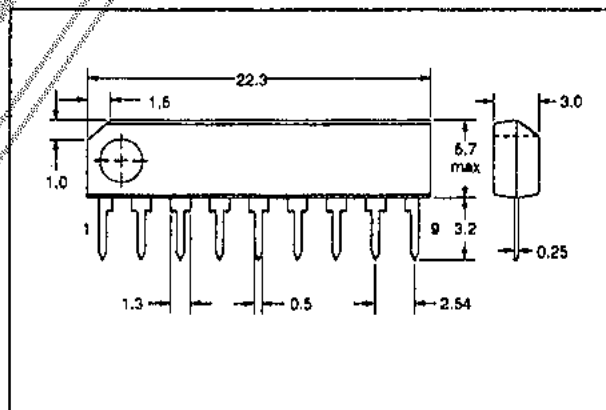
FEATURES

- RF amplifier
- Double-balanced mixer
- Local oscillator
- Wideband AGC circuit
- Voltage regulator and voltage reference circuit
- Low cross modulation
- Low intermodulation distortion
- High detector sensitivity
- Receives TV channels 1 to 12
- 4.5 V supply
- 9-pin SIP

PINOUT**PACKAGE DIMENSIONS**

Unit: mm

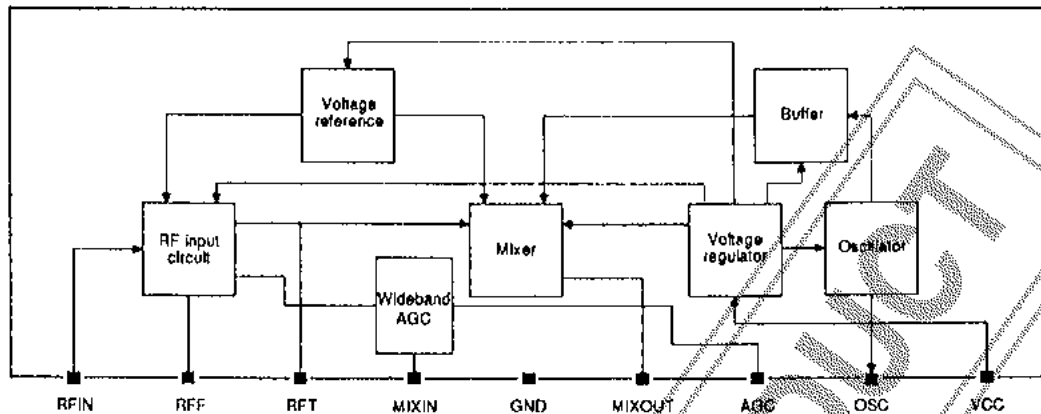
3017B-SIP9



Specifications and information herein are subject to change without notice.

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BLOCK DIAGRAM



PIN DESCRIPTION

Number	Name	Description
1	RFIN	RF input
2	RFB	RF bypass capacitor connection
3	RFT	RF tuned circuit connection
4	MIXIN	Mixer input
5	GND	Ground
6	MIXOUT	Mixer output
7	AGC	AGC capacitor connection
8	OSC	Oscillator-tuned circuit connection
9	VCC	Voltage supply

SPECIFICATIONS

Absolute Maximum Ratings

Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	8	V
RFT input voltage	V_i	8.5	V
MIXOUT output voltage	V_o	$V_{CC} + 0.8$	V
Power dissipation	P_D	150	mW
Operating temperature range	T_{opg}	-20 to 80	°C
Storage temperature range	T_{stg}	-40 to 125	°C

Recommended Operating Conditions

$T_a = 25\text{ }^{\circ}\text{C}$

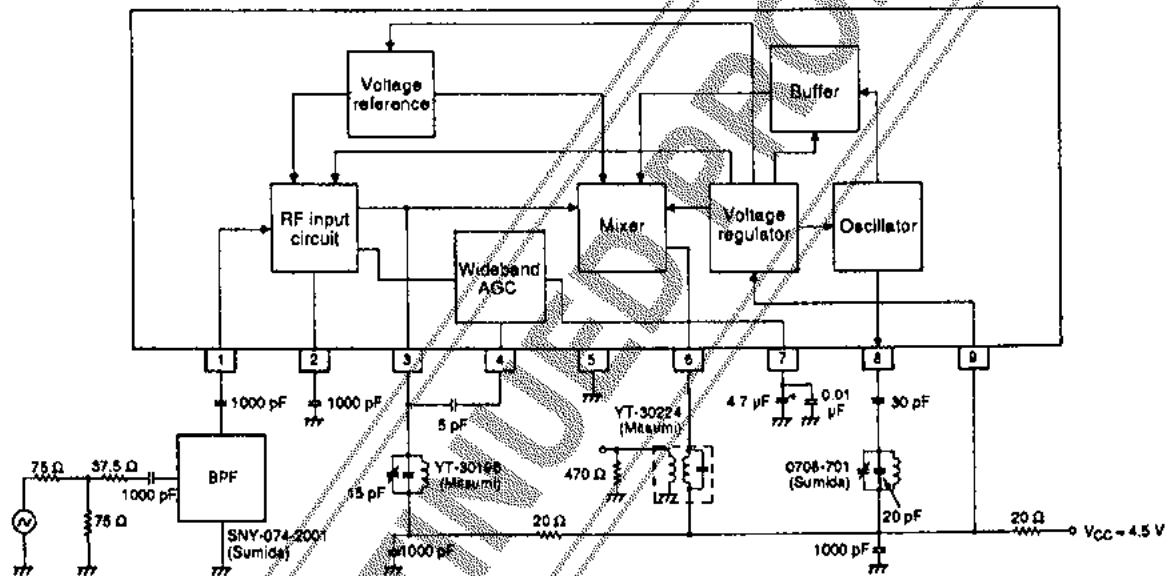
Parameter	Symbol	Rating	Unit
Supply voltage	V_{CC}	4.5	V
Supply voltage range	V_{CC}	3.5 to 7.5	V

Electrical Characteristics

$V_{CC} = 4.5 \text{ V}$, $T_a = 25^\circ \text{C}$, $f_r = 108 \text{ MHz}$, $f_{osc} = 118.7 \text{ MHz}$ unless otherwise noted

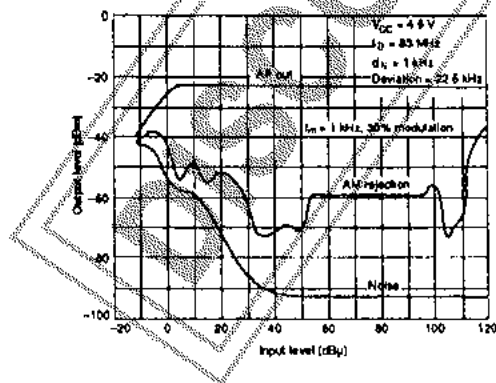
Parameter	Symbol	Condition	Rating			Unit
			min	typ	max	
Quiescent supply current	I_{CCQ}	No input signal	—	9.0	14	mA
Output saturation voltage	V_{sat}	100 dB μ input signal	25	45	65	mV
Local-oscillator voltage	V_{osc}	$V_{CC} = 3 \text{ V}$	235	370	—	mV
Local-oscillator cutoff voltage	$V_{osc(off)}$		—	1.8	2.5	V
AGC voltage	V_{AGC}	No input signal	1.6	2.3	3.0	V
		110 dB μ input signal	0.8	1.1	1.4	

Measurement Circuit

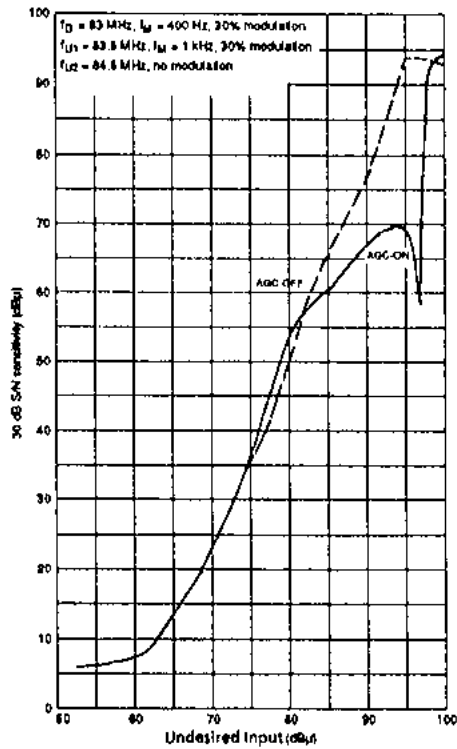


Typical Performance Characteristics

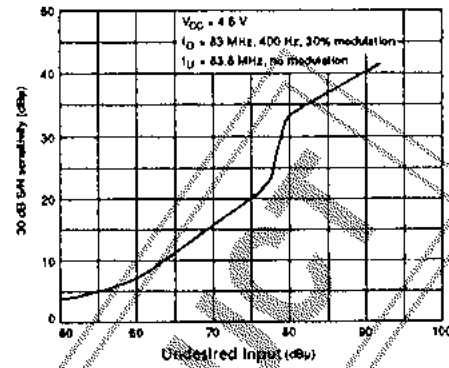
Input vs. output



Intermodulation distortion



Cross modulation



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