

**LA1185**

FM Front-end for Radio-cassette Recorder, Home Stereo Applications

Overview

The LA1185 is an FM receiver front-end IC for radio-cassette recorder, music center applications. Its mixer is of double-balanced type. The built-in oscillator and buffer amplifier improves the strong input characteristic.

Use

- FM front-end IC for radio-cassette recorders and music centers

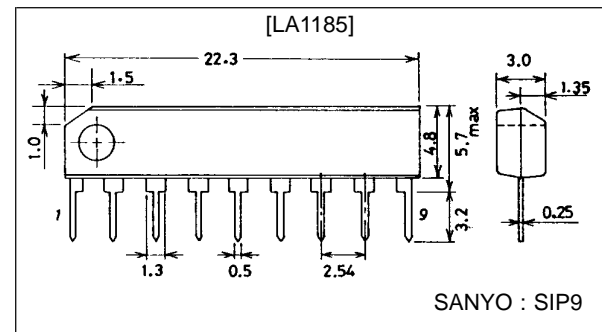
Functions and Features

- RF amplifier, mixer, local oscillator
- Improvement in cross modulation characteristics due to the use of double-balanced mixer.
- Improvement in strong input characteristic.
- Minimum number of external parts required.
- Less spurious radiation from local oscillator.
- Operating voltage range : 1.5 to 8.0 V

Package Dimensions

unit : mm

3017C-SIP9



Specifications

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	$V_{CC \text{ max}}$		8	V
Maximum pin voltage	V_{3-5}		12	V
	V_{6-5}		$V_{CC} + 0.8$	V
Allowable power dissipation	$P_d \text{ max}$	$T_a \leq 80^\circ\text{C}$	150	mW
Operating temperature	T_{opr}		-20 to +80	$^\circ\text{C}$
Storage temperature	T_{stg}		-40 to +125	$^\circ\text{C}$

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

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		4.5	V
Operating voltage range	V_{CCop}		1.5 to 8.0	V

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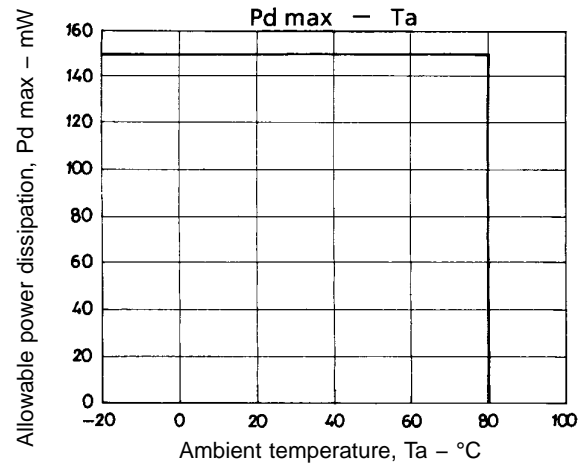
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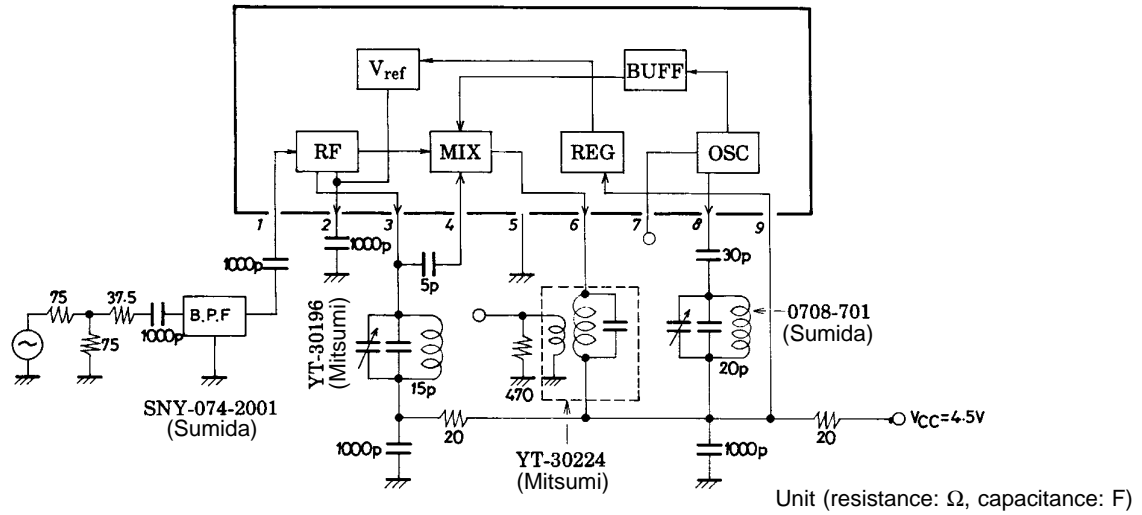
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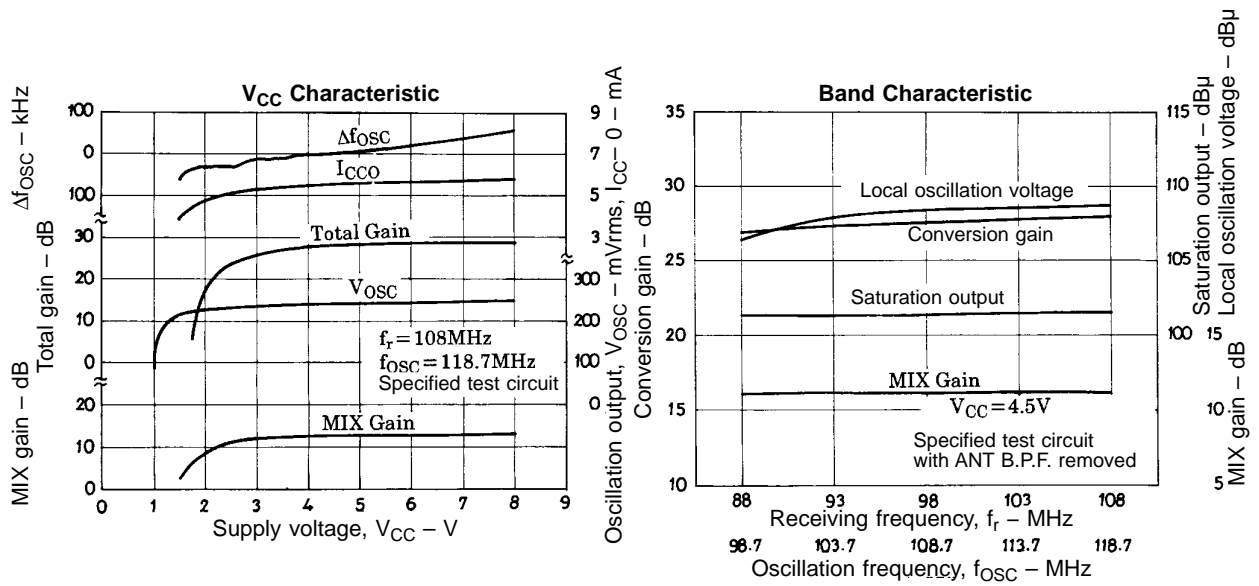
**Operating Characteristics at $T_a = 25^\circ\text{C}$, $V_{CC} = 4.5\text{ V}$, $f_r = 108\text{ MHz}$, $f_{OSC} = 118.7\text{ MHz}$,
See specified Test Circuit**

Parameter	Symbol	Conditions	min	typ	max	Unit
Current dissipation	I_{CC}	Quiescent		5.5	8.0	mA
Output saturation voltage	V_o	100 dB μ	95	115	135	mVrms
Local oscillation voltage	V_{OSC}	$V_{CC} = 2\text{ V}$	190	235		mVrms
Oscillation stop voltage	V_{stop}			1.4	1.6	V

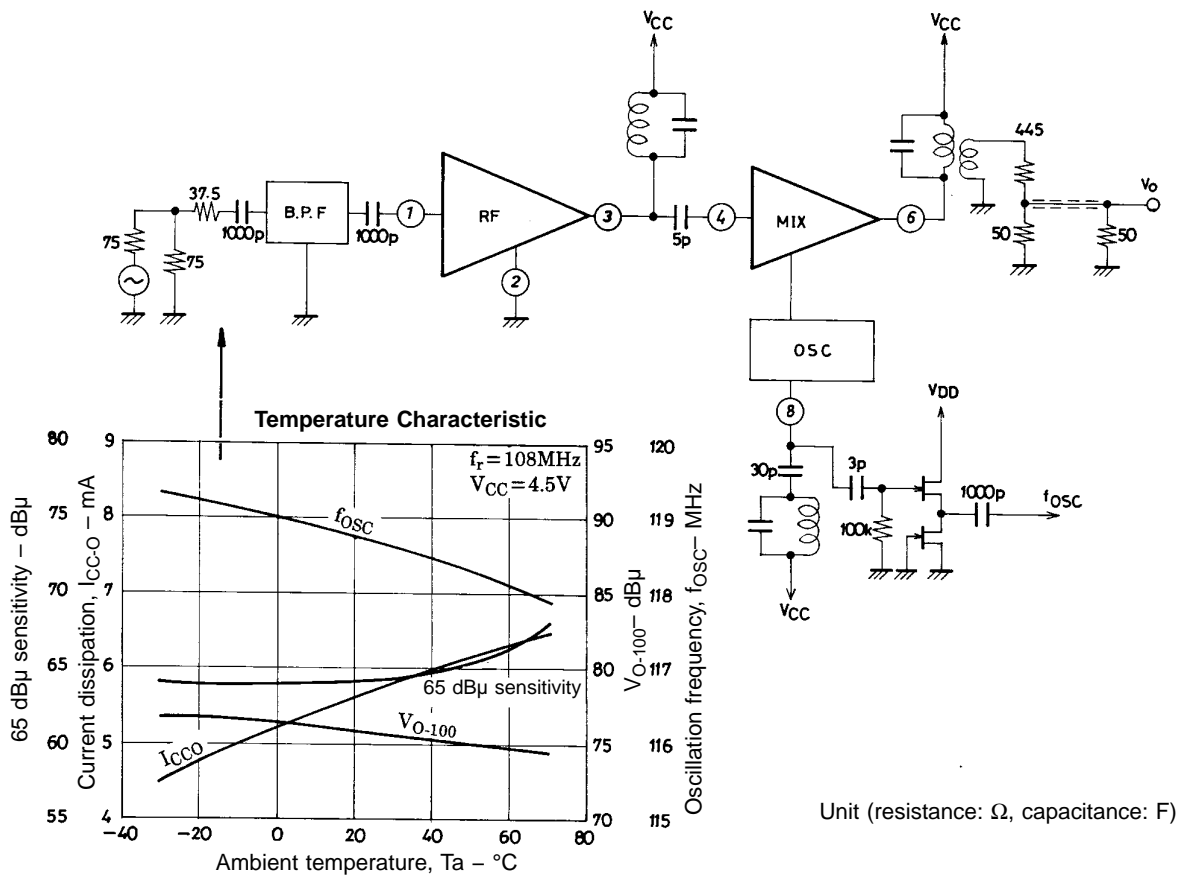


Test Circuit and Equivalent Circuit Block Diagram



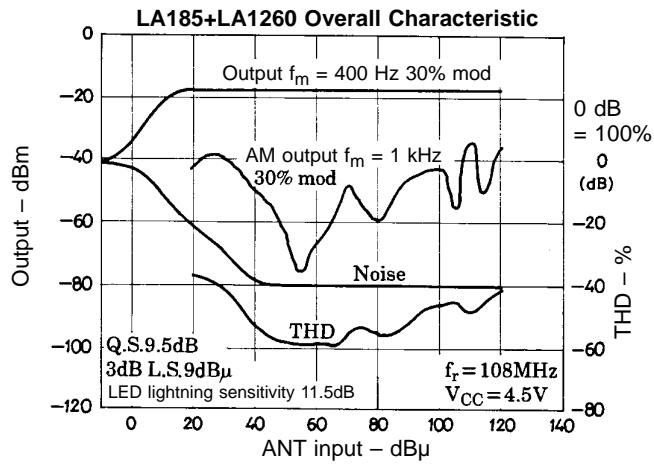
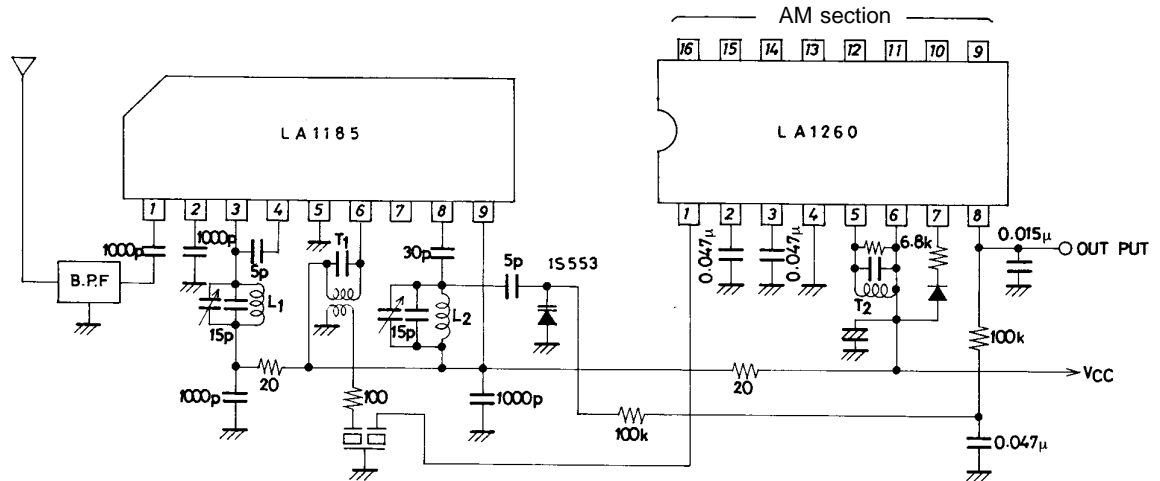


Temperature Characteristic Test Circuit



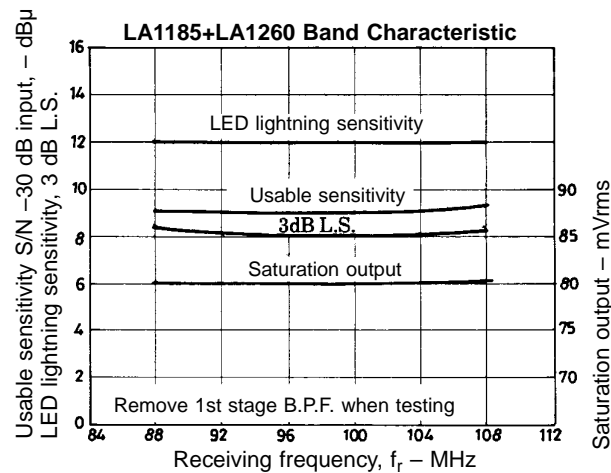
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Sample Application Circuit: LA1185 + LA1260 US band



Unit (resistance: Ω , capacitance: F)

	Mitsumi	Sumida
T1	YT-30224	2153-4016-006
T2	YT-30194	2153-4095-339
L1	YT-30196	0708-700
L2	YT-40001	0708-701
B.P.F.	YT-30025	SNY-074-2001



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