

Monolithic Linear IC



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.

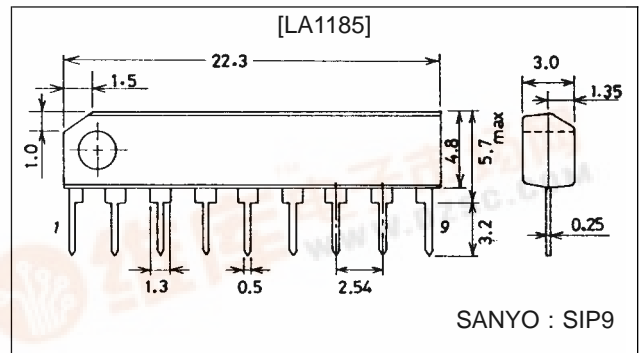
Package Dimensions

unit : mm

3017C-SIP9

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

Specifications

Maximum Ratings at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		8	V
Maximum pin voltage	V ₃₋₅		12	V
	V ₆₋₅		V _{CC} + 0.8	V
Allowable power dissipation	Pd max	Ta ≤ 80°C	150	mW
Operating temperature	Topr		-20 to +80	°C
Storage temperature	Tstg		-40 to +125	°C

Operating Conditions at Ta = 25°C

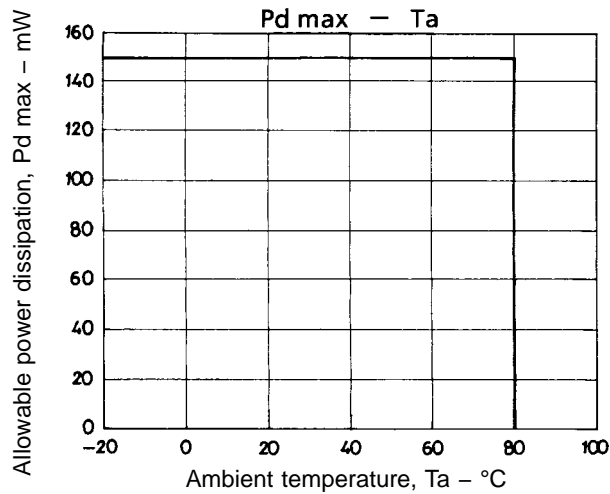
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V _{CC}		4.5	V
Operating voltage range	V _{CCOP}		1.5 to 8.0	V



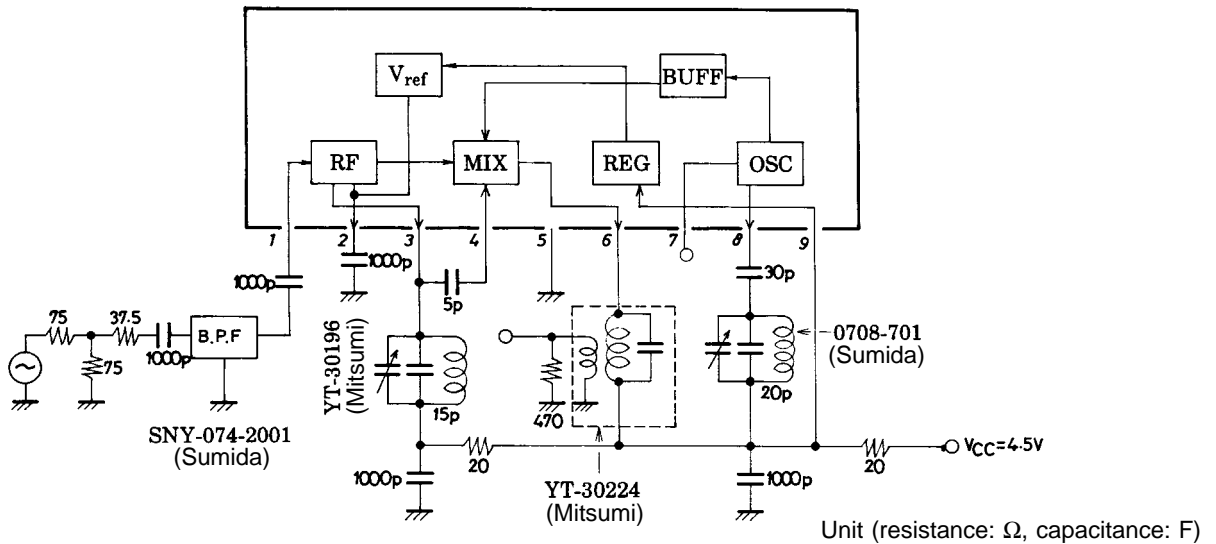
LA1185

**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**

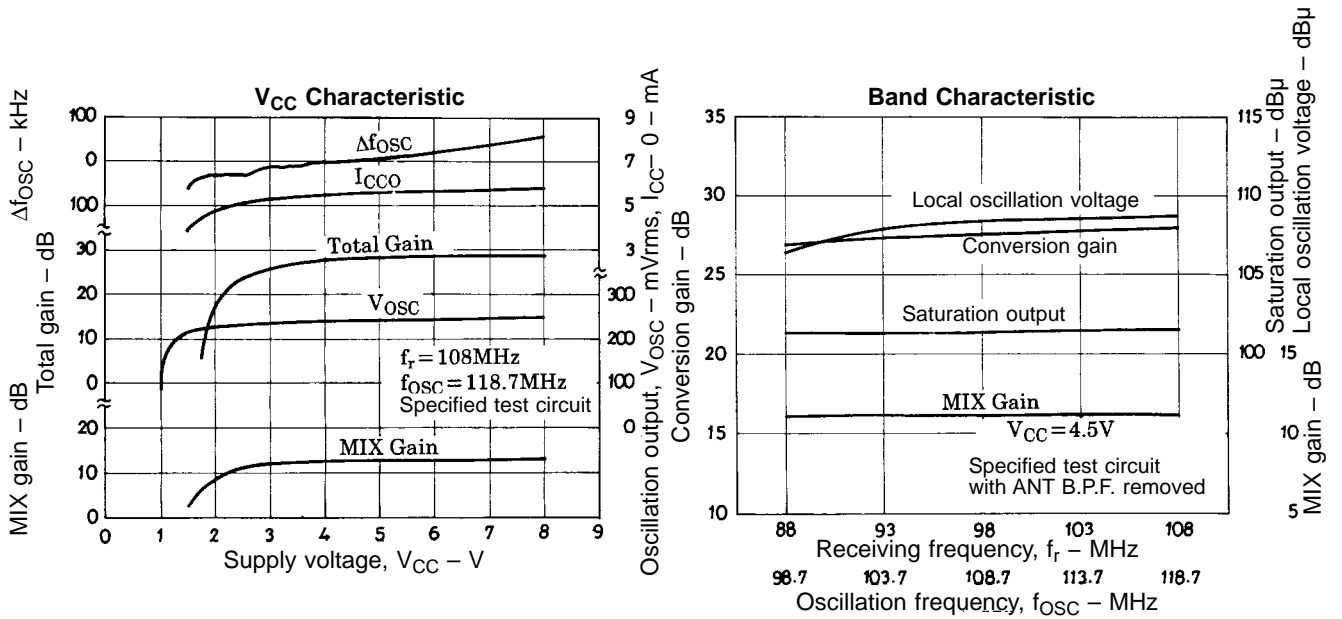
Parameter	Symbol	Conditions	min	typ	max	Unit
Current dissipation	I_{CC}	Quiescent		5.5	8.0	mA
Output saturation voltage	V_o	100 dB μ	95	115	135	mVrms
Local oscillation voltage	V_{OSC}	$V_{CC} = 2\text{ V}$	190	235		mVrms
Oscillation stop voltage	V_{stop}			1.4	1.6	V



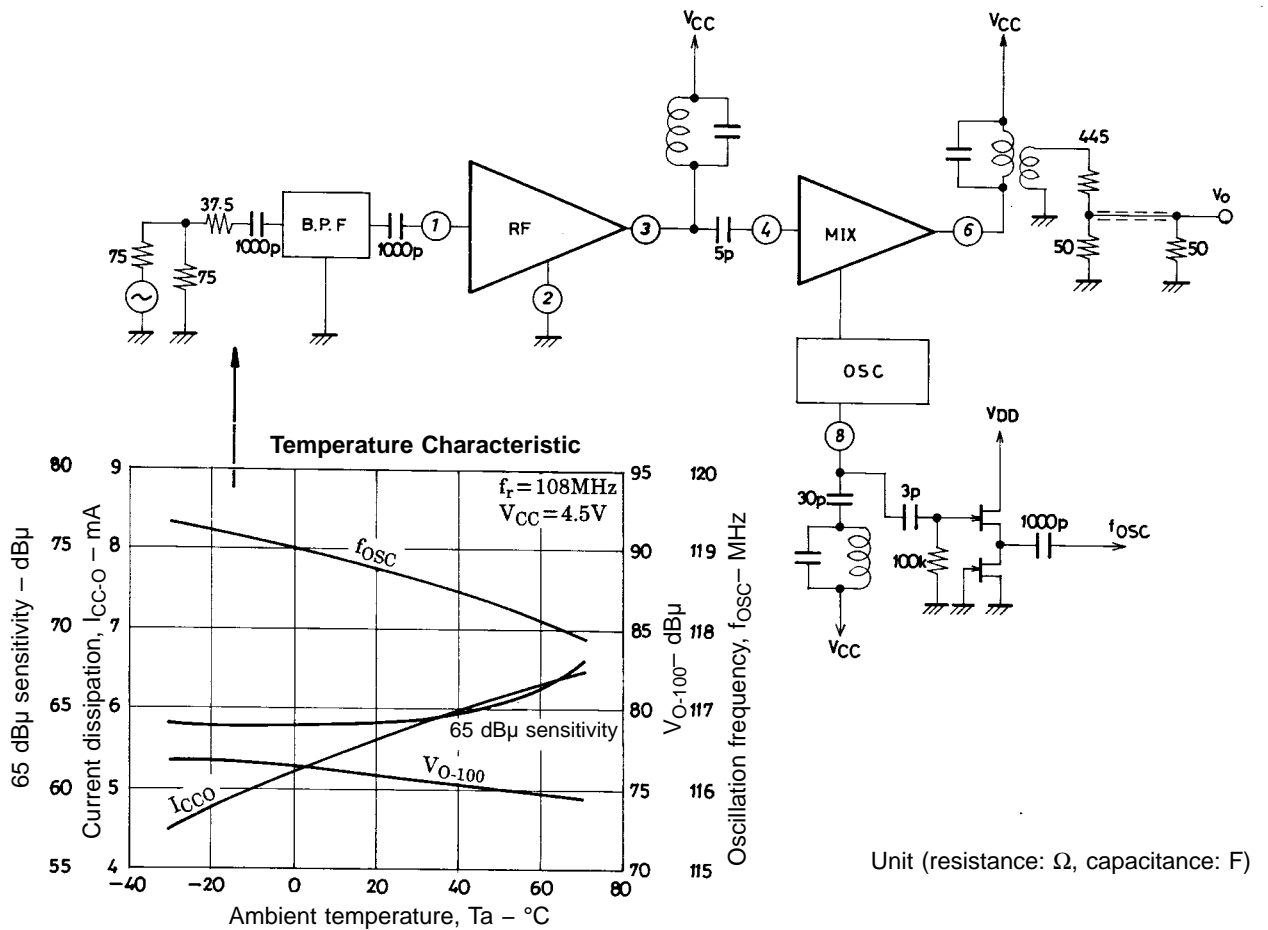
Test Circuit and Equivalent Circuit Block Diagram



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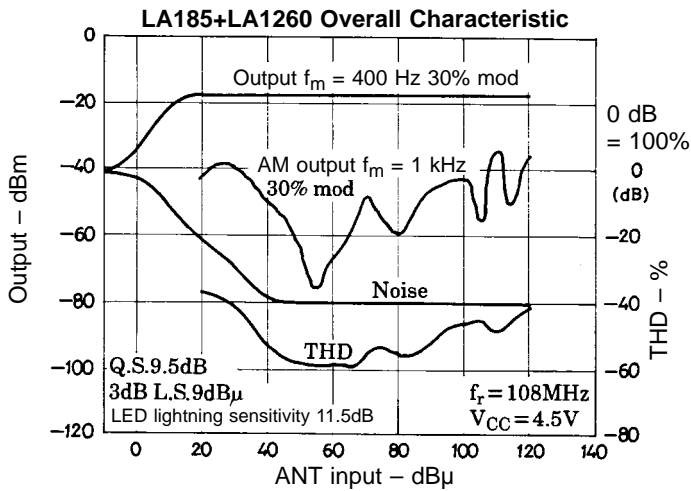
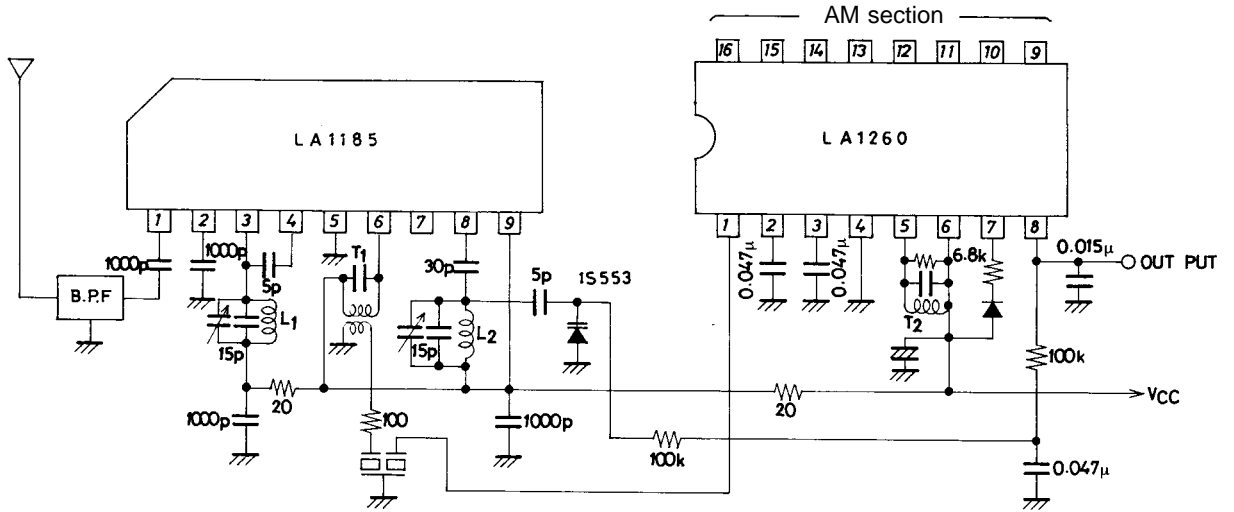


Temperature Characteristic Test Circuit



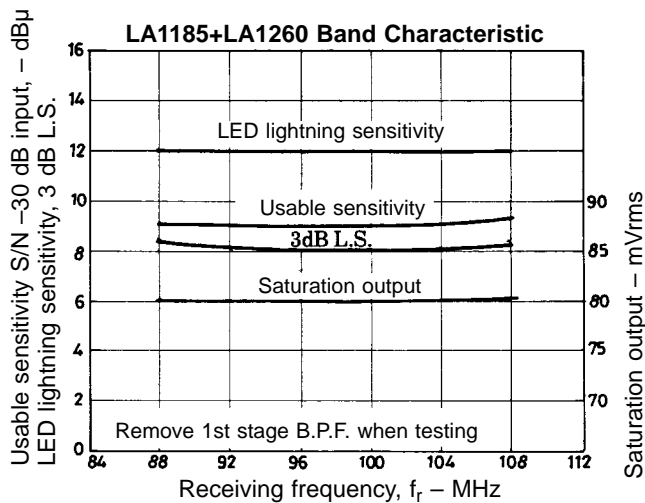
LA1185

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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