



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

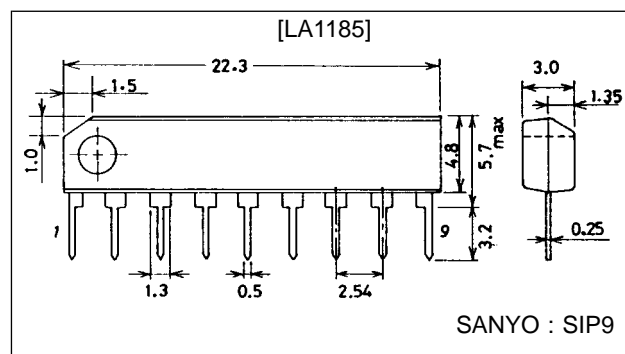
### Functions and Features

- 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 Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		8	V
Maximum pin voltage	V <sub>3-5</sub>		12	V
	V <sub>6-5</sub>		V <sub>CC</sub> + 0.8	V
Allowable power dissipation	P <sub>d</sub> max	T <sub>a</sub> ≤ 80°C	150	mW
Operating temperature	T <sub>opr</sub>		-20 to +80	°C
Storage temperature	T <sub>stg</sub>		-40 to +125	°C

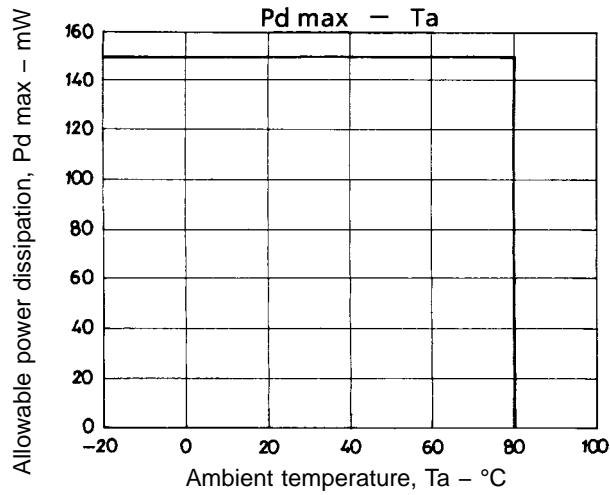
#### Operating Conditions at Ta = 25°C

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>CC</sub>		4.5	V
Operating voltage range	V <sub>CCOP</sub>		1.5 to 8.0	V

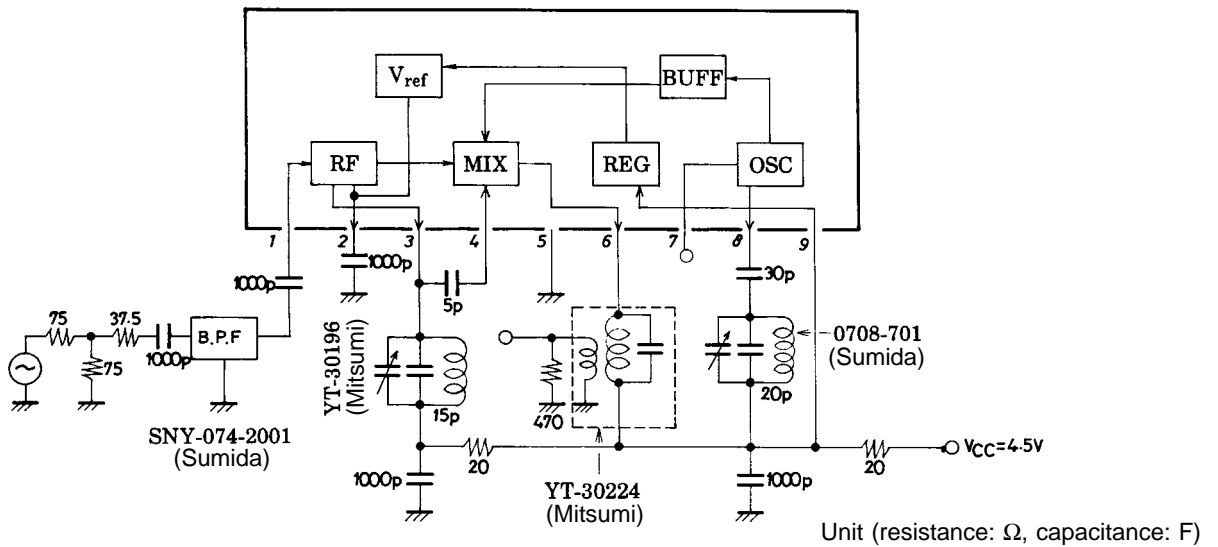
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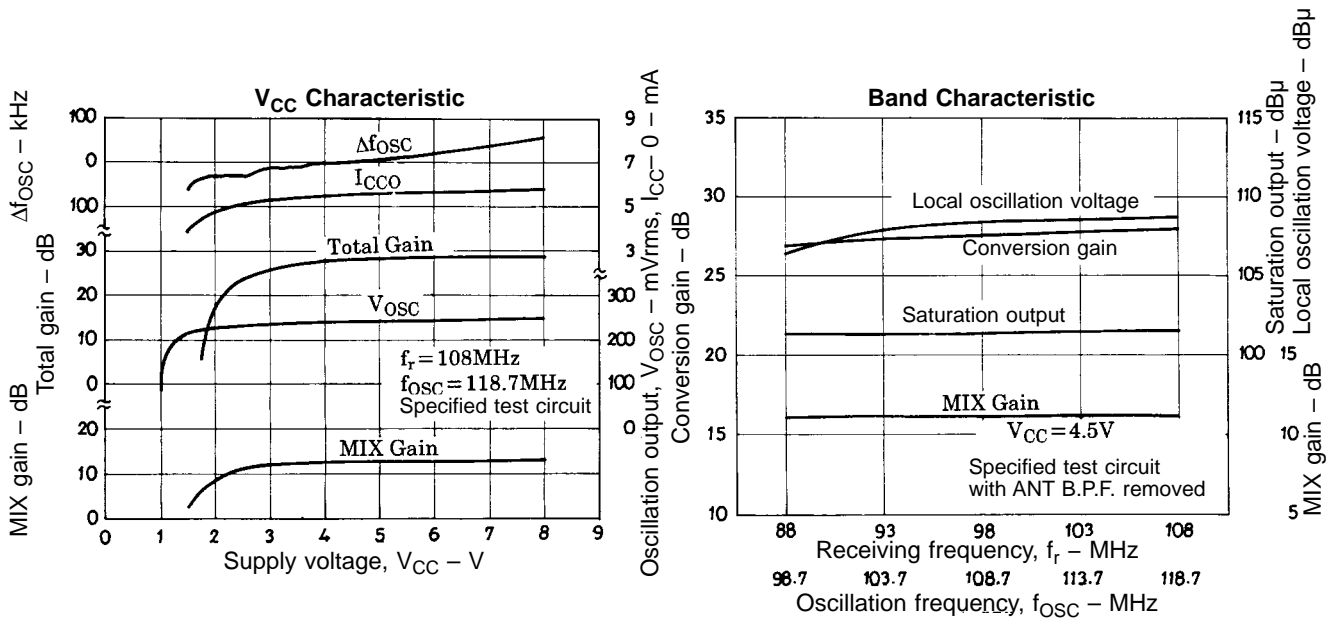
**Operating Characteristics at  $T_a = 25^\circ\text{C}$ ,  $V_{CC} = 4.5\text{ V}$ ,  $f_r = 108\text{ MHz}$ ,  $f_{OSC} = 118.7\text{ MHz}$ ,  
See specified Test Circuit**

Parameter	Symbol	Conditions	min	typ	max	Unit
Current dissipation	$I_{CC}$	Quiescent		5.5	8.0	mA
Output saturation voltage	$V_o$	100 dB $\mu$	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

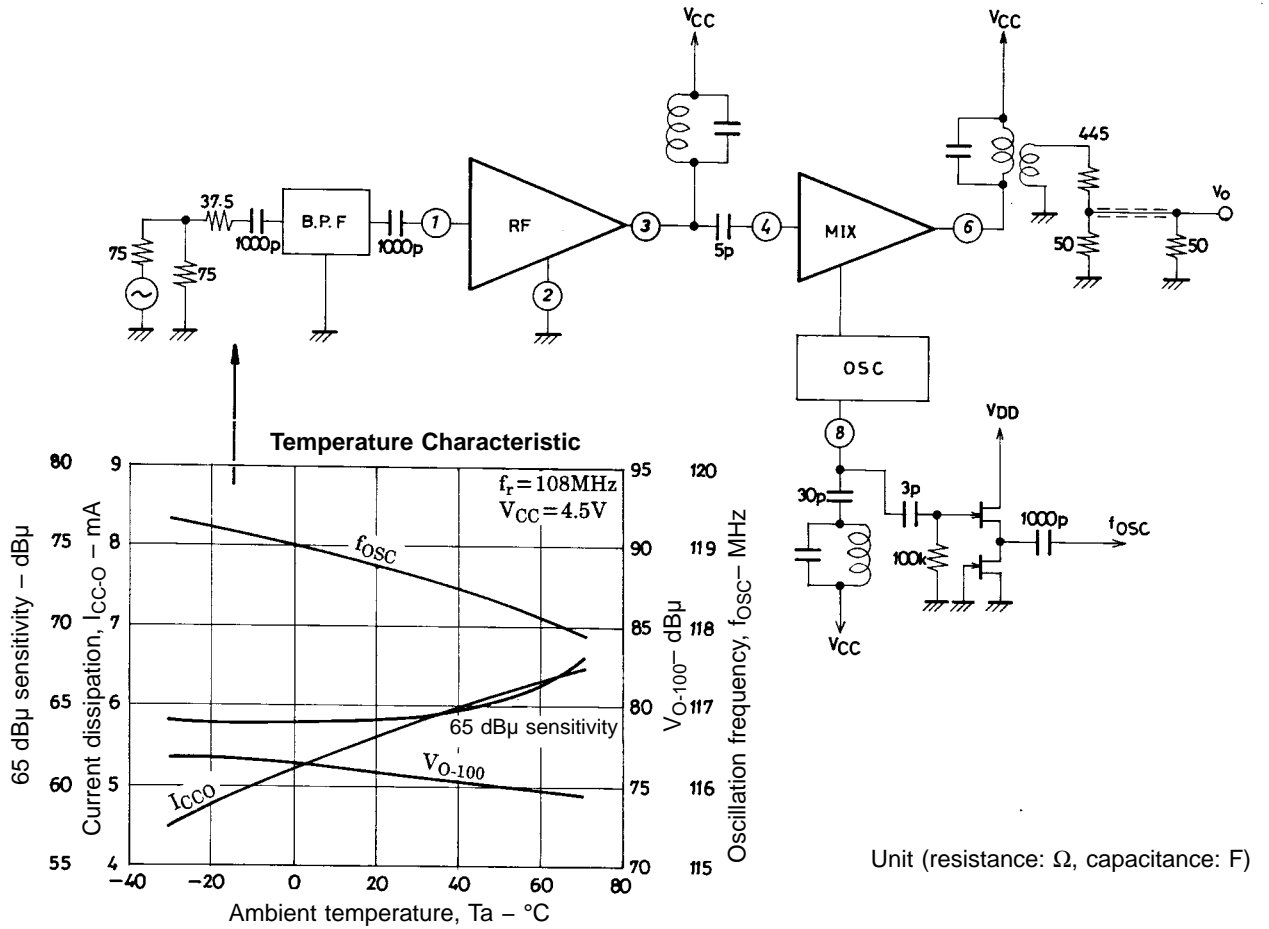


## Test Circuit and Equivalent Circuit Block Diagram



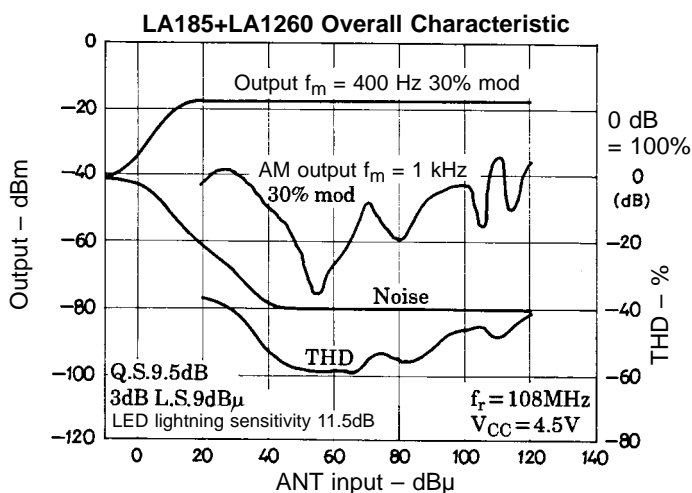
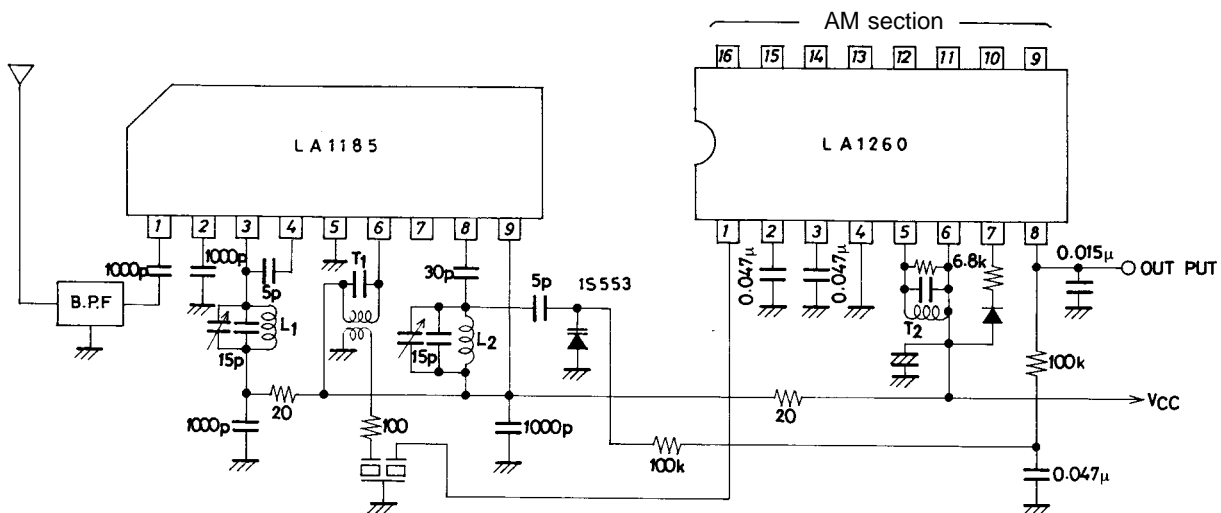


Temperature Characteristic Test Circuit



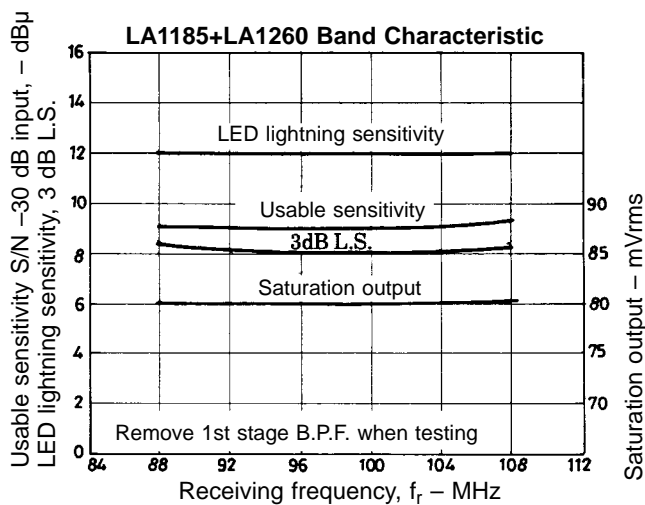
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## Sample Application Circuit: LA1185 + LA1260 US band



Unit (resistance:  $\Omega$ , 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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