

Monolithic Linear IC



LA1186N

FM Front End for Radio-Cassette Recorders, Music Centers

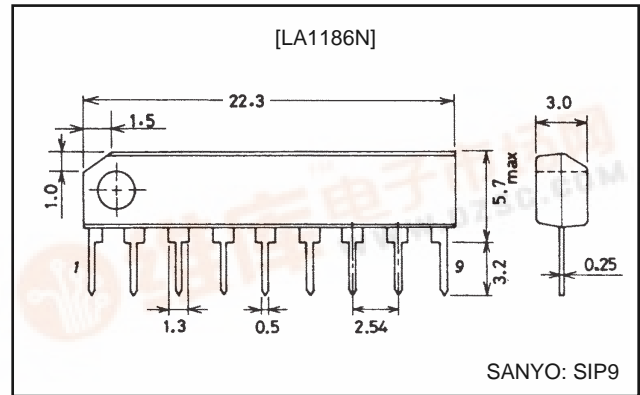
Features and Functions

- Contains RF amplifier, MIX, OSC, AFC diode.
- Operating voltage : 1.8 to 8.0V.
- Improvement in cross modulation characteristic due to the use of double-balanced MIX.
- Improvement in strong input characteristic.
- Minimum number of external parts required.
- Less spurious radiation from local OSC.
- TV (1 to 12 channel) receive capability.

Package Dimensions

unit: mm

3017C-SIP9



Specifications

Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V _{CC} max		8.0	V
Maximum pin voltage	V ₃₋₅		12	V
	V ₆₋₅		V _{CC} +0.8	V
Allowable power dissipation	P _d max	T _a ≤80°C	150	mW
Operating temperature	T _{opr}		-20 to +80	°C
Storage temperature	T _{stg}		-40 to +125	°C

Operating Conditions at Ta=25°C

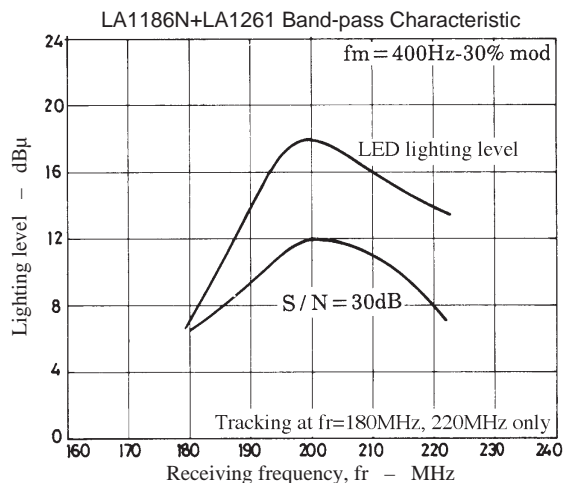
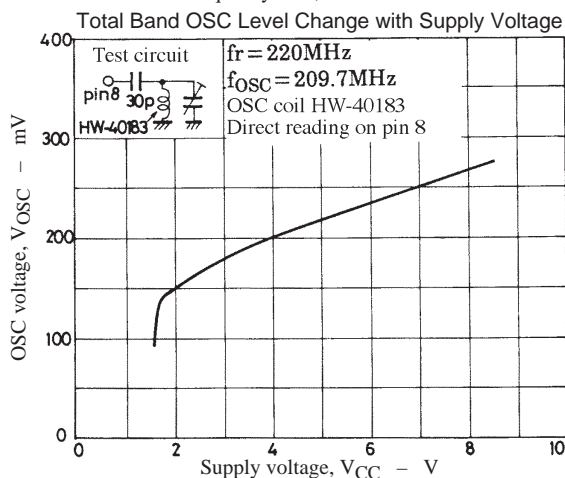
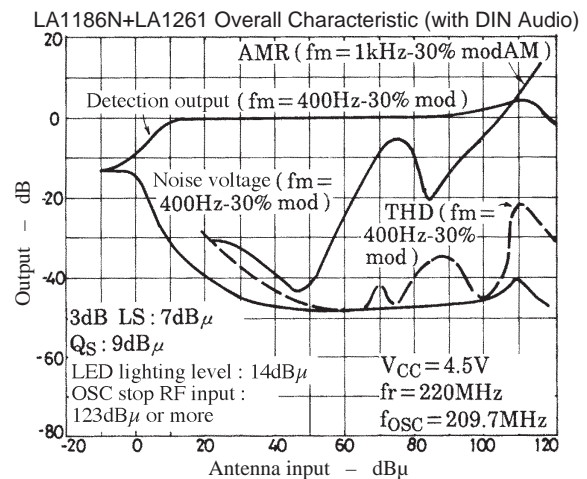
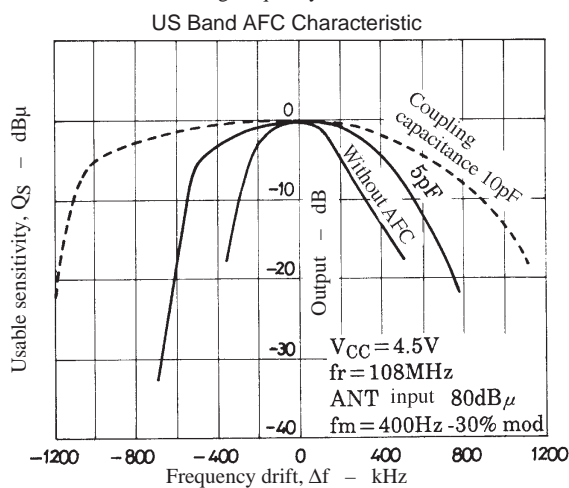
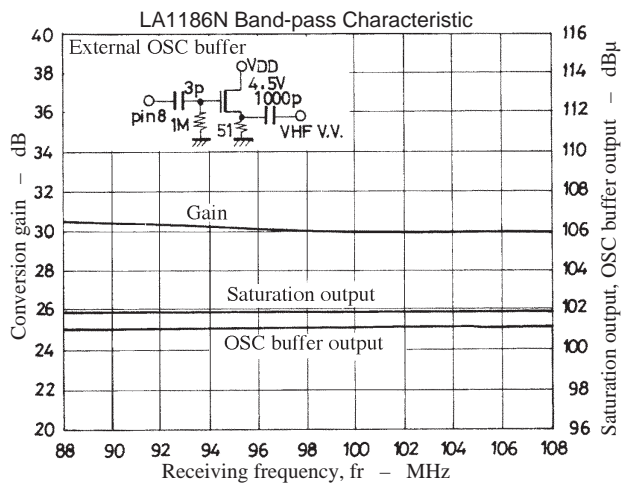
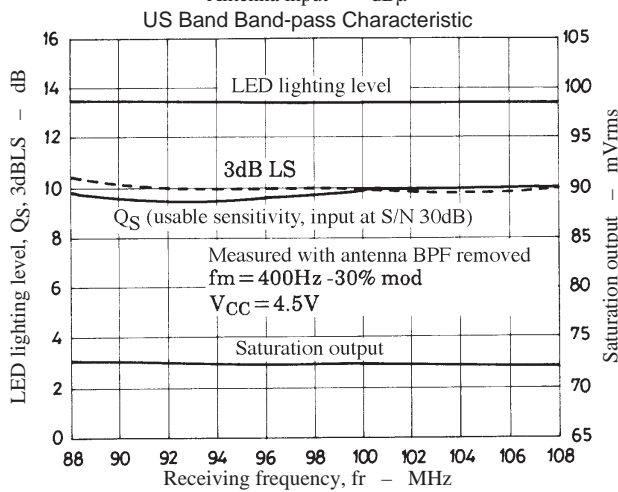
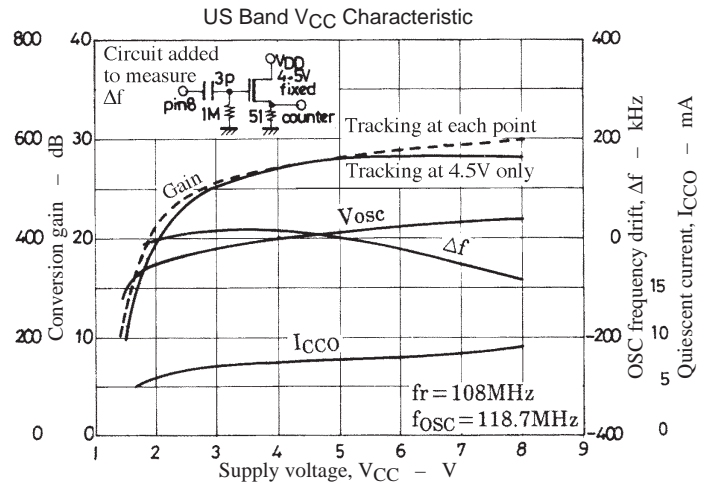
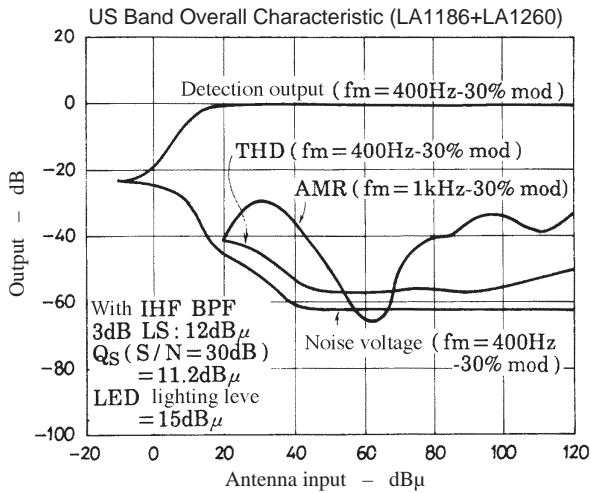
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V _{CC}		4.5	V
Operating voltage range	V _{CC} op		1.8 to 7.5	V

Electrical Characteristics at Ta=25°C, V_{CC}=4.5V, f_r=108MHz, f_{OSC}=118.7MHz, See specified Test Circuit.

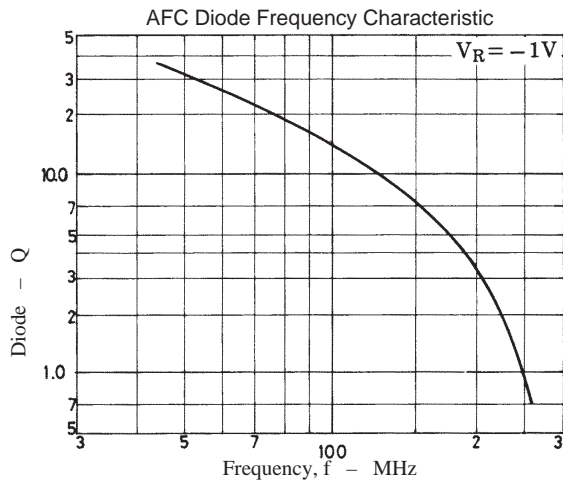
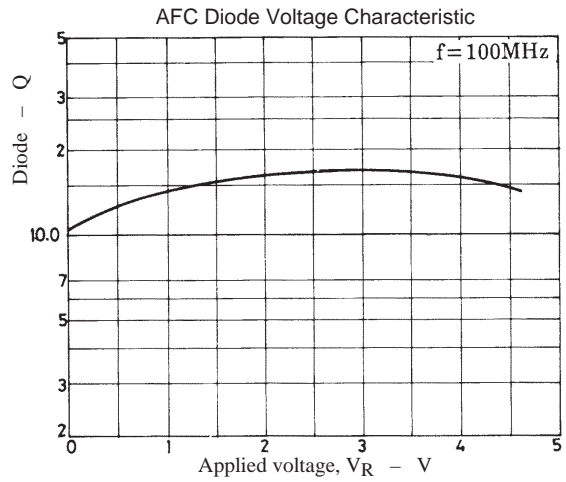
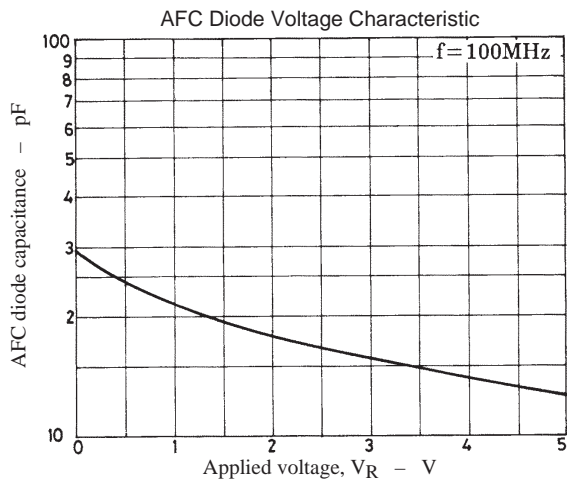
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current dissipation	I _{CC}	Quiescent		7.0	9.5	mA
Output saturation voltage	V _o	V _{IN} =100dBμ	95	115	135	V
Local OSC voltage	V _{OSC}	V _{CC} =2V	200	315		mVrms
Oscillation stop voltage				1.4	1.8	V



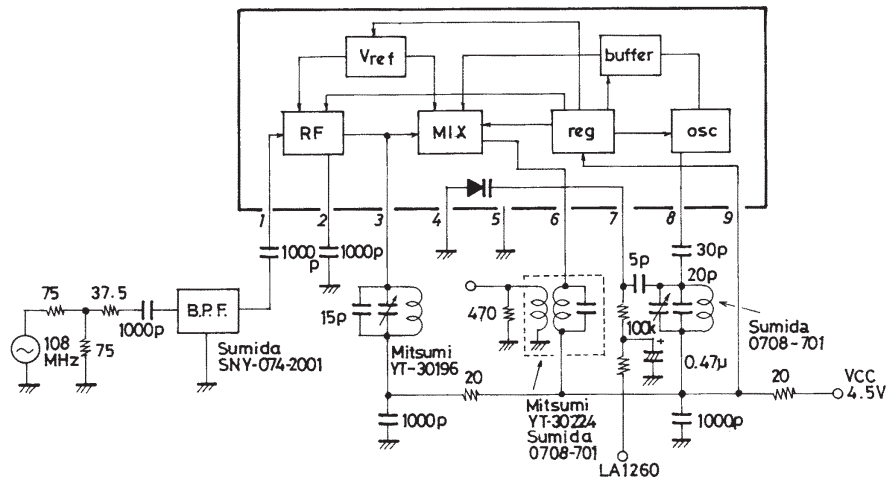
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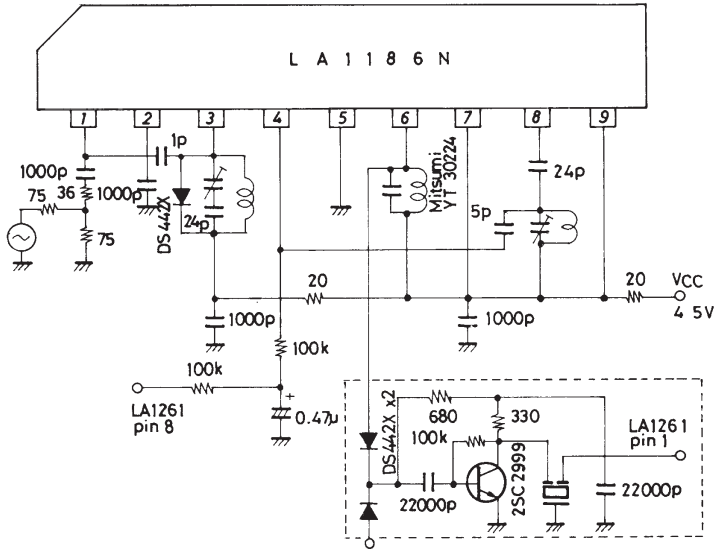
US Band Test Circuit



Unit (resistance : Ω , capacitance : F)

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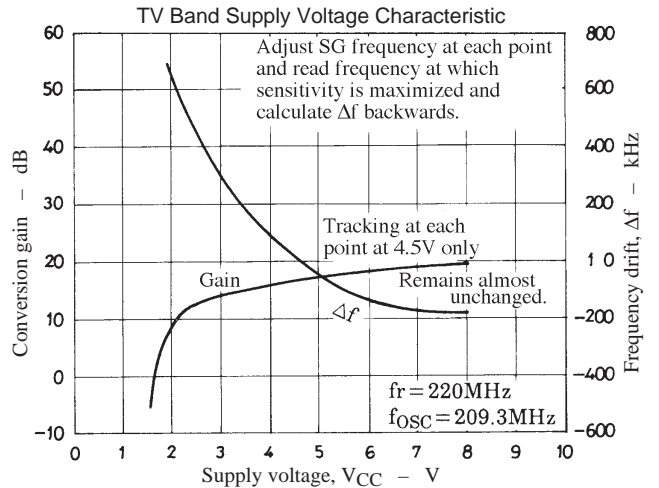
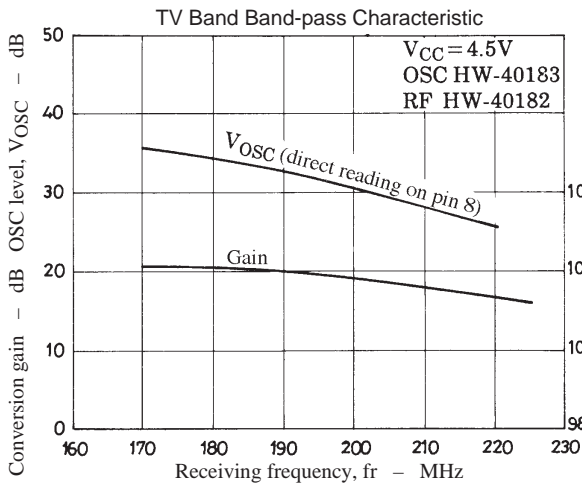
Sample Application Circuit for TV Band



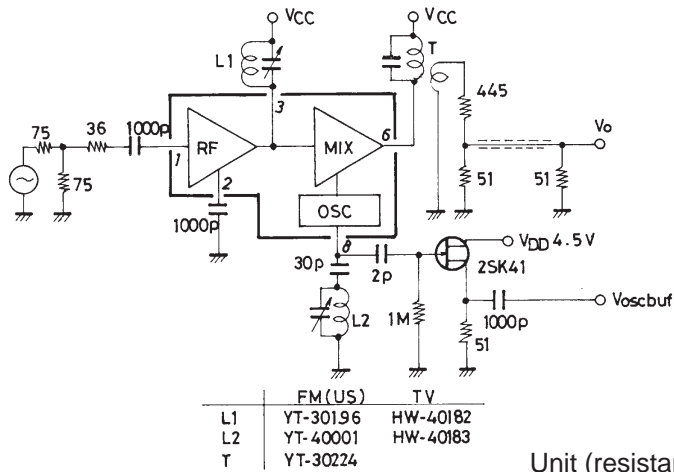
FM band LA1186 MIX output

TV band (4 to 12ch),
FM band (FM + TV1 to 3ch)
Select circuit

Unit (resistance : Ω, capacitance : F)

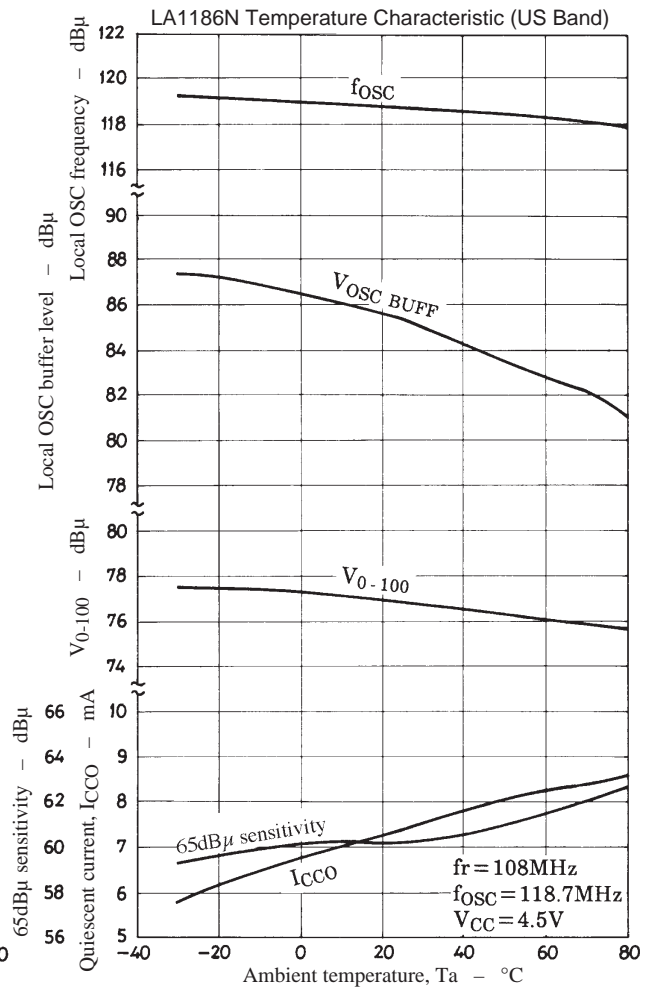
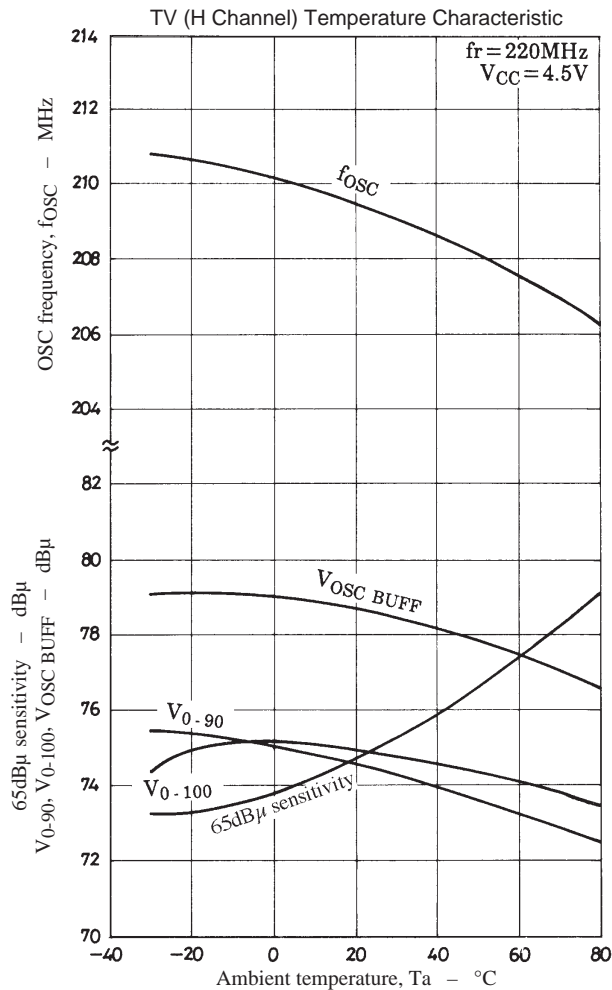


LA1186N Temperature Characteristic Test Circuit



Unit (resistance : Ω, capacitance : F)

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(Note) 65dB μ sensitivity : Input at 65 dB μ in Temperature Characteristic Test Circuit

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