

**LA1186N**

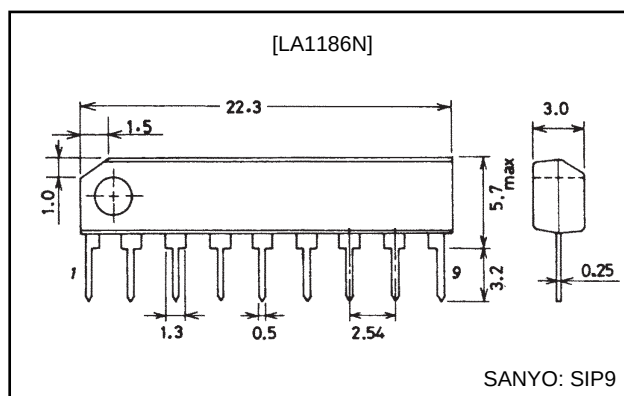
FM Front End for Radio-Cassette Recorders, Music Centers

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

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		8.0	V
Maximum pin voltage	V3-5		12	V
	V6-5		$V_{CC}+0.8$	V
Allowable power dissipation	P_d 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 $+125$	$^\circ\text{C}$

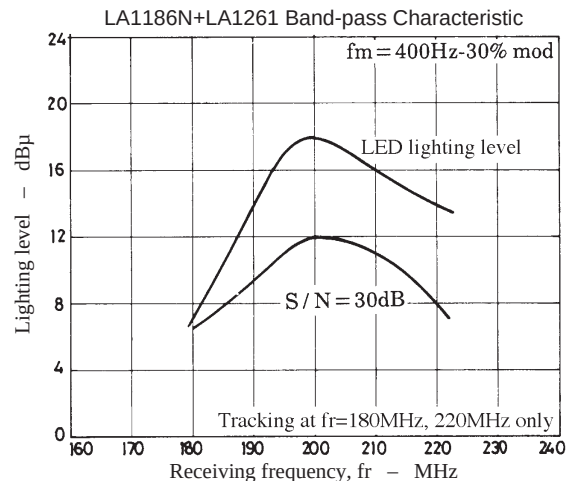
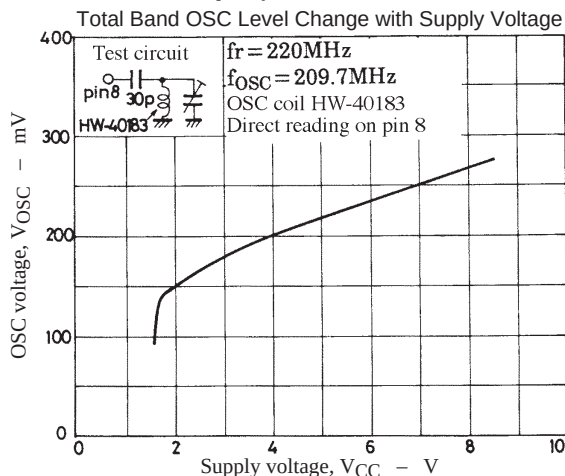
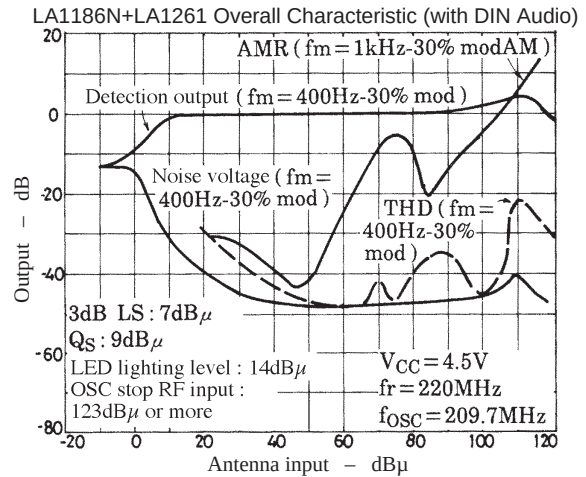
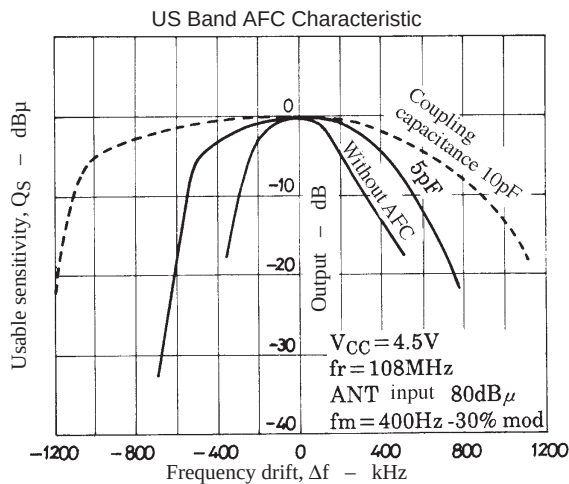
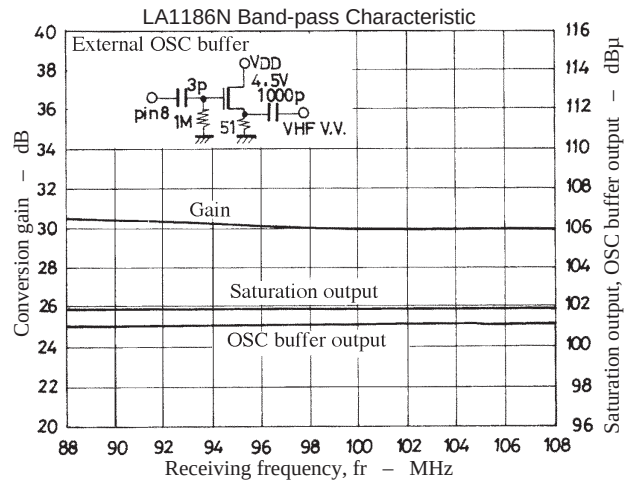
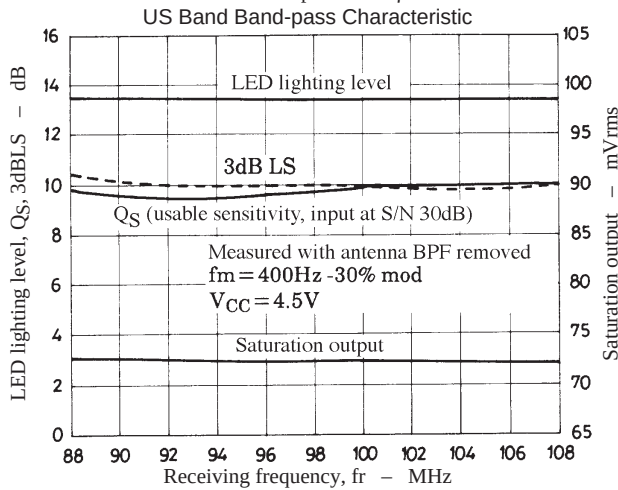
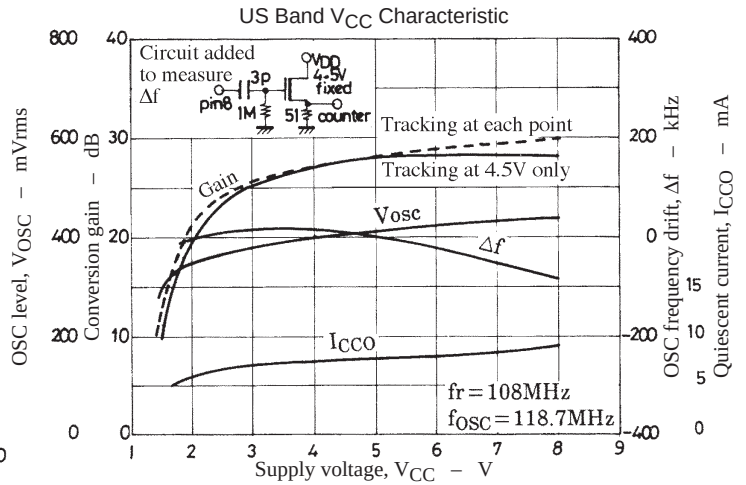
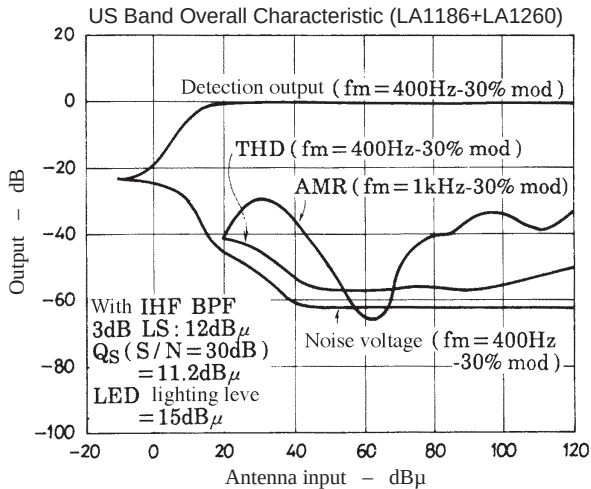
Operating Conditions at $T_a=25^\circ\text{C}$

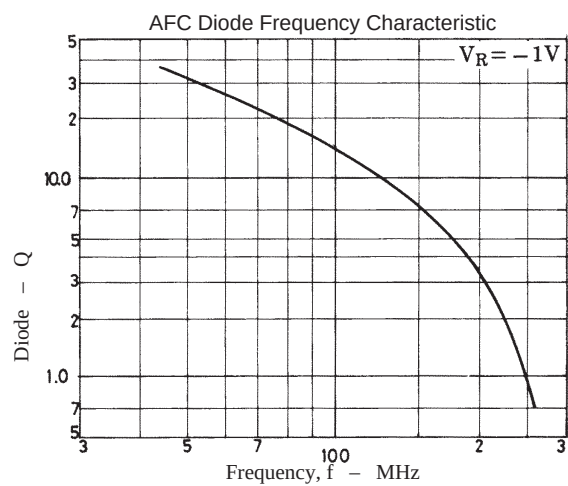
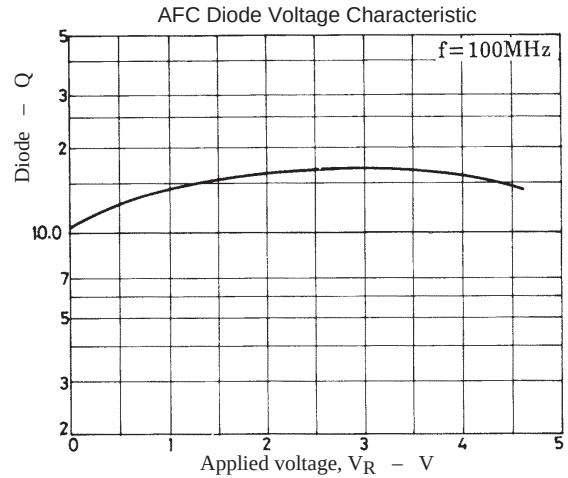
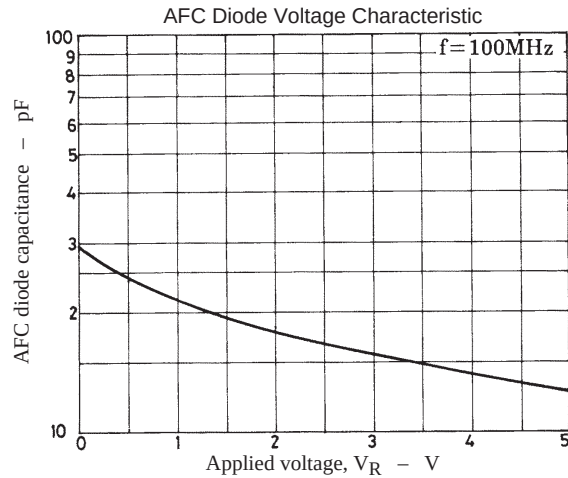
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		4.5	V
Operating voltage range	V_{CC} op		1.8 to 7.5	V

Electrical 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.

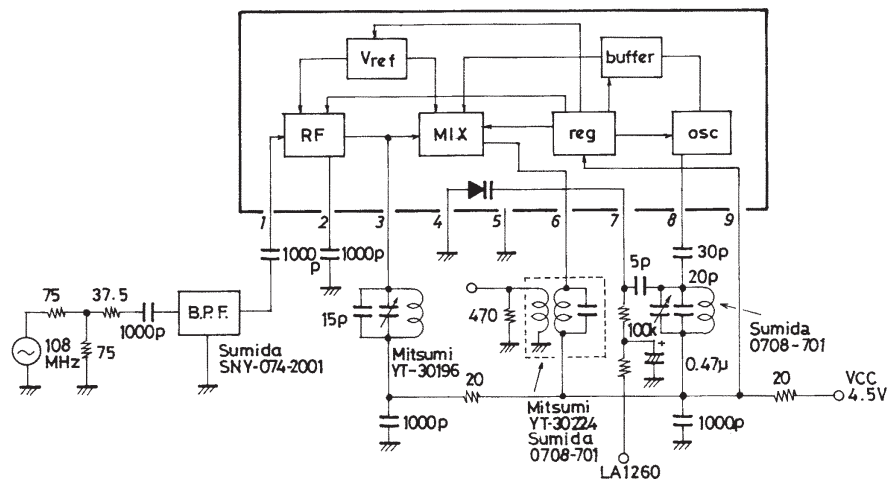
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current dissipation	I_{CC}	Quiescent		7.0	9.5	mA
Output saturation voltage	V_o	$V_{IN}=100\text{dB}\mu$	95	115	135	V
Local OSC voltage	V_{OSC}	$V_{CC}=2\text{V}$	200	315		mVrms
Oscillation stop voltage				1.4	1.8	V

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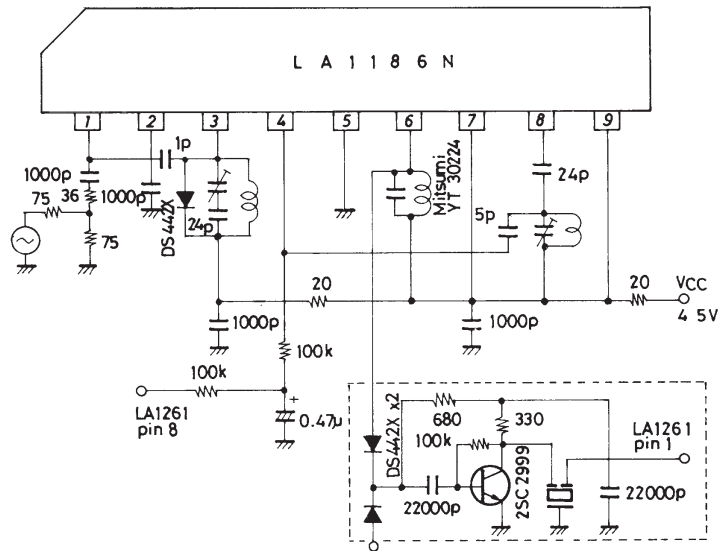




US Band Test Circuit



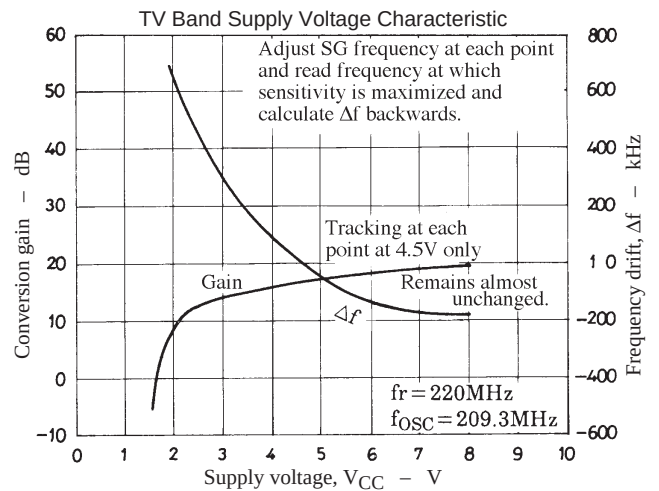
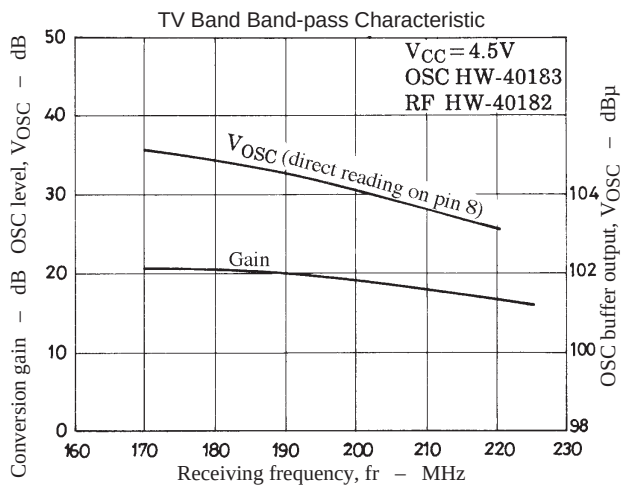
Sample Application Circuit for TV Band



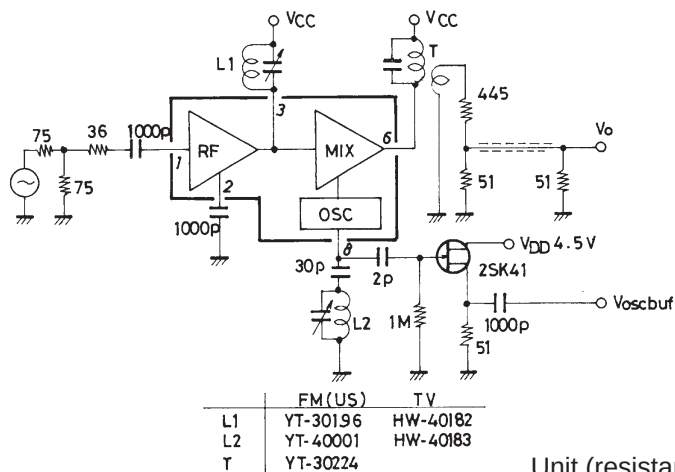
FM band LA1186 MIX output

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

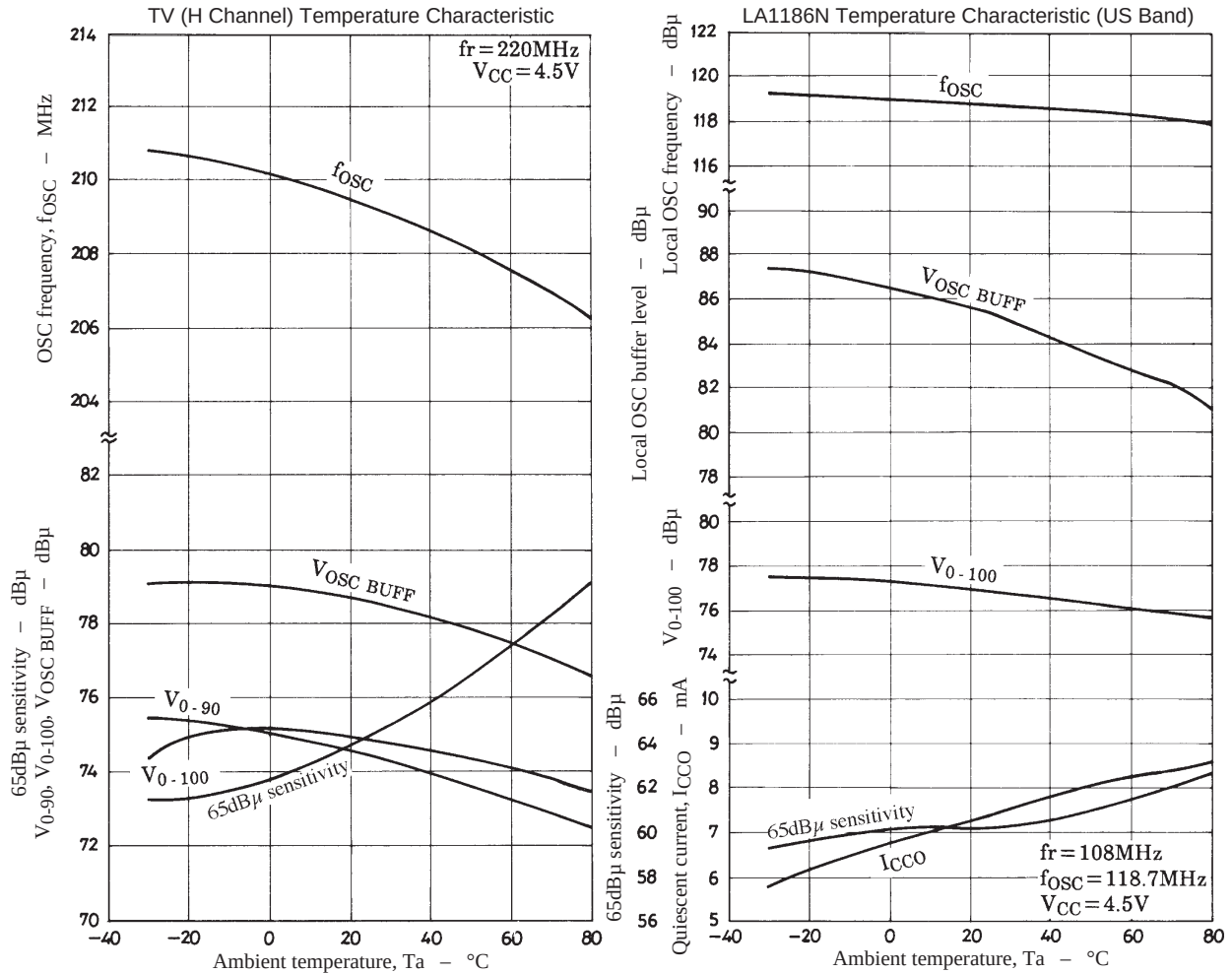
Unit (resistance : Ω , capacitance : F)



LA1186N Temperature Characteristic Test Circuit



Unit (resistance : Ω , capacitance : F)



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

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