Ordering number : EN1840A

Monolithic Linear IC

LA1186N

FM Front End for Radio-Cassette Recorders, Music Centers

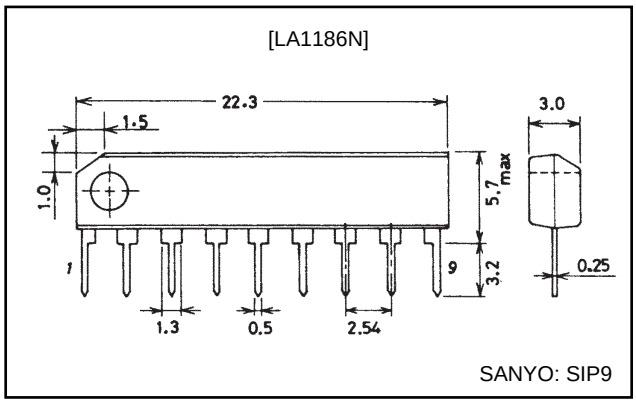
Features and Functions

- 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	V3-5		12	V
	V6-5		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

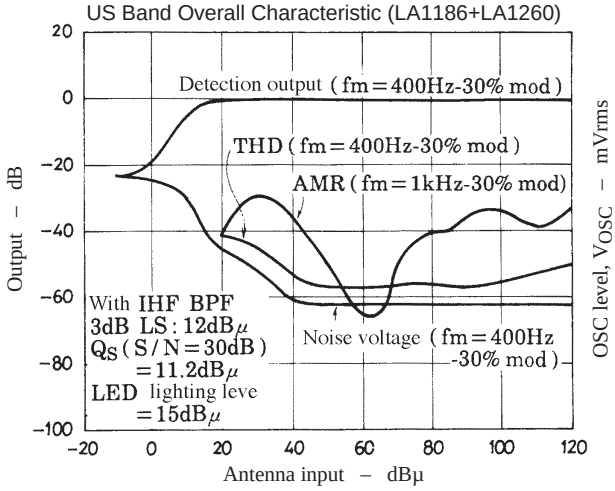
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		4.5	V
Operating voltage range	V_{CC} op		1.8 to 7.5	V

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

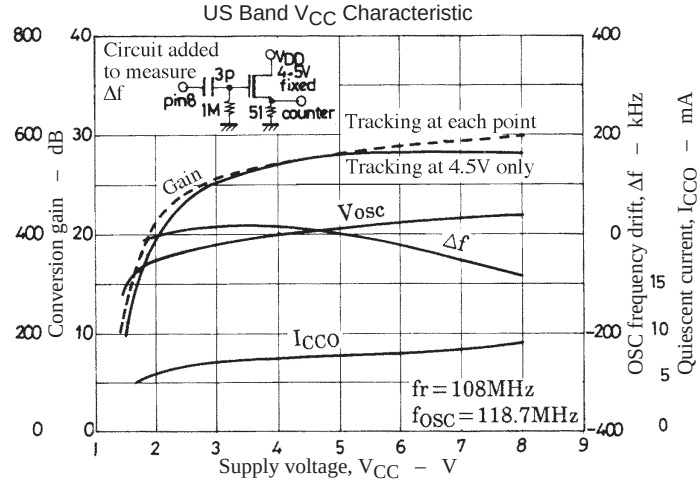
Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current dissipation	I_{CC}	Quiescent		7.0	9.5	mA
Output saturation voltage	Vo	V_{IN}=100dBμ	95	115	135	V
Local OSC voltage	V_{OSC}	V_{CC}=2V	200	315		mVrms
Oscillation stop voltage				1.4	1.8	V

SANYO Electric Co.,Ltd. Semiconductor Bussiness Headquarters
TOKYO OFFICE Tokyo Bldg., 1-10, 1 Chome, Ueno, Taito-ku, TOKYO, 110 JAPAN

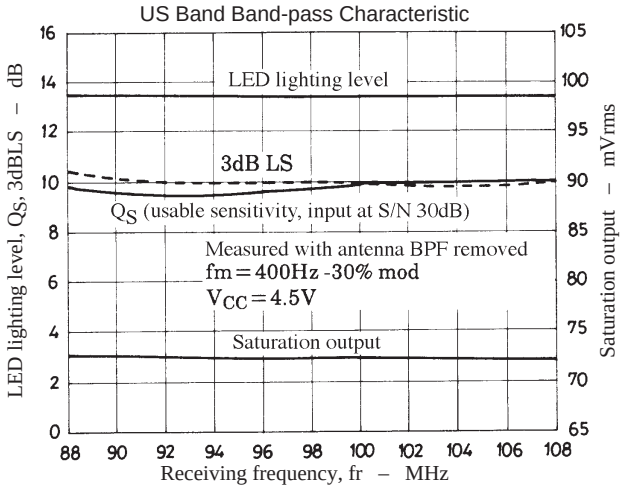
US Band Overall Characteristic (LA1186+LA1260)



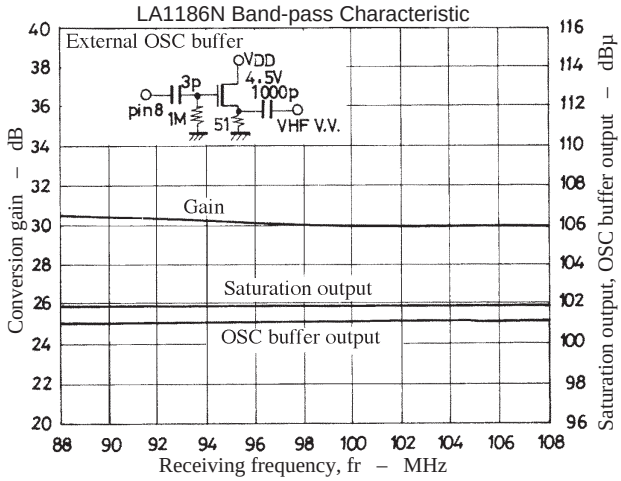
US Band V_{CC} Characteristic



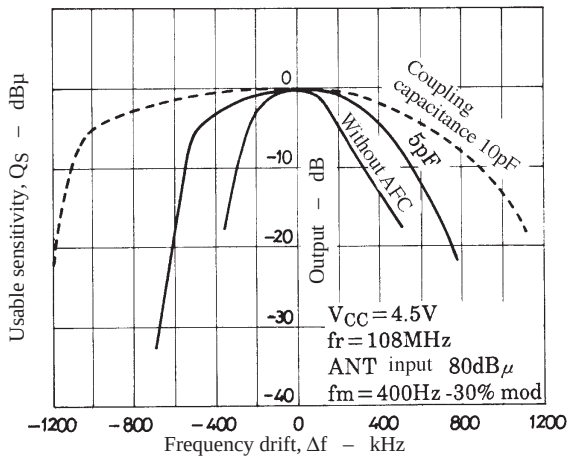
US Band Band-pass Characteristic



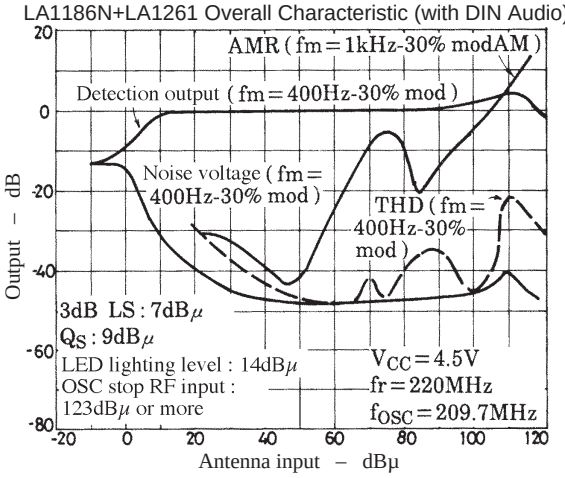
LA1186N Band-pass Characteristic



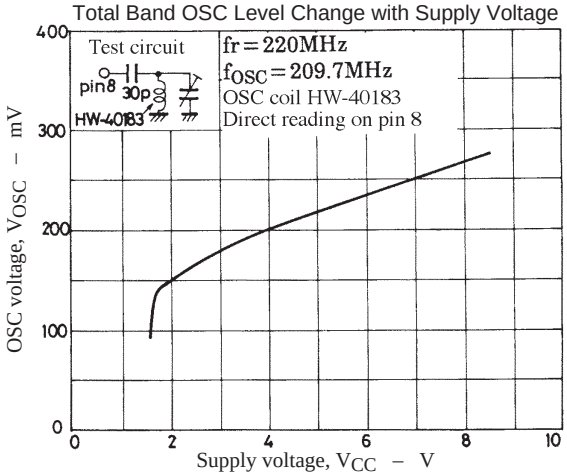
US Band AFC Characteristic



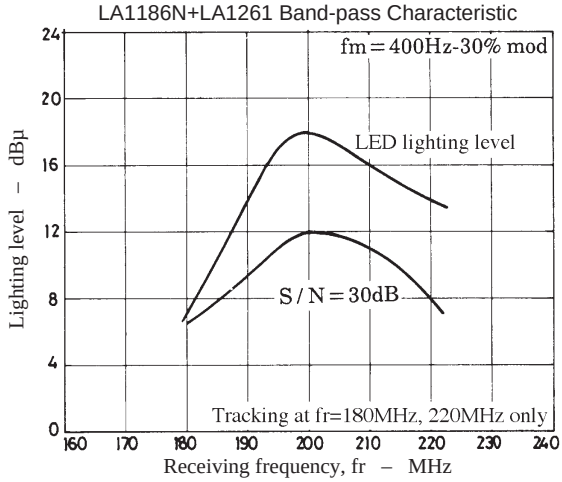
LA1186N+LA1261 Overall Characteristic (with DIN Audio)



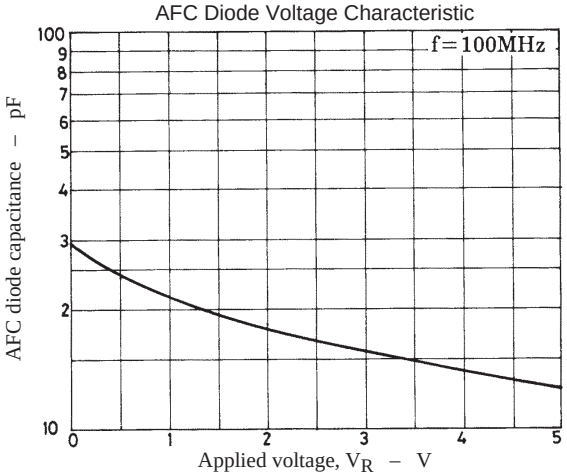
Total Band OSC Level Change with Supply Voltage



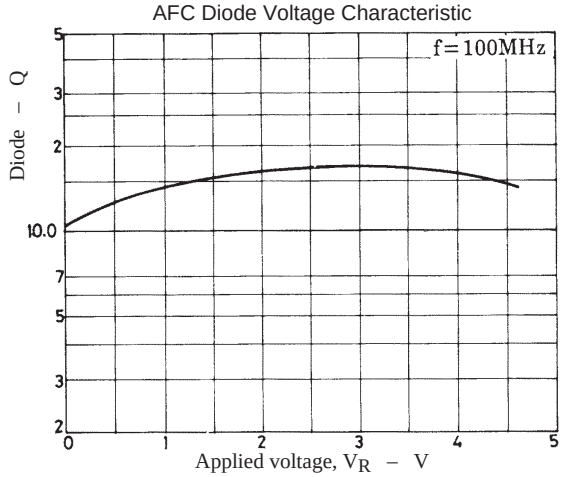
LA1186N+LA1261 Band-pass Characteristic



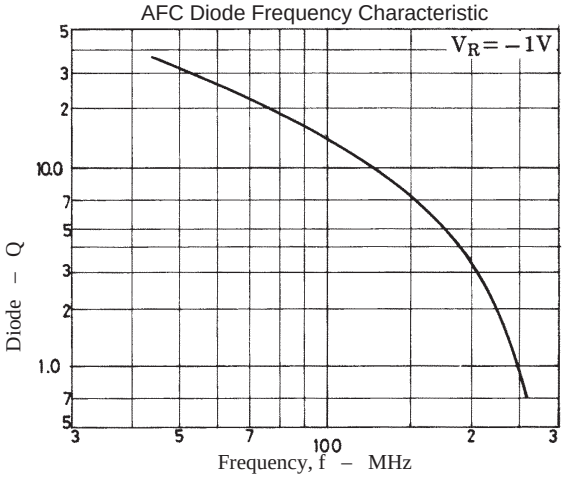
AFC Diode Voltage Characteristic



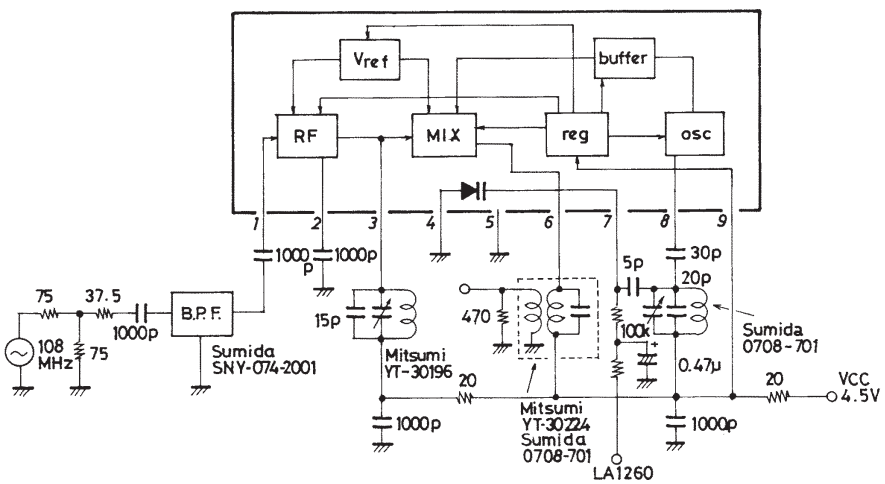
AFC Diode Voltage Characteristic



AFC Diode Frequency Characteristic

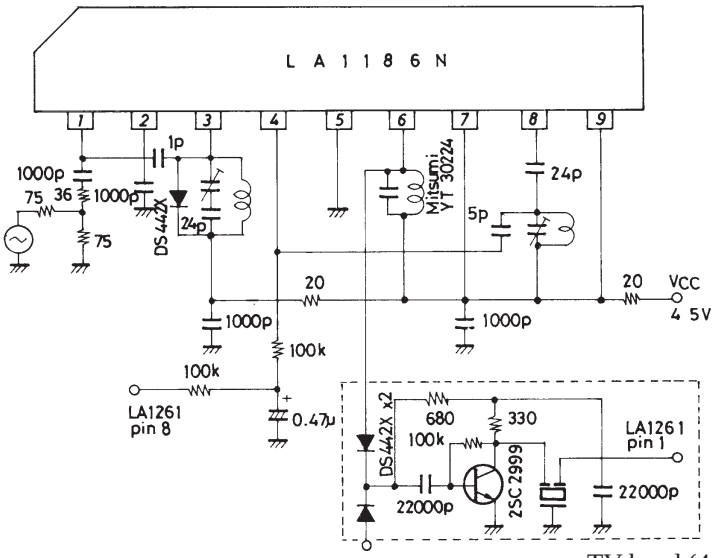


US Band Test Circuit



Unit (resistance : Ω, capacitance : F)

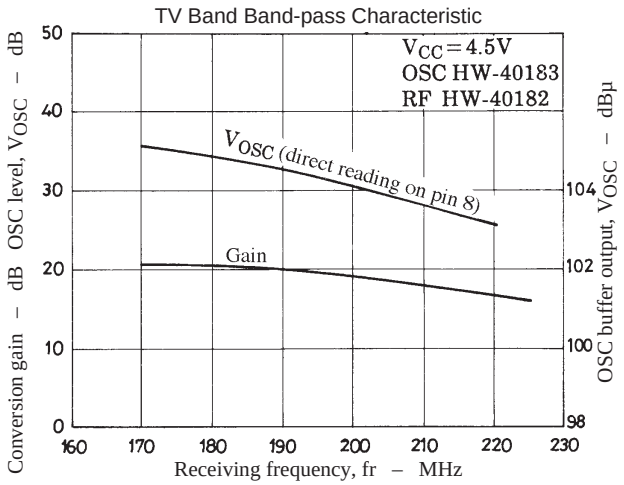
Sample Application Circuit for TV Band

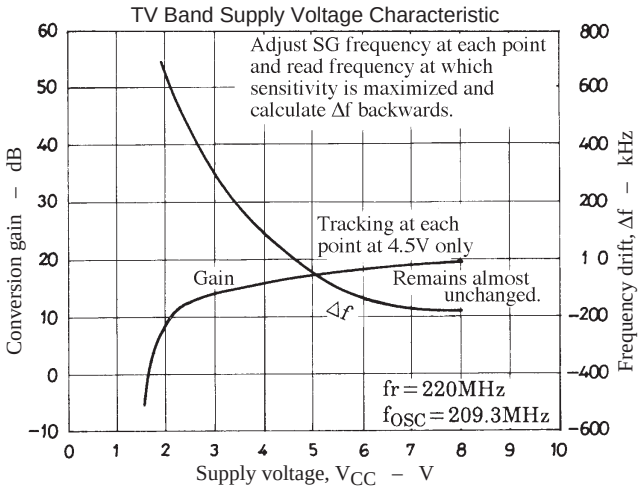


FM band LA1186 MIX output

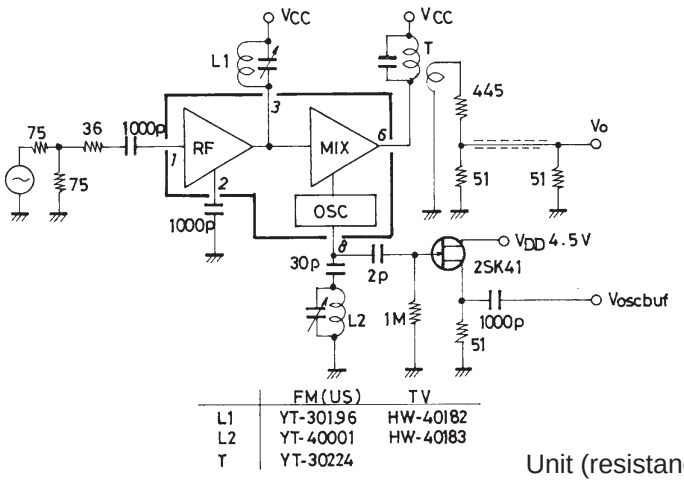
TV band (4 to 12ch),
FM band (FM + TV1 to 3ch)
Select circuit

Unit (resistance : Ω, capacitance : F)



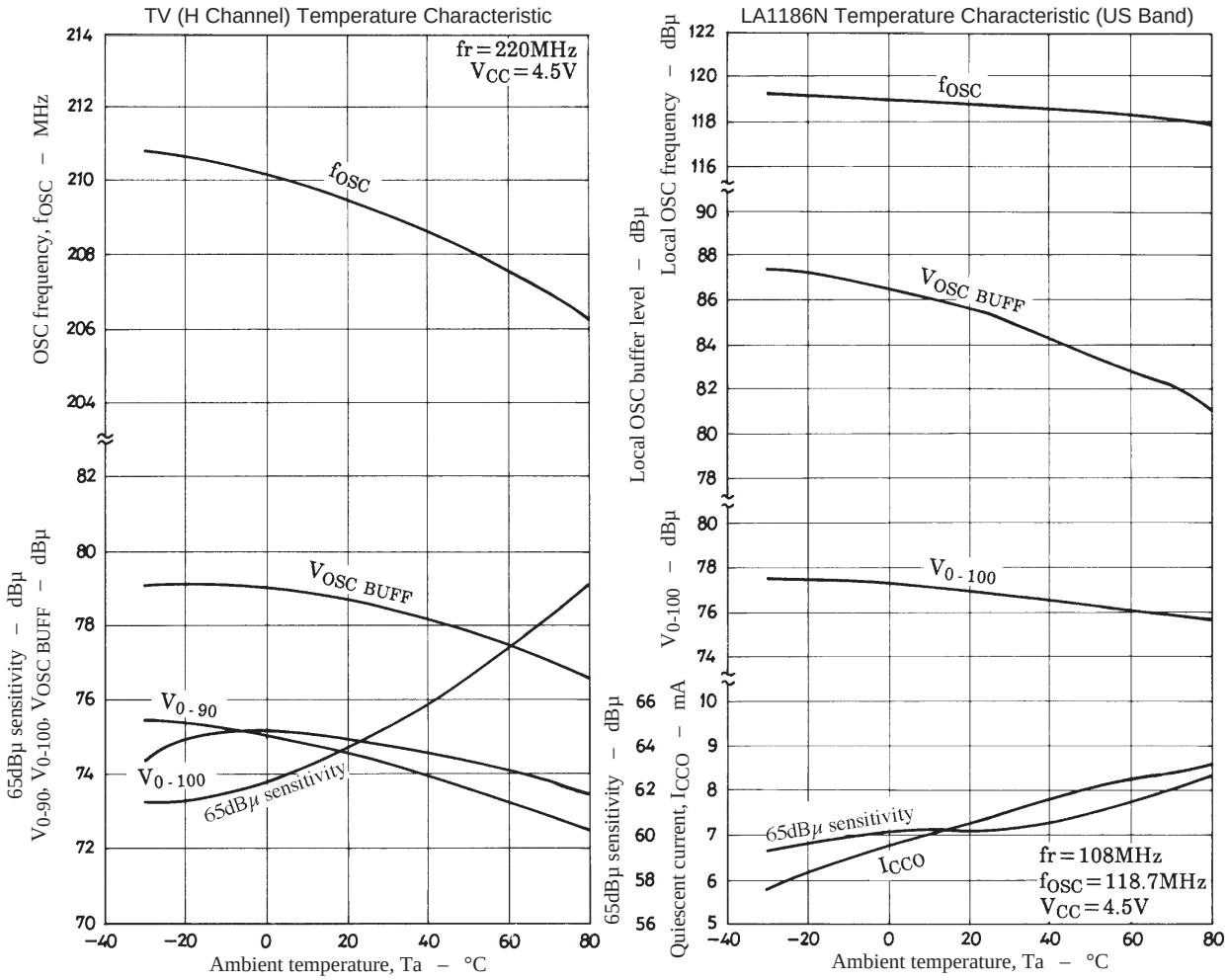


LA1186N Temperature Characteristic Test Circuit



	FM(US)	TV
L1	YT-30196	HW-40182
L2	YT-40001	HW-40183
T	YT-30224	

Unit (resistance : Ω, capacitance : F)



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

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