



LA1186N

FM Front End for Radio-Cassette Recorders, Music Centers

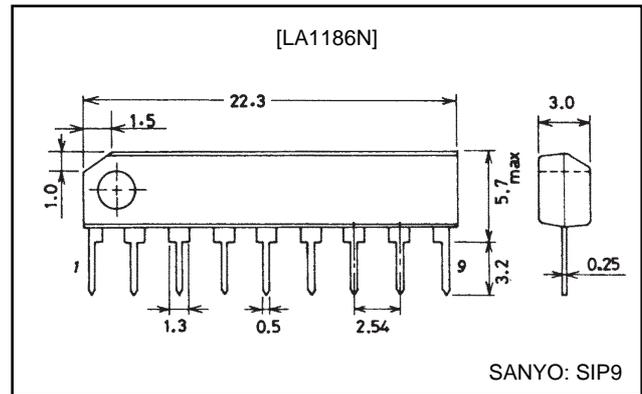
Features and Functions

- 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 |

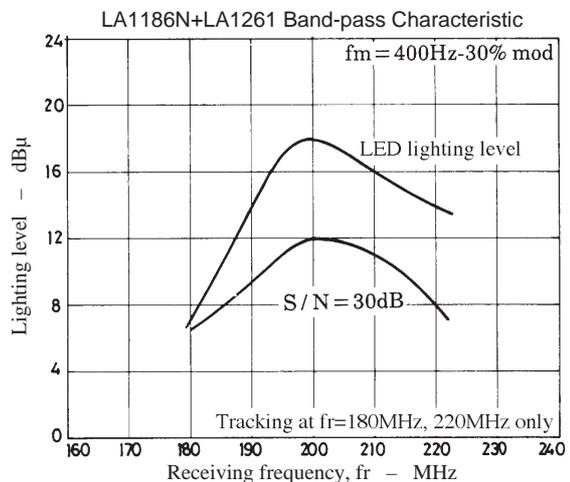
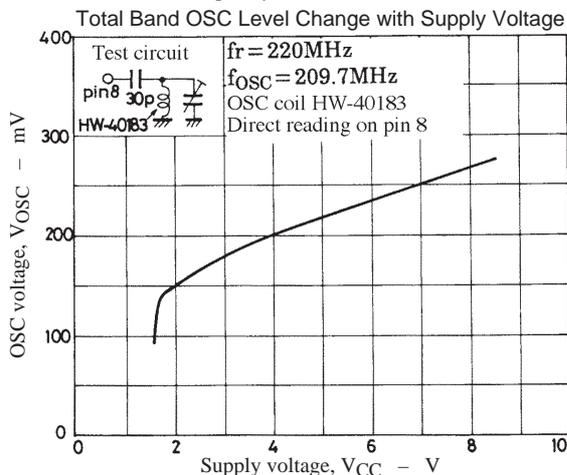
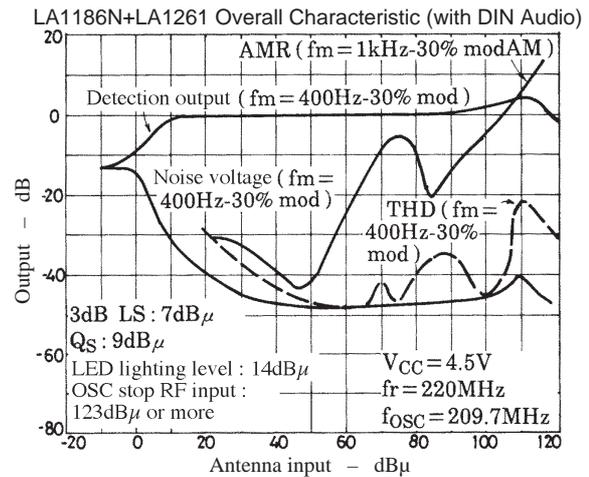
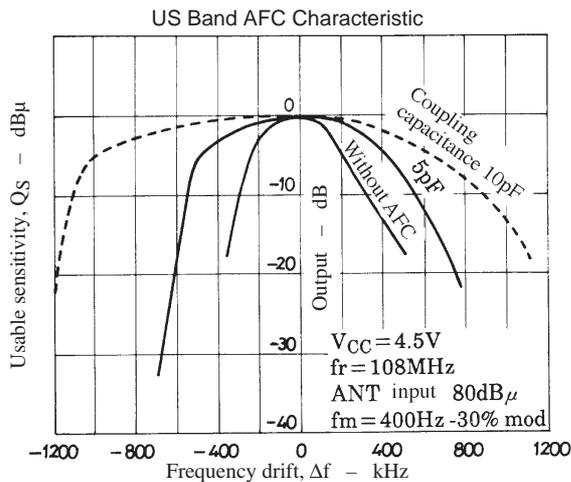
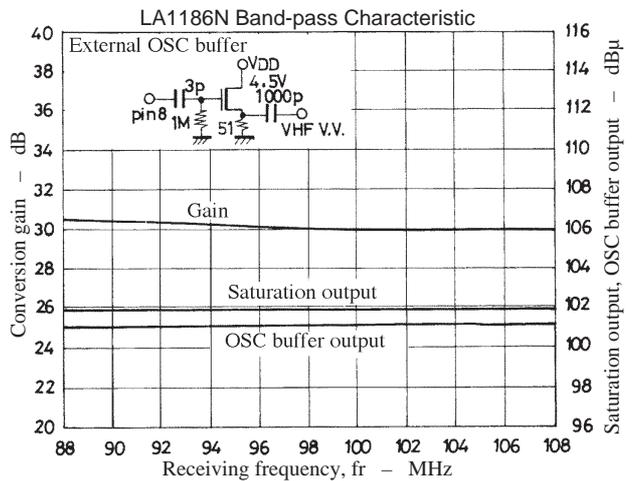
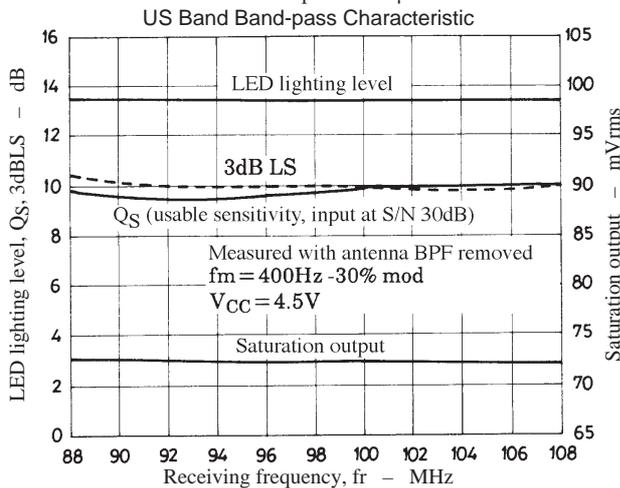
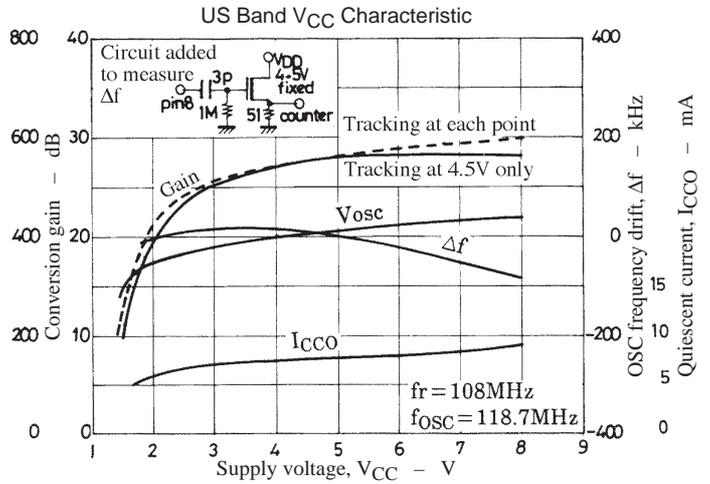
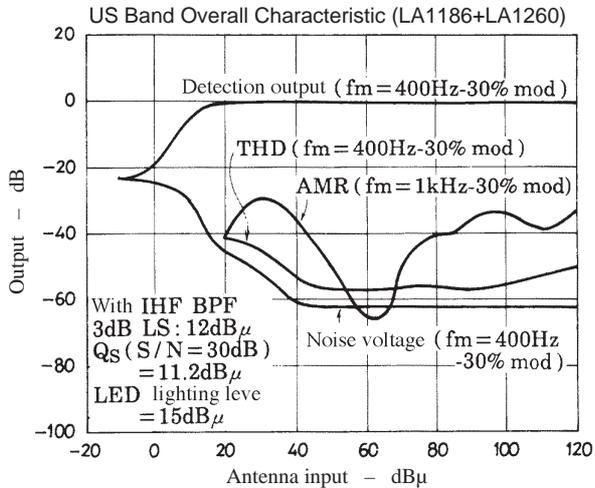
Operating Conditions at Ta=25°C

| 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 |

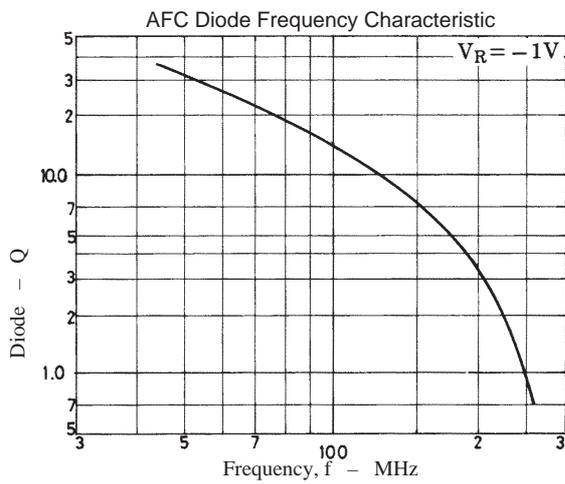
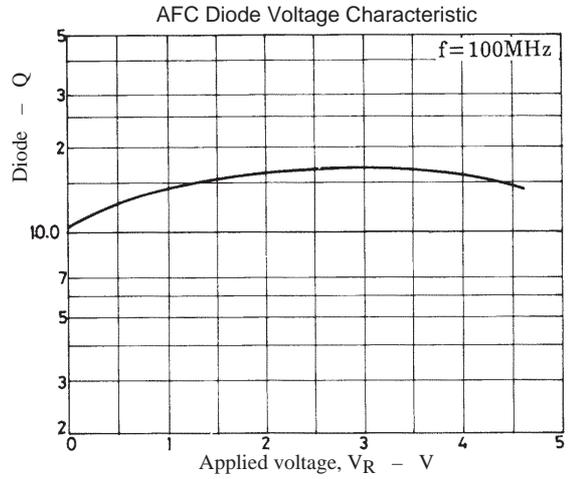
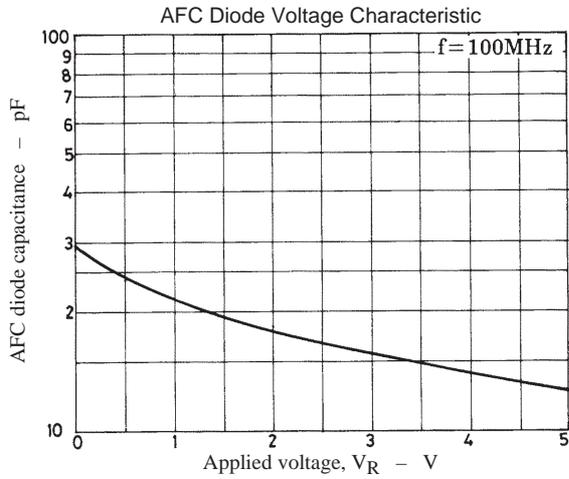
Electrical Characteristics at Ta=25°C, V_{CC}=4.5V, f_r=108MHz, f_{OSC}=118.7MHz, See specified Test Circuit.

| 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 |

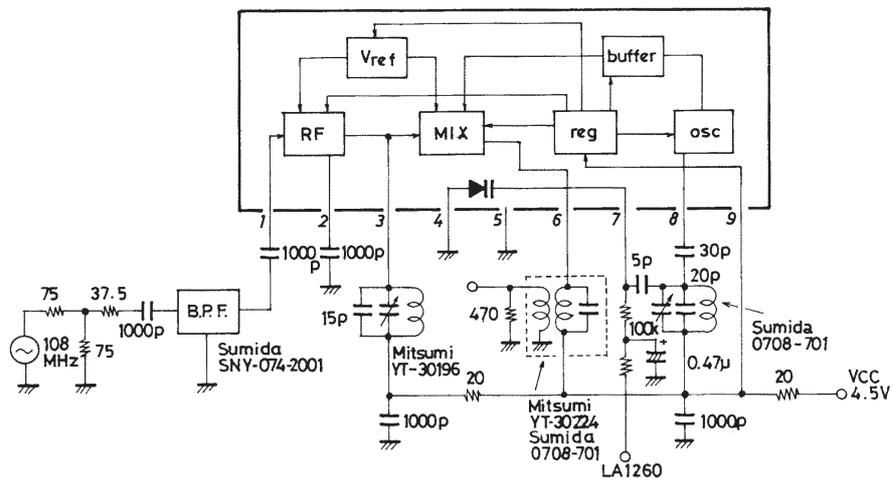
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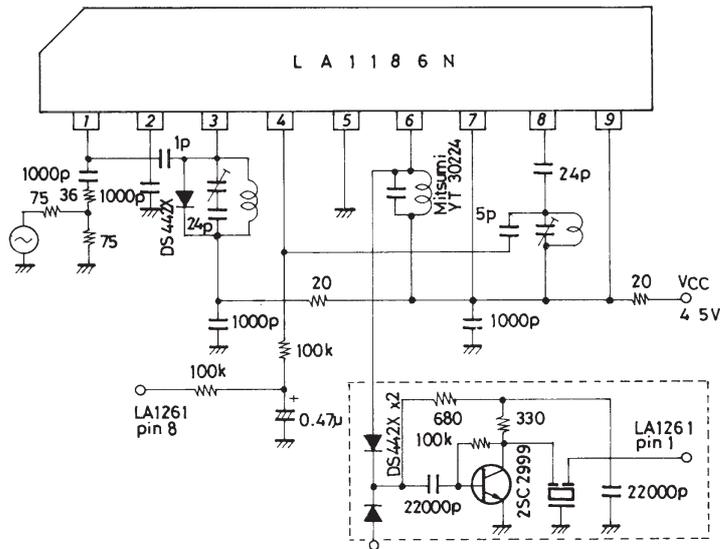
US Band Test Circuit



Unit (resistance : Ω , capacitance : F)

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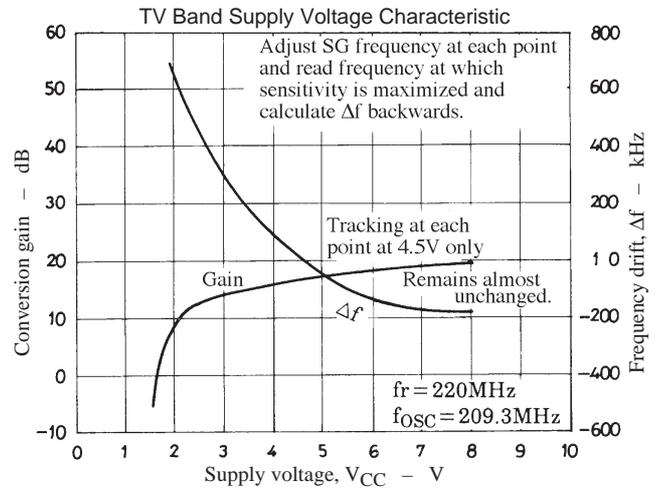
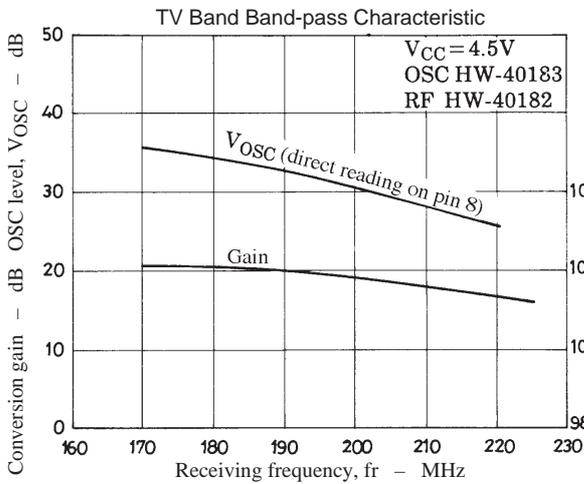
Sample Application Circuit for TV Band



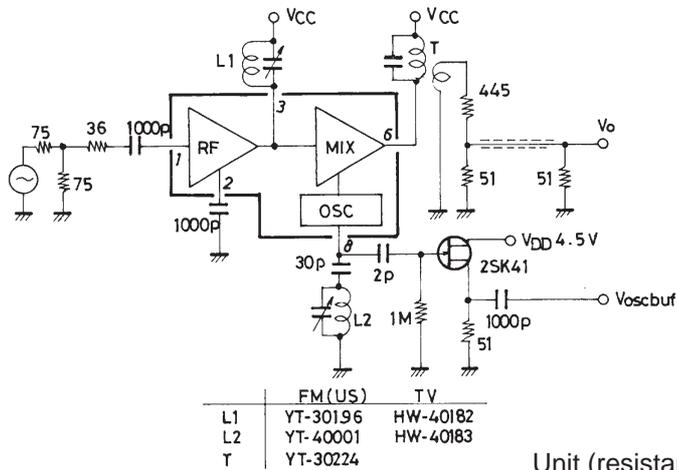
FM band LA1186 MIX output

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

Unit (resistance : Ω , capacitance : F)

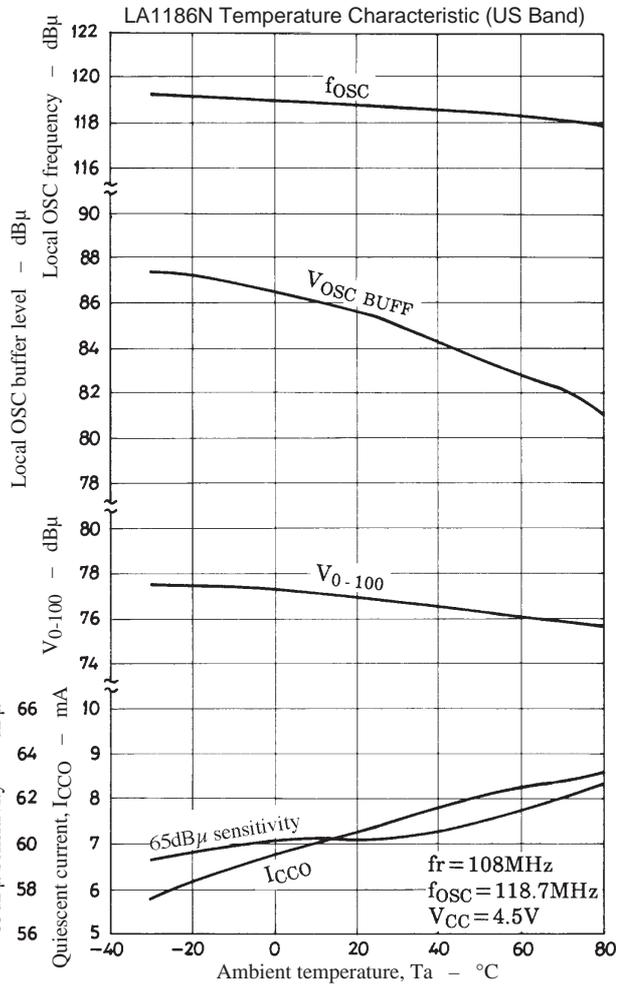
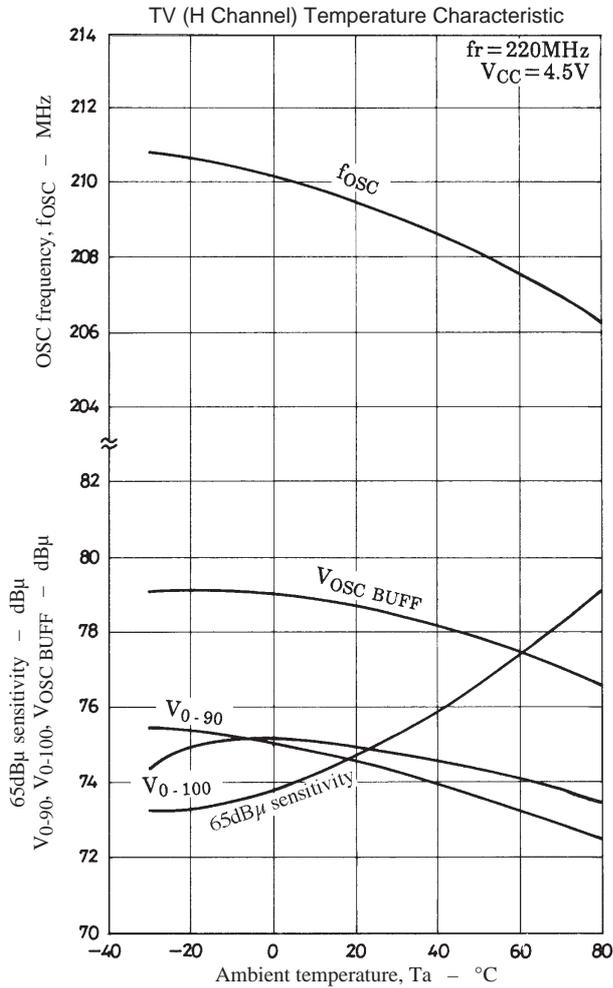


LA1186N Temperature Characteristic Test Circuit



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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