



LA1150N

FM IF Amplifier for Car Radio

Functions

- 3 stage differential IF amplifier.
- Differential peak detector.

Features

- Easy adjustment.
- Large output voltage.
- Good limiter characteristic.
- Wide operating voltage.
- Low distortion.
- Fewer peripheral parts.
- Excellent AM rejection ratio.

Specifications

Maximum Ratings at $T_a=25^{\circ}\text{C}$

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V_{CC} max		16	V
Input voltage	V_{IN}		0.7	mVrms
Allowable power dissipation	P_d max		*400	mW
Operating temperature	T_{opr}		-20 to +80	$^{\circ}\text{C}$
Storage temperature	T_{stg}		-40 to +125	$^{\circ}\text{C}$

* Derate 4mW/ $^{\circ}\text{C}$ above $T_a=25^{\circ}\text{C}$

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

Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V_{CC}		12	V

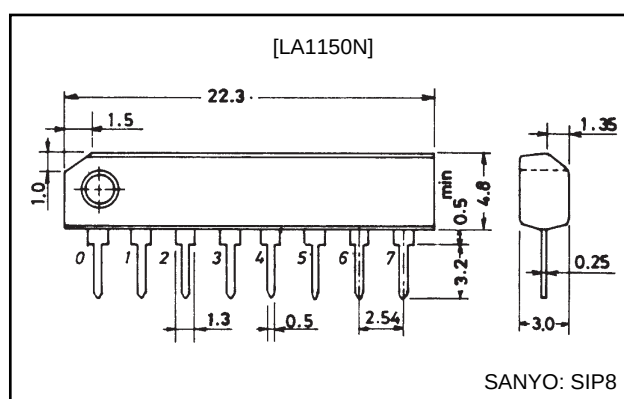
Operating Characteristics at $T_a=25^{\circ}\text{C}$, $V_{CC}=12\text{V}$, $f=10.7\text{MHz}$, $f_M=400\text{Hz}$ 100% mod.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current dissipation	I_{CC}		8	12	15	mA
DC voltage at pin 7	V_7		3.7	4.4	5.2	V
Demodulated output	V_O	$V_{IN}=80\text{dB}\mu\text{V}$	400	500	600	mVrms
Input limiting voltage	$V_{IN(lim)}$	-3dB limiting		50	55	dB μV
Total harmonic distortion	THD	$V_{IN}=80\text{dB}\mu\text{V}$		0.2	0.3	%
Signal to noise ratio	S/N	$V_{IN}=80\text{dB}\mu\text{V}$	70	80		dB
AM rejection ratio	AMR	AM 1kHz 30% mod	47	53		dB
Output resistance	r_O	$f=400\text{Hz}$	6.2	7.7	9.5	k Ω

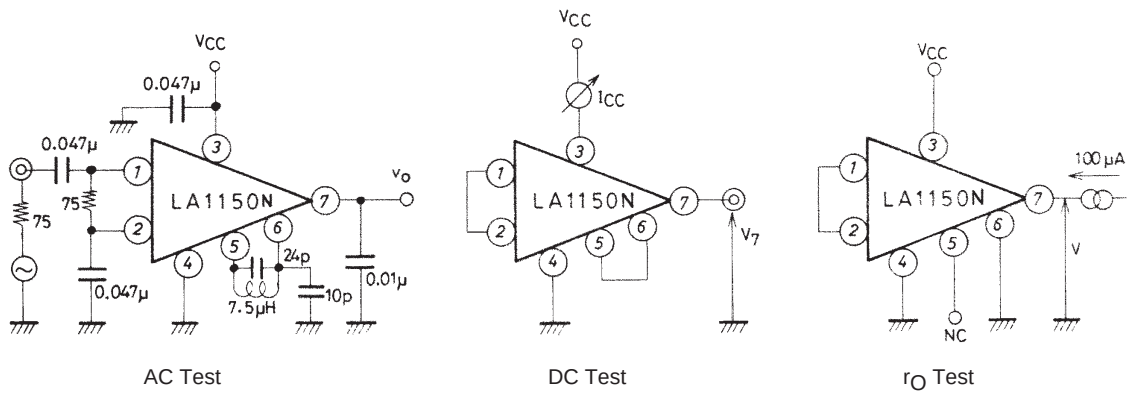
Package Dimensions

unit: mm

3060-SIP8

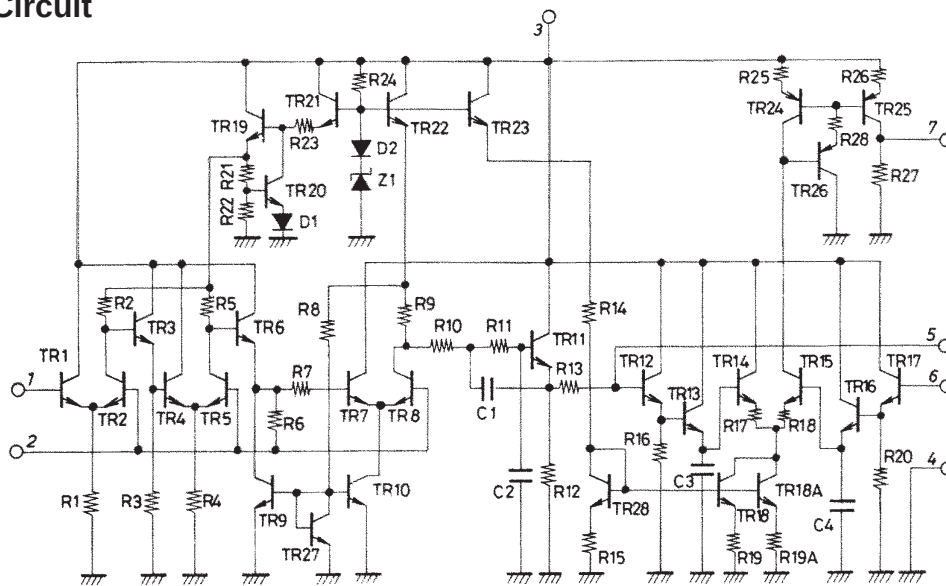


Test Circuit

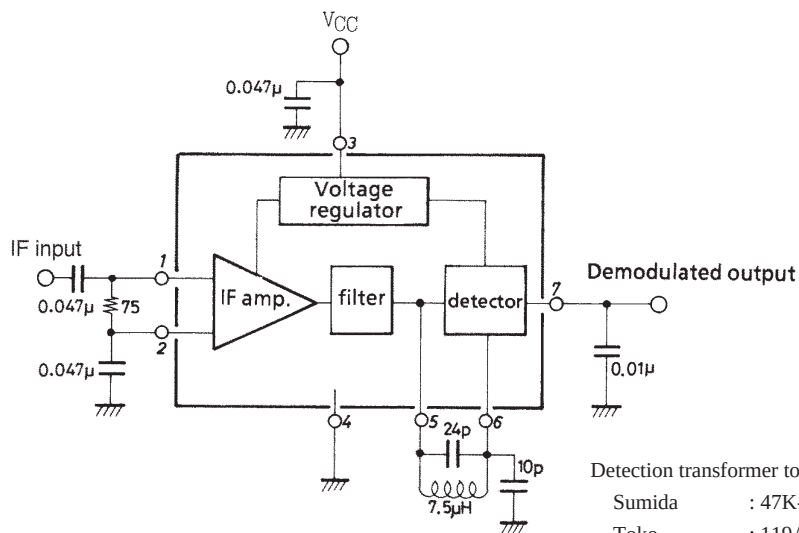


Unit (resistance : Ω , capacitance : F)

Equivalent Circuit



Sample Application Circuit



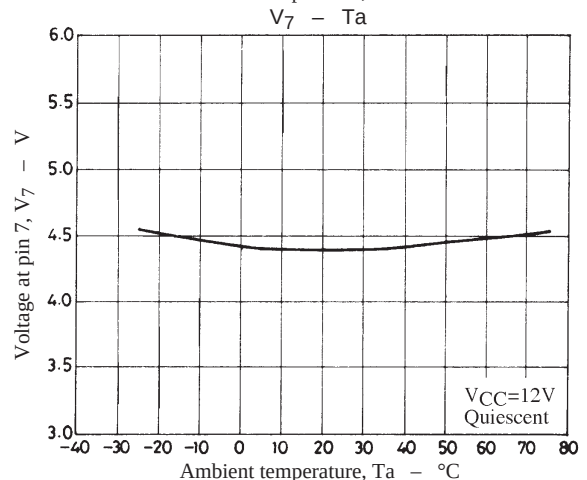
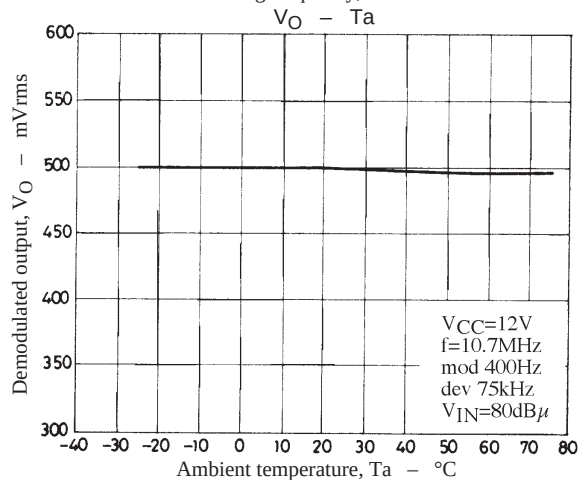
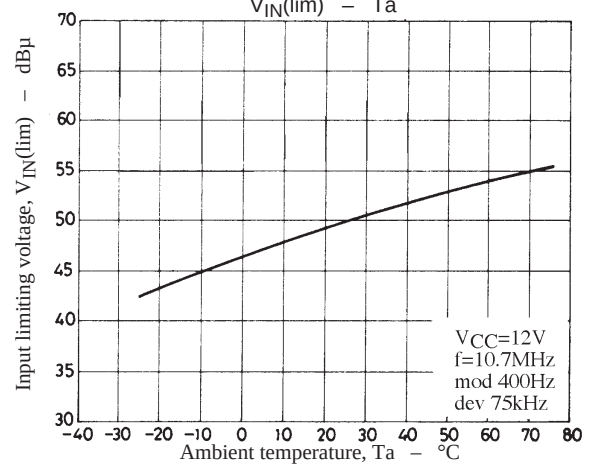
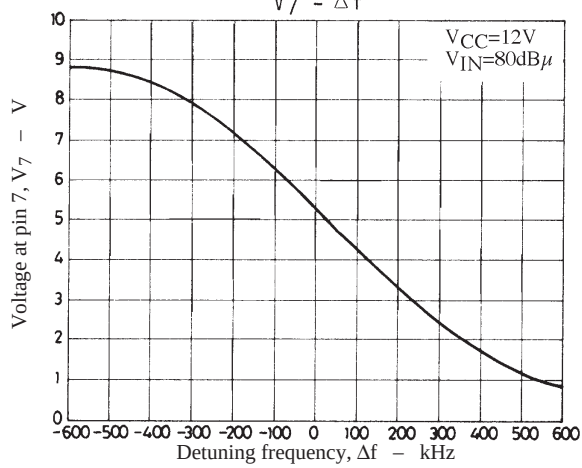
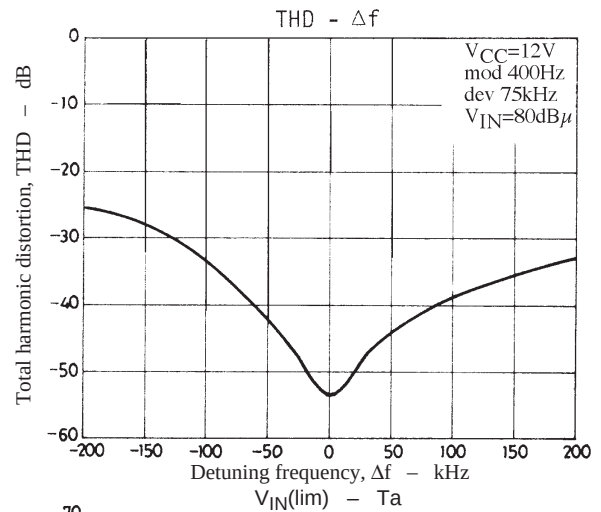
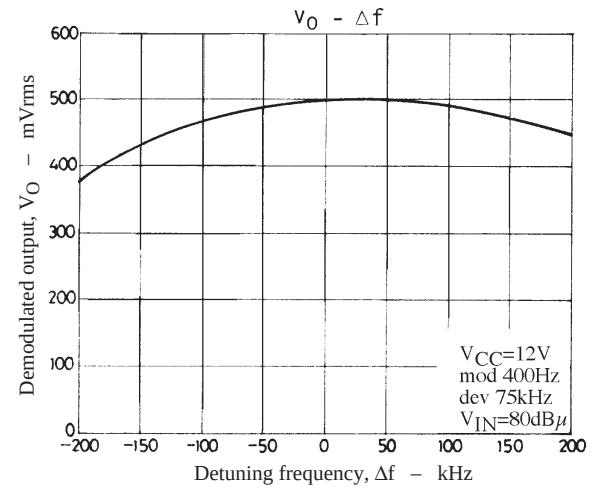
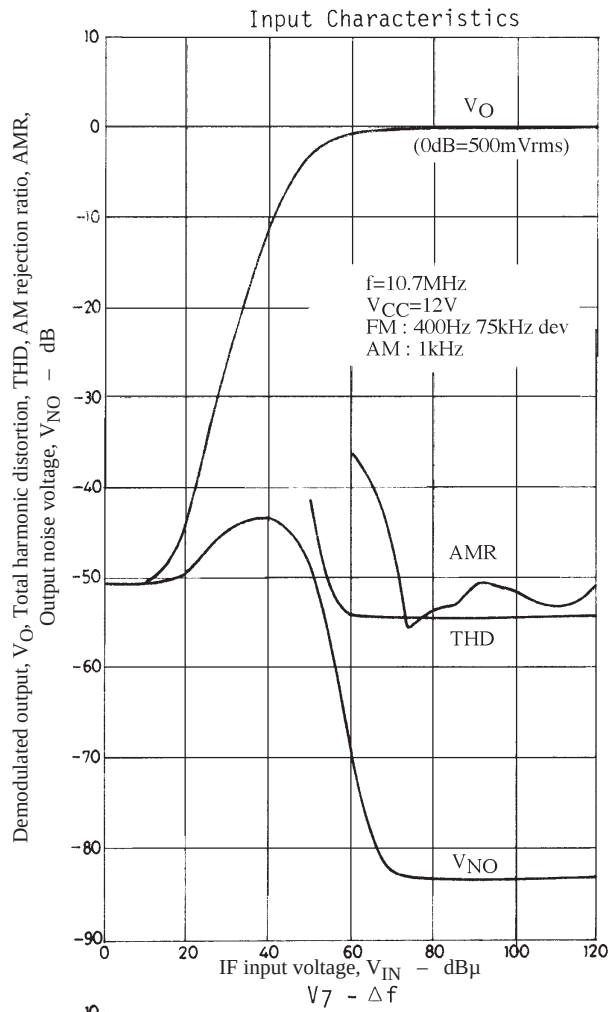
Unit (resistance : Ω , capacitance : F)

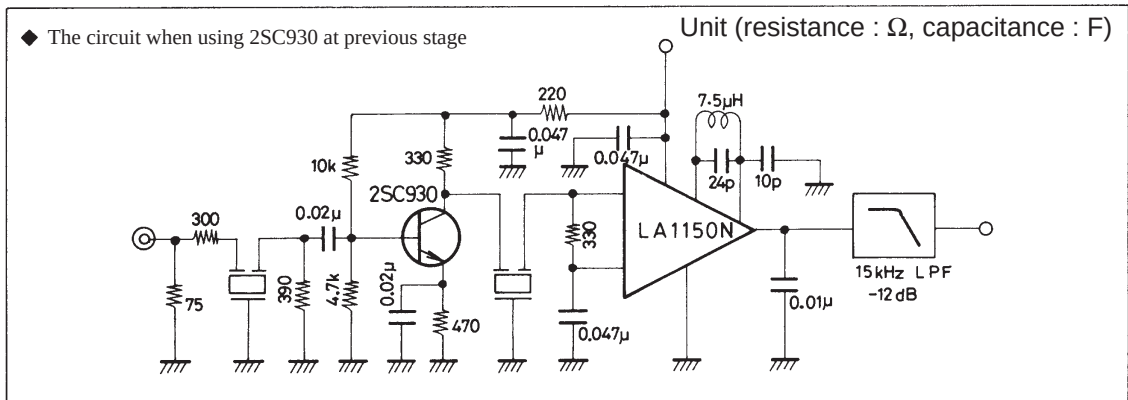
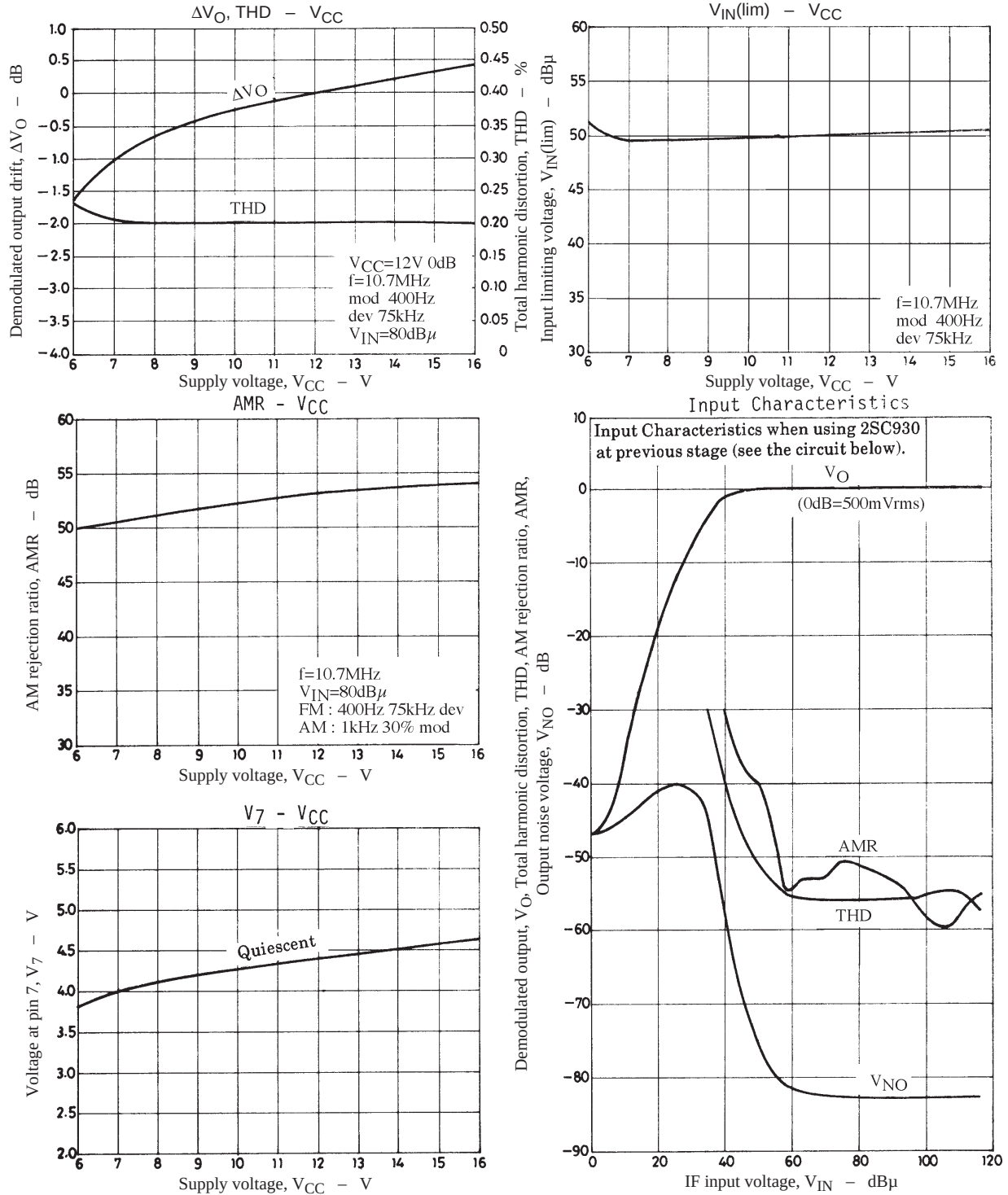
Detection transformer to be used with LA1150

Sumida : 47K-074-003, 44M-052-1440

Toko : 119AN-13922Z, 199CN-10504Z

Sankyo Musen : DC-10, DC-7





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