



# LA1150N

## FM IF Amplifier for Car Radio

### Functions

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

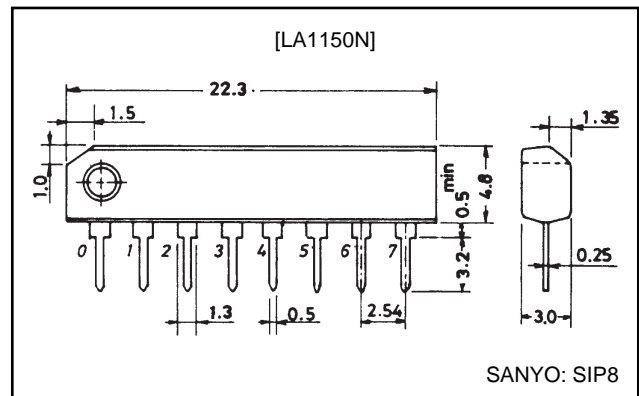
### Features

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

### Package Dimensions

unit: mm

#### 3060-SIP8



### Specifications

#### Maximum Ratings at Ta=25°C

Parameter	Symbol	Conditions	Ratings	Unit
Maximum supply voltage	V <sub>CC</sub> max		16	V
Input voltage	V <sub>IN</sub>		0.7	mVrms
Allowable power dissipation	P <sub>d</sub> max		*400	mW
Operating temperature	T <sub>opr</sub>		-20 to +80	°C
Storage temperature	T <sub>stg</sub>		-40 to +125	°C

\* Derate 4mW/°C above Ta=25°C

#### Operating Condition at Ta=25°C

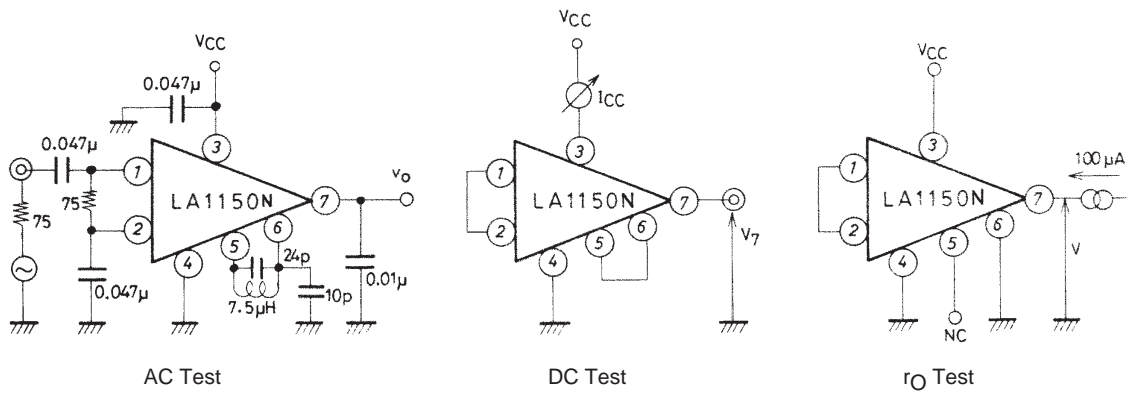
Parameter	Symbol	Conditions	Ratings	Unit
Recommended supply voltage	V <sub>CC</sub>		12	V

#### Operating Characteristics at Ta=25°C, V<sub>CC</sub>=12V, f=10.7MHz, f<sub>M</sub>=400Hz 100% mod.

Parameter	Symbol	Conditions	Ratings			Unit
			min	typ	max	
Current dissipation	I <sub>CC</sub>		8	12	15	mA
DC voltage at pin 7	V <sub>7</sub>		3.7	4.4	5.2	V
Demodulated output	V <sub>O</sub>	V <sub>IN</sub> =80dBμV	400	500	600	mVrms
Input limiting voltage	V <sub>IN(lim)</sub>	-3dB limiting		50	55	dBμV
Total harmonic distortion	THD	V <sub>IN</sub> =80dBμV		0.2	0.3	%
Signal to noise ratio	S/N	V <sub>IN</sub> =80dBμV	70	80		dB
AM rejection ratio	AMR	AM 1kHz 30% mod	47	53		dB
Output resistance	r <sub>O</sub>	f=400Hz	6.2	7.7	9.5	kΩ

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## Test Circuit



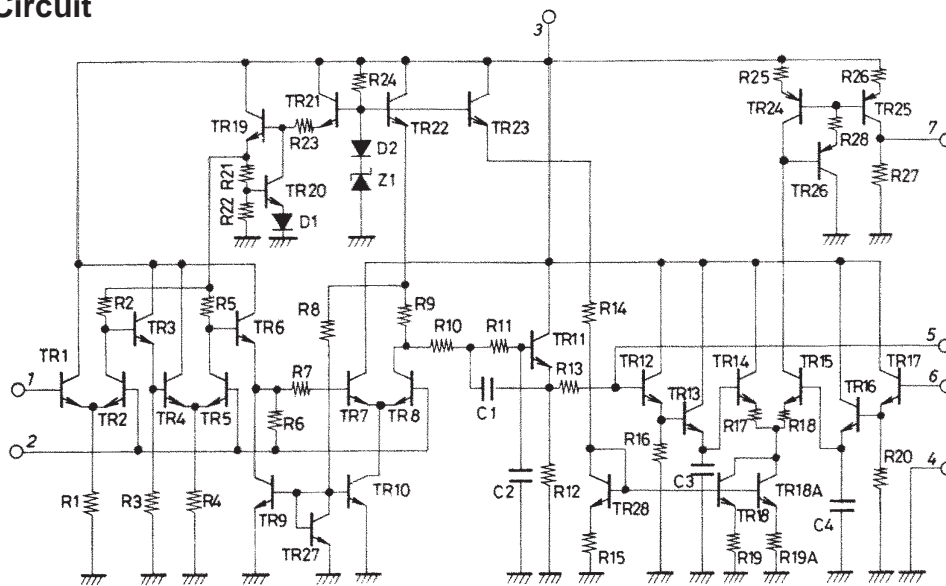
AC Test

DC Test

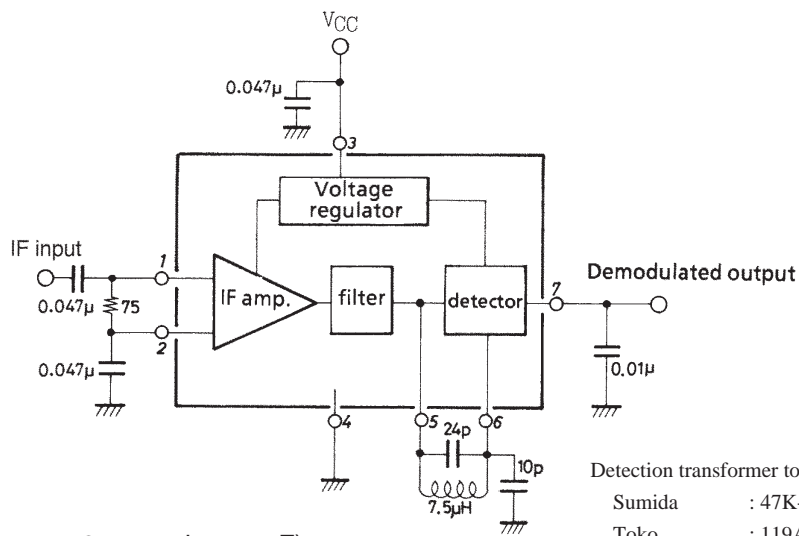
$r_O$  Test

Unit (resistance :  $\Omega$ , capacitance : F)

## Equivalent Circuit



## Sample Application Circuit



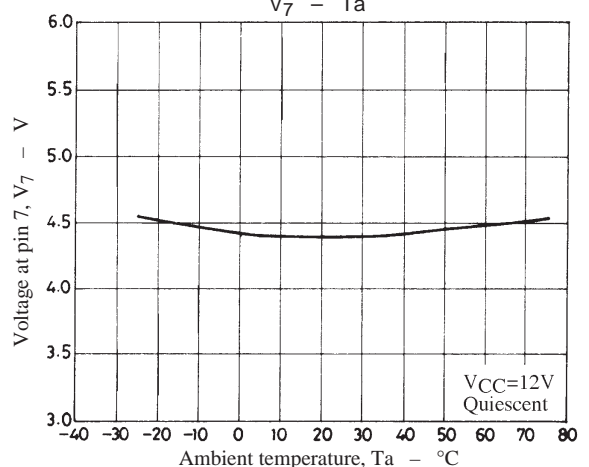
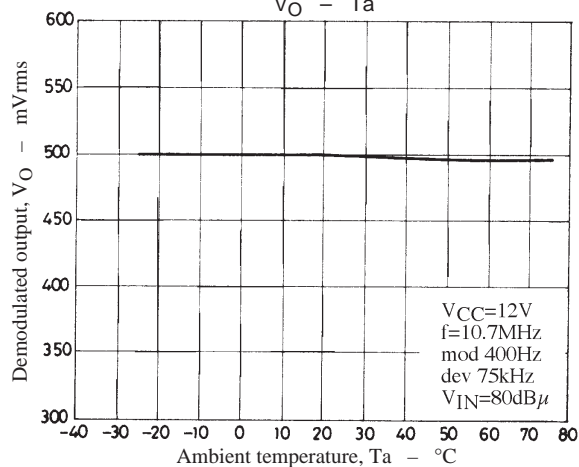
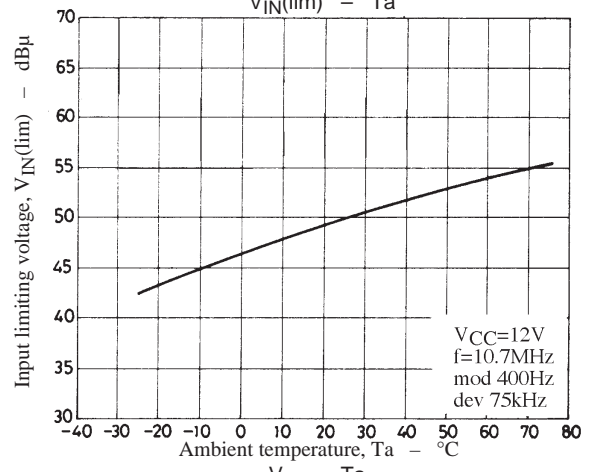
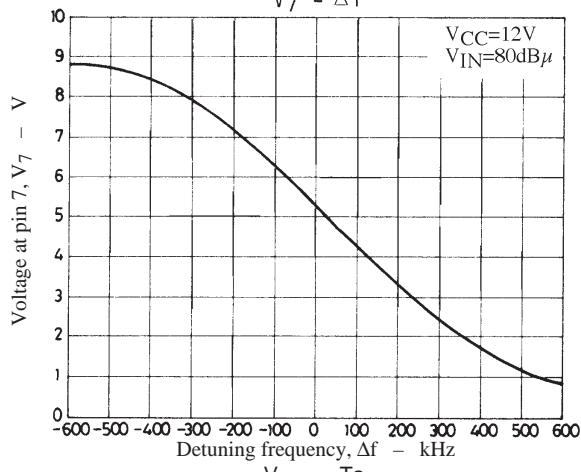
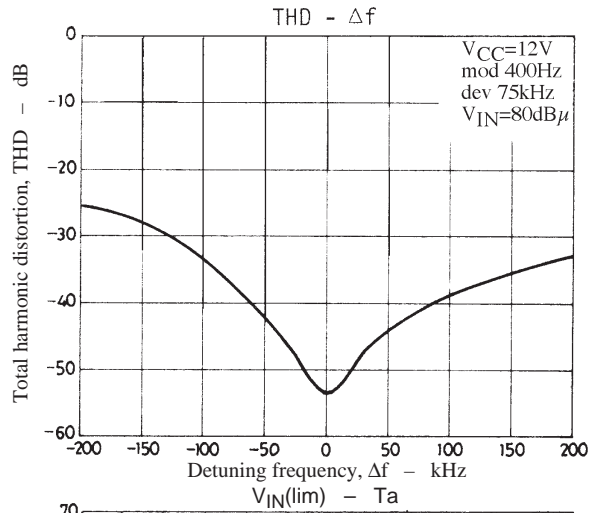
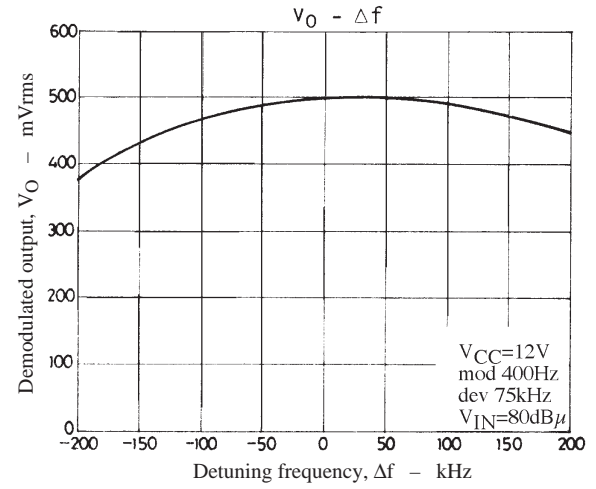
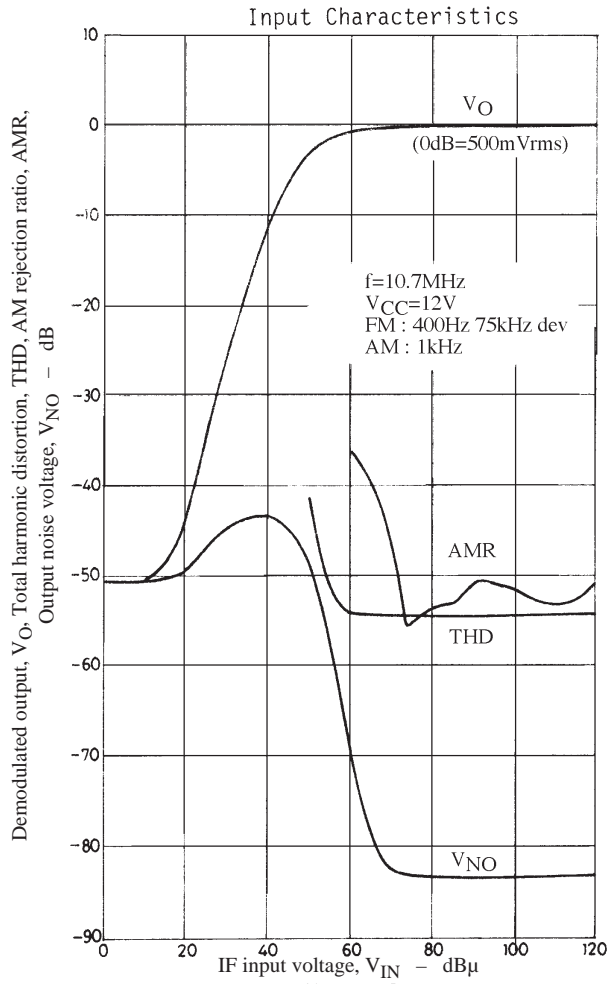
Unit (resistance :  $\Omega$ , capacitance : F)

Detection transformer to be used with LA1150

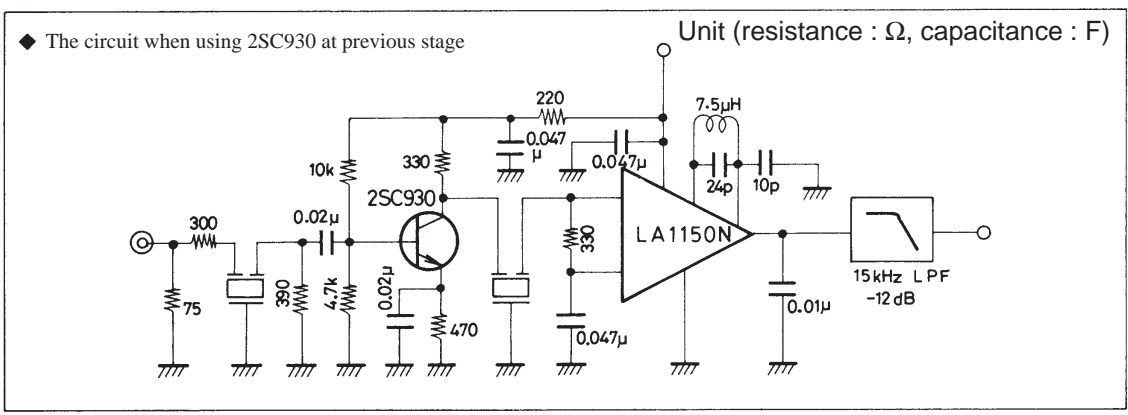
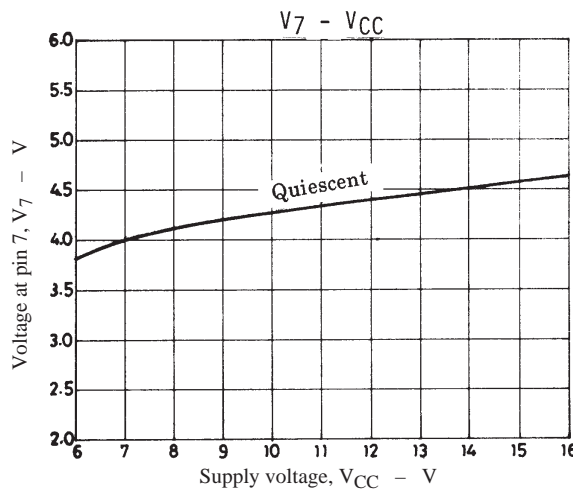
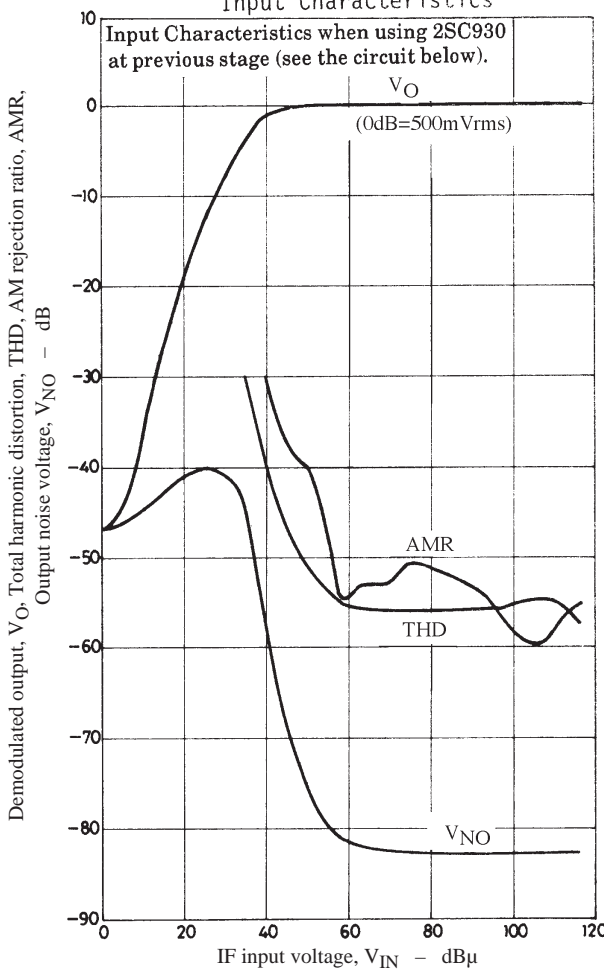
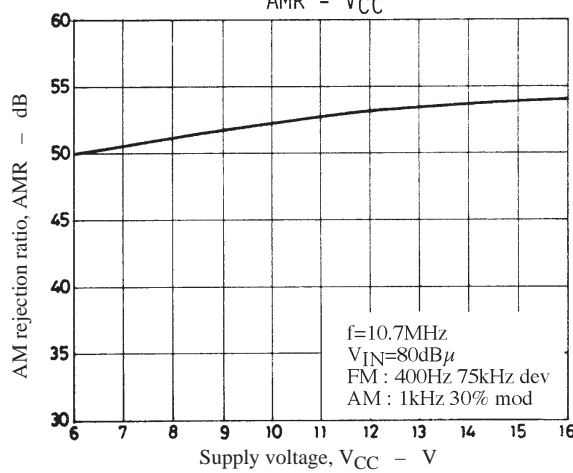
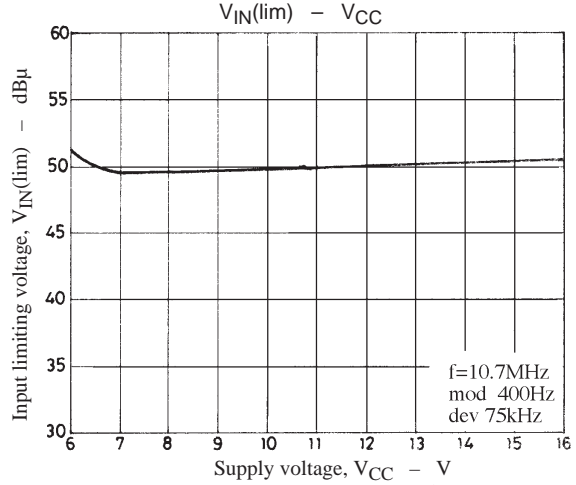
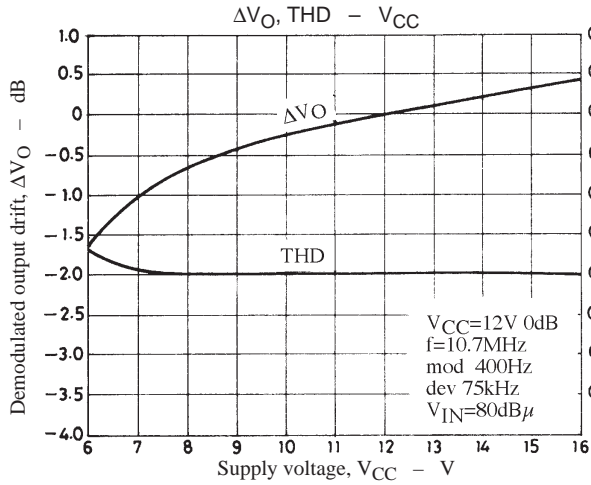
Sumida : 47K-074-003, 44M-052-1440

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

Sankyo Musen : DC-10, DC-7



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