

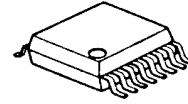
100MHz INPUT 450kHz FM IF DEMODULATOR FOR VOICE

■ GENERAL DESCRIPTION

The **NJM2591** is a low-voltage, low-current FM IF demodulator IC for voice application. It includes an oscillator, mixer, limiting amplifier, quadrature detector, and active filter.

The NJM2591 also has a noise detector and noise comparator with hysteresis range.

■ PACKAGE OUTLINE

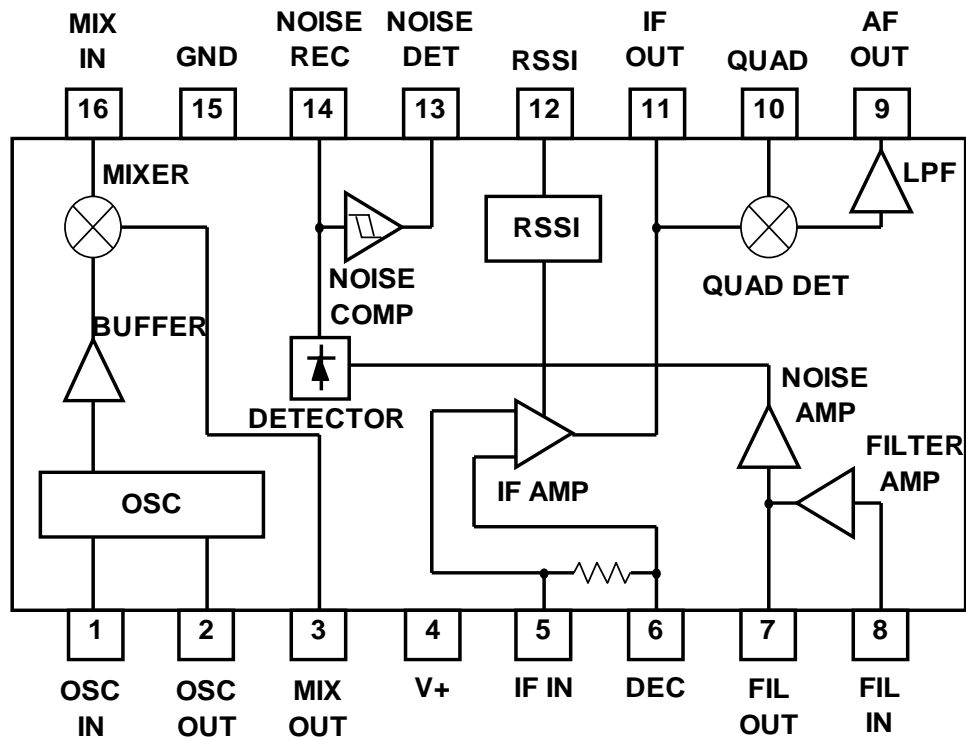


NJM2591V

■ FEATURES

- Low operating Voltage 1.8V to 9.0V
- Low Operating Current 2.5mA at $V^+ = 2.0V$
- Operating Frequency up to 100MHz (reference value)
- IF Input Frequency 450kHz (standard)
- Noise detector, noise comparator
- Bipolar Technology
- Package Outline SSOP16

■ BLOCK DIAGRAM



NJM2591

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	10.0	V
Power Dissipation	P _D	300	mW
Operating Temperature	T _{opr}	- 30 to +85	°C
Storage Temperature	T _{stg}	- 40 to +125	°C

■ RECOMMENDED OPERATIONAL CONDITION

(Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Supply Voltage	V ⁺		1.8	2.0	9.0	V

■ ELECTRICAL CHARACTERISTICS

(Ta=25°C, V⁺=2V, f_{mix}=21.7MHz, f_{if}=450KHz, f_{mod}=1kHz, f_{dev}=±1.5KHz, unless otherwise noted.)

PARAMETER	SYMBOL	TEST CONDITIONS	MIN.	TYP.	MAX.	UNIT
Current Consumption	I _{ccq}	No signal	-	2.5	-	mA
Mixer Conversion Gain	G _{mix}	Without ceramic filter	21	24	27	dB
Mixer 3rd Order Intercept	IP		-	96	-	dBuV
Mixer Input Resistance	R _{inM}		-	TBD	-	kΩ
Mixer Input Capacitance	C _{inM}		-	TBD	-	pF
Mixer Output Resistance	R _{oM}		1.2	1.8	2.4	kΩ
12dB S/N Sensitivity	12dBS/N		-	11	-	dBuV
Audio Output Level	V _{od}	IF input V _i =80dBuVEMF	70	100	130	mVrms
Signal to Noise Ratio	S/N	IF input V _i =80dBuVEMF	43	65	-	dB
AM Rejection Ratio	AMR	IF input, AM=30% V _i =80dBuVEMF	-	40	-	dB
IF Amplifier Input Resistance	R _{inIF}		1.2	1.8	2.4	kΩ

[CAUTION]

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