GL3361

Low Power Narrow Band FM IF

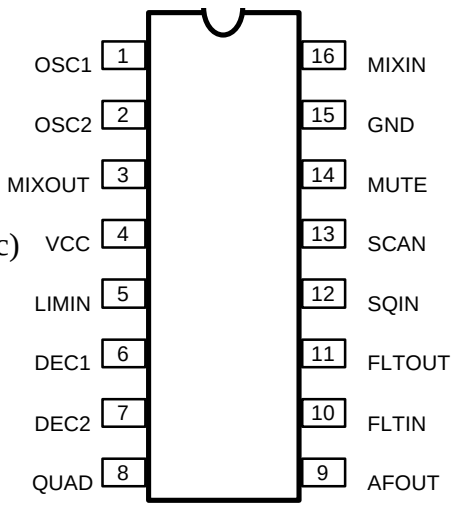
Description

The GL3361 is designed for use in FM dual conversion communications equipment. This device contains an Oscillator, Mixer, Limiting Amplifier, Filter Amplifier and Squelch circuitry.

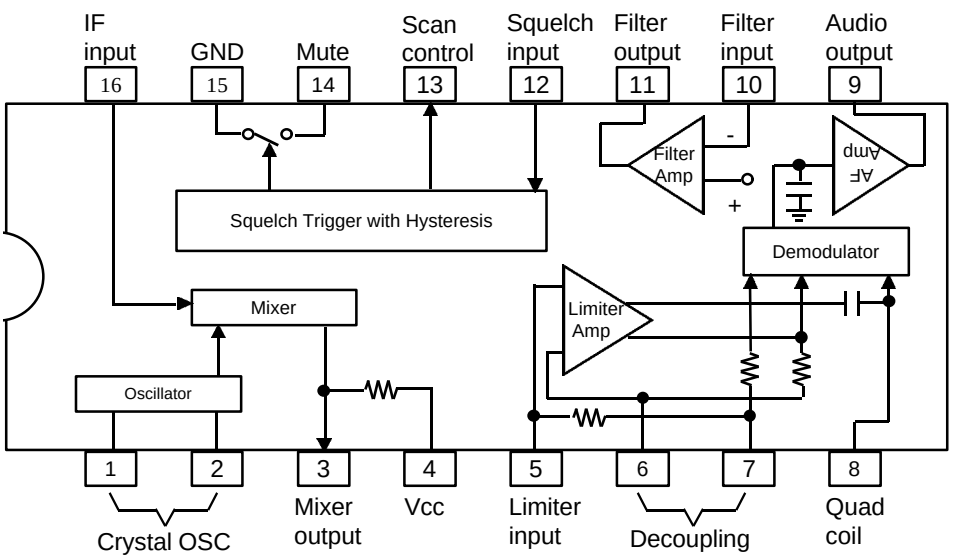
Features

- Operating Voltage : 2.0 ~ 8.0 V
- Low Power Consumption (2.6mA typical @ Vcc=4.0Vdc)
- Excellent Input Sensitivity (-3dB limiting=2.6§ Åypical)
- Minimum Number of External Parts Required
- Full ESD Protection
- Package Type : 16 DIP/SOP

Pin Configurations



Block Diagram



The information in this document is subject to change without notice.

Absolute Maximum Ratings (Ta=25¡ Éunless otherwise noted)

Characteristics	Pin	Symbol	Value	Unit
Power Supply Voltage	4	Vcc(max)	10	Vdc
Operating Supply Voltage Range	4	Vcc	2.0 to 8.0	Vdc
Operating Temperature Range	-	Ta	0 to +70	¡ É
Storage Temperature Range	-	Tstg	-65 to +150	¡ É

* Notice : Absolute maximum ratings are values beyond which permanent damage to the device may occur.

Electrical Characteristics

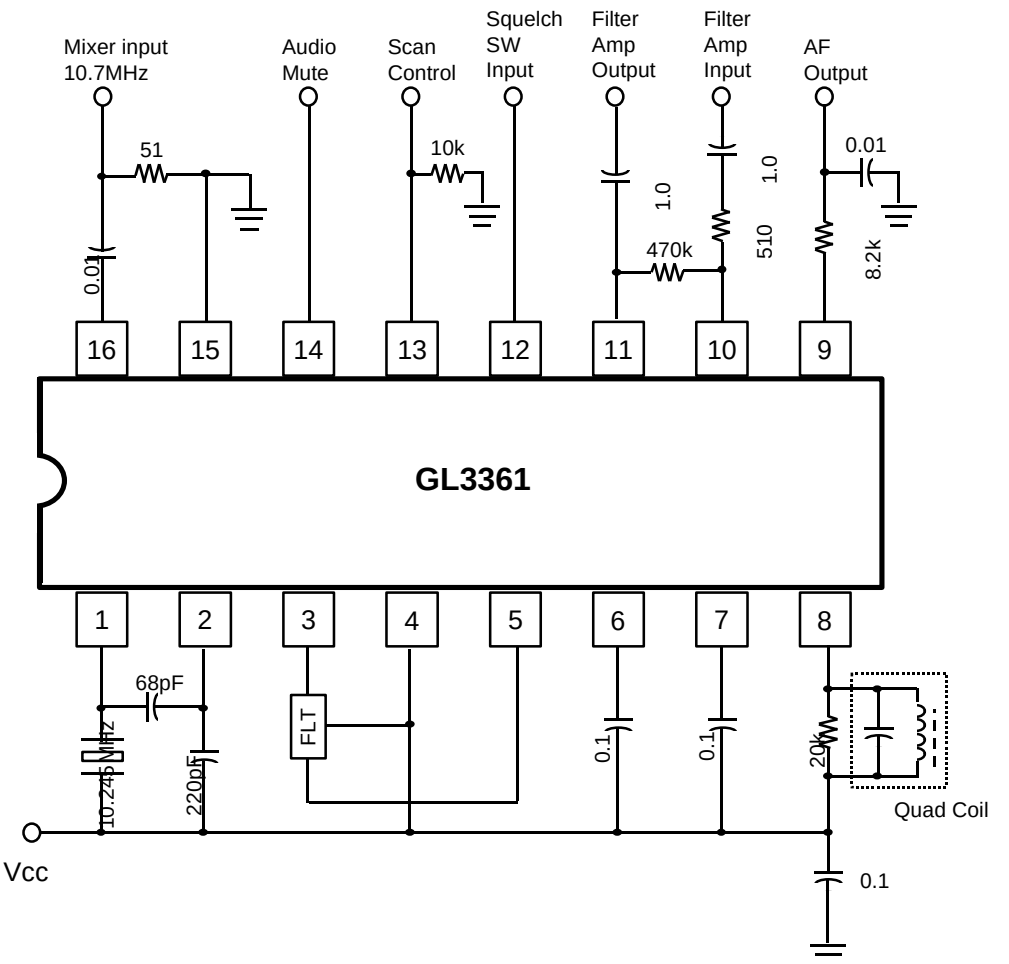
(Vcc=4.0Vdc, fo=10.7MHz,¡ fm=¡ 3kHz,fmod=1.0kHz,Ta=25¡ Éunless otherwise noted)

Characteristics	Symbol	Test conditions	Spec.			Units
			Min	Typ	Max	
Operating Current (No signal)	Icc_off	Squelch on (V12=GND)	2.0	2.5	3.5	mA
	Icc_on	Squelch off (V12=1V)	4.2	5.2	6.2	mA
Recovered Audio Output Voltage	Vout	Vin = 10mVrms	120	160	-	§ ßms
Input Limiting Voltage	Vin(lim)	-3dB limiting	-	2.6	6.0	§ Åms
Total Harmonic Distortion	THD		-	0.86	-	%
Drop Voltage AF Gain Loss	¡ 6v	Vcc = 4V -> 2V	-3.0	-0.6	-	dB
Detector Output Impedance	Zout		-	550	-	§ Ù
Filter Gain	Gflt	Vin = 0.3mVrms	40	50	-	dB
Filter Output Voltage	Vflt		0.5	0.7	0.9	Vdc
Mute Function Low	Rmute_L	Squelch on (V12 = GND)	-	45	-	§ Ù
Mute Function High	Rmute_H	Squelch off (V12 = 1V)	-	11	-	§ Û
Scan Function Low	Vscan_L	Squelch off (V12 = 1V)	-	0	0.4	V
Scan Function High	Vscan_H	Squelch on (V12 = GND)	3.0	3.8	-	V
Trigger Hysteresis	VTH	Squelch on/off	-	50	-	mV
Mixer Conversion Gain	Gmix		-	26	-	dB
Mixer Input Resistance	Ri		-	3.3	-	§ Ú
Mixer Input Capacitance	Ci		-	9.0	-	pF

Pin Descriptions

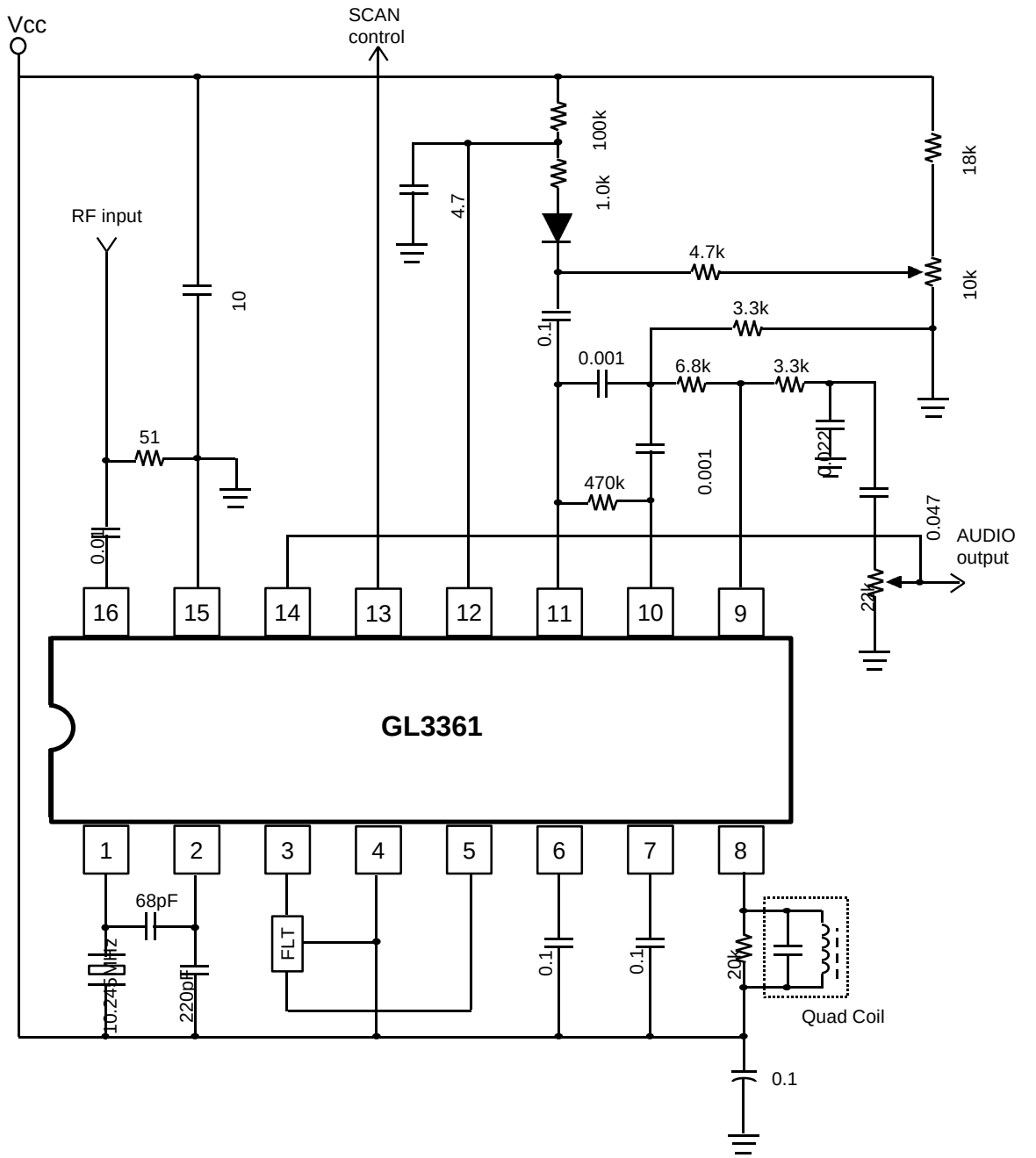
No.	Symbol	Function	No.	Symbol	Function
1	OSC1	The base of the colpitts oscillator	9	AFOUT	Recovered audio output
2	OSC2	The emitter of the colpitts oscillator	10	FLTIN	Filter amplifier input
3	MIXOUT	Output of the Mixer	11	FLTOUT	Filter amplifier output
4	VCC	Supply voltage	12	SQIN	Squelch input
5	LIMIN	Input to the IF amplifier	13	SCAN	Scan control output
6	DEC1	IF decoupling	14	MUTE	Mute output
7	DEC2	IF decoupling	15	GND	Ground
8	QUAD	Quadrature tuning coil	16	MIXIN	Input of the Mixer

Test Circuit



C - § þunless noted
FLT - muRata Erie North America Type CFU455D2 or equivalent
Quadrature Coil - Toko America Type 7MC-8128Z or equivalent

Application Circuit



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