

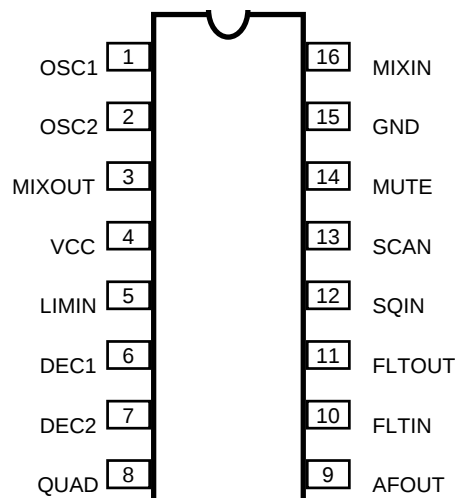
Description

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.

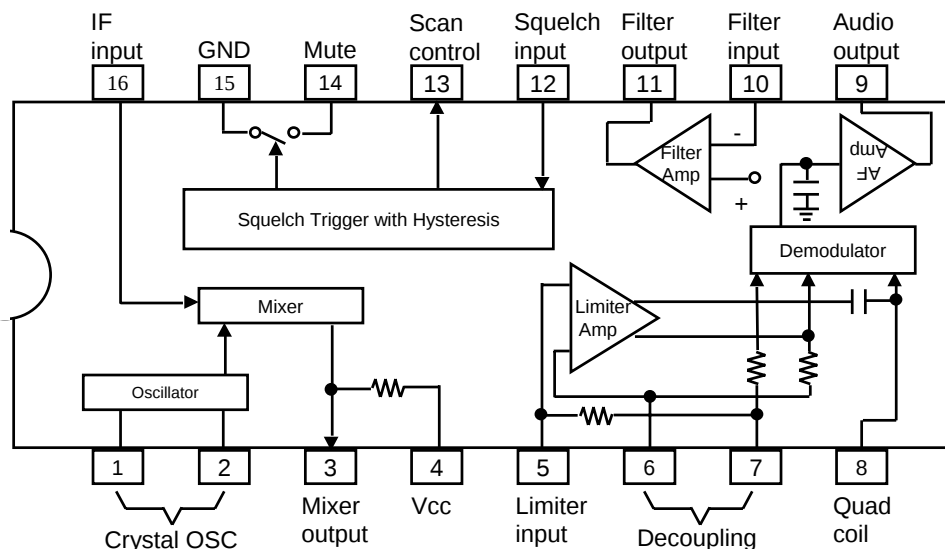
Features

- Operating Voltage : 2.0 ~ 8.0 V
- Low Power Consumption (2.6mA typical @ $V_{cc}=4.0V_{dc}$)
- Excellent Input Sensitivity (-3dB limiting=2.6 μV typical)
- Minimum Number of External Parts Required
- Full ESD Protection
- Package Type : 16 DIP/SOP

Pin Configurations



Block Diagram



Absolute Maximum Ratings (Ta=25 , unless 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	-30 to +70	
Storage Temperature Range	-	Tstg	-65 to +150	

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

Electrical Characteristics

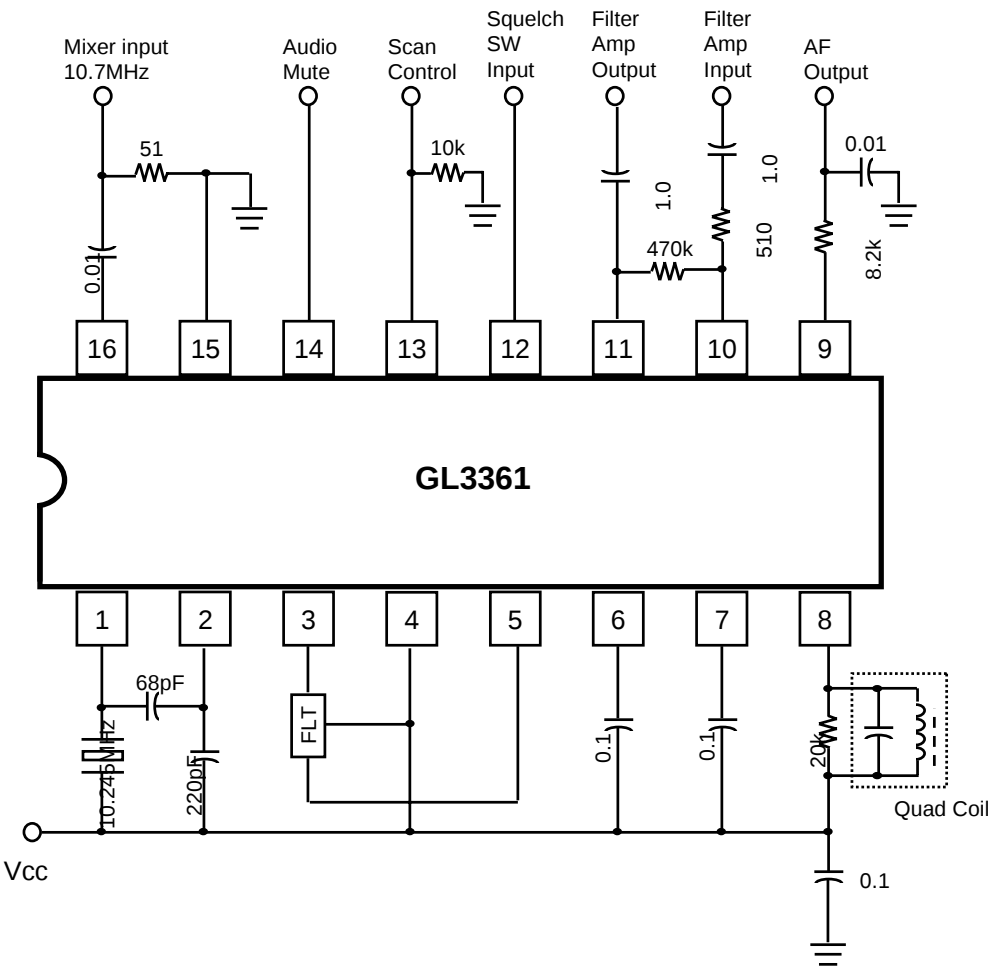
(Vcc=4.0Vdc, fo=10.7MHz, f=±3kHz,fmod=1.0kHz,Ta=25 , unless otherwise noted)

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	-	mVrms
Input Limiting Voltage	Vin(lim)	-3dB limiting	-	2.6	6.0	μVrms
Total Harmonic Distortion	THD		-	0.86	-	%
Drop Voltage AF Gain Loss	Gv	Vcc = 4V -> 2V	-3.0	-0.6	-	dB
Detector Output Impedance	Zout		-	550	-	Ω
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	-	Ω
Mute Function High	Rmute_H	Squelch off (V12 = 1V)	-	11	-	MΩ
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	-	kΩ
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 - μ F, unless noted
FLT - muRata Erie North America Type CFU455D2 or equivalent
Quadrature Coil - Toko America Type 7MC-8128Z or equivalent

