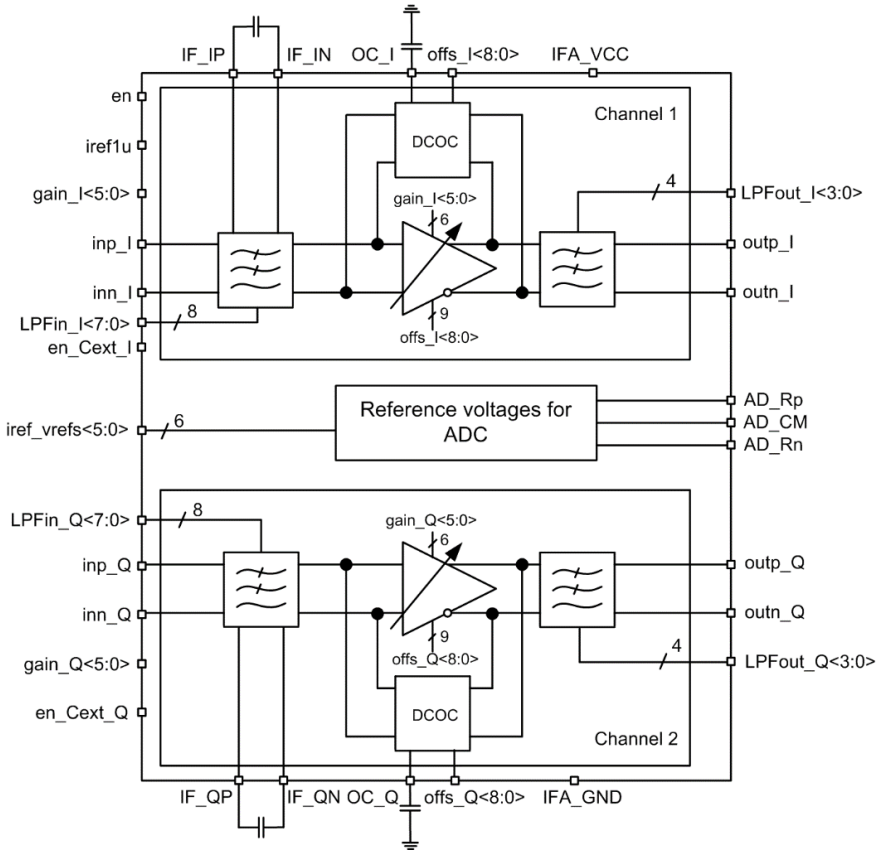
8 to 800kHz Intermediate frequency amplifier

OVERVIEW

The device is a two channel intermediate-frequency amplifier (IFA). Each channel consists of 1 stage amplifier with differential inputs/outputs, programmable gain and offset voltage setting. Input/output tuning capacitors with IFA input/output impedance create 2nd order LPF. Signal reception mode with 8 kHz bandwidth requires external 2 nF capacitor. Analog compensation system is used to reduce IFA output offset voltage. There is an option of voltage reference levels former for ADC.

IP technology: iHP SiGe BiCMOS 0.25 um.
IP status: silicon proven.
Area: 1.72mm^2.



ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V_{cc}	-	1.7	1.8	1.9	V
Operating temperature range	T_j	-	-45	27	85	ºC
Frequency range	F	-	8	-	800	kHz
Tunable bandwidth	F_t	-	8	-	512	kHz
Gain range	G	-	-0.27	-	43	dB
Noise figure	NF	G = 0, F = 10kHz	-	11.85	-	dB
		G = 43dB	-	5.52	-	
Intermodulation immunity	IM3	P_{in} = -28.5dBm	-	-75	-	dB
Input 1dB compression point	P_{1dB}	-	-	-2.7	-	dBm
Input impedance	R_{in}	-	-	20	-	kOhm
Input offset voltage range	V_{off}	Analog compensation	-50	-	50	mV
		Digital setting	-50	-	50	
Current consumption	I_{cc}	F_t = 8kHz	-	2.06	-	mA
		F_t = 64kHz	-	1.55	-	
		F_t = 128kHz	-	1.27	-	
		F_t = 256kHz	-	1.11	-	
		F_t = 512kHz	-	1.00	-	
Input logic-level high	V_{IH}	For digital inputs	0.7V_{cc}	-	V_{cc}+0.25	V
Input logic-level low	V_{IL}		-0.25	-	0.3V_{cc}	V