

Typical Applications

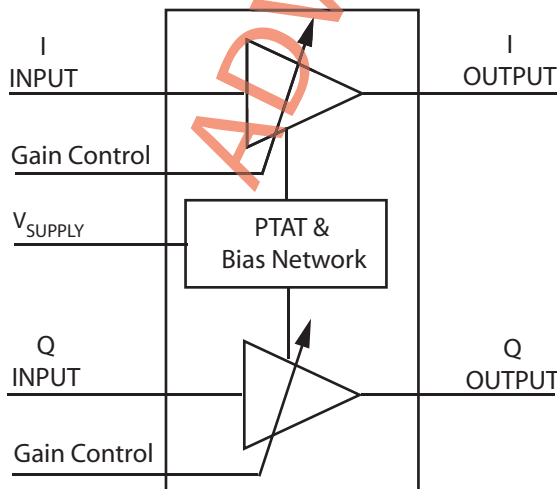
The TRFS-153 is a baseband variable-gain amplifier core circuit for use in such applications as:

- Direct conversion receiver front ends
- WCDMA, UMTS, CDMA, GSM, PCS, WLAN, GPS, AMPS systems
- General-purpose applications

Product Overview

The TRFS-153 has two identical I/Q baseband variable-gain amplifiers for receiver front-end applications. The five-gain stage linear amplifiers amplify the down-converted signals to avoid noise problems. The gain of these amplifiers can be adjusted from 0dB to 16dB with low I/Q phase and gain mismatches. This core circuitry can be easily integrated with other circuits as well as packaged individually in a leadless chip carrier.

Block Diagram



Key Features

- Compatible with direct down conversion front end
- Adjustable gain in 5 steps of 4dB each
- Low I/Q phase and gain mismatch
- High linearity

Performance Summary

Item	Unit	Min	Typical	Max	Notes
Supply Voltage	V	2.7	2.85	3.3	
Gain Range	dB	-1		16	
Gain Steps	dB/Step		4.0		
Gain Setting Accuracy	dB			0.2	
Bandwidth	MHz	16		55	
Group Delay Variation	ns	0.25		0.6	
I/Q Phase Mismatch	Degree		0.02		
I/Q Gain Match	dB		0.08		
High Gain Input Referred Noise	nV/ $\sqrt{\text{Hz}}$		7		
Low Gain Input Referred Noise	nV/ $\sqrt{\text{Hz}}$	24.75	25		
IIP2@ G=16dB	Vrms	3			
IIP3@ G=16dB	Vrms	0			
1-dB Compression	Vp-p (diff)				14dB Crest Factor
Supply Current	mA		2		Per Channel

ADVANCE INFORMATION

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