

Typical Applications

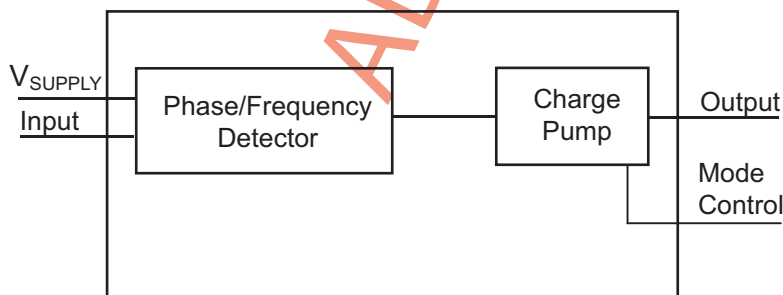
The TRFS-255 is a PFD-CP core circuit for use in such applications as:

- Frequency synthesizers
- General-purpose applications
- WCDMA, UMTS, CDMA, GSM, PCS, WLAN, GPS, AMPS systems

Product Overview

The TRFS-255 consists of a phase-frequency detector, and a charge pump integrated together for use in frequency synthesizers for wireless communications applications. The phase-frequency detector can detect a maximum frequency of 40 MHz with a linear detection range of $2\pi \pm 5\text{ns}$. The charge pump generates an output voltage in the range 0.5V to $V_{cc}-0.5\text{V}$ with low leakage current. This core circuitry can be easily integrated with other circuits as well as packaged individually in a leadless chip carrier.

Block Diagram



Key Features

- 4th order delta-sigma modulator (DSM)
- Phase-frequency detector with linear detection range of $-2\pi \pm 5\text{ns}$ and zero phase error
- Charge pump with low leakage current

Phase-Frequency Detector Performance Summary

Item	Unit	Min	Typical	Max
Supply Voltage Digital (VDD)	V	2.7	2.85	3.3
Maximum Frequency	MHz			40
Dead Band	ns			0
Phase Error	Degree		0	
Linear Detection Range	ns	$-2\pi+5ns$		$-2\pi-5ns$
Phase Compare Mode			Tr	

Charge Pump Performance Summary

Item	Unit	Min	Typical	Max
Supply Voltage Analog (VCC)	V	2.7	2.85	3.3
Output Voltage Range	V	0.5		Vcc-0.5
Leakage Current	nA		<1	
Current Match	%		~1	
Mode Control	Digital	VIL		VIH
Reference Current	μ A		400	

ADVANCE INFORMATION

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