



8-Bit Monolithic Digital-To-Analog Converters

Description

SW-202 consists to IF AGC Amplifier I/Q quadrature demodulator and IF PLLi. The SW202 is designed for use in dual mode mobile phones (GSMiCDMA) and PCS wireless system. The circuit provides IF amplification with gain control and differential Q and I base band outputs. The on chip oscillator and prescaler are also compatible with the PLL synthesizers on these devices.

Features

- Fast Settling Output Current: 85 ns
- Full-Scale Current Prematched to ± 1 LSB
- Direct Interface to TTL, CMOS, ECL, HTL, PMOS
- No linearity to 0.1% Maximum over Temperature Range
- High Output Impedance and Compliance: -10 V to $+18$ V
- Complementary Current Outputs
- Wide Range Multiplying Capability: 1 MHz Bandwidth
- Low FS Current Drift: ± 10 ppm/ $^{\circ}$ C
- Wide Power Supply Range: ± 4.5 V to ± 18 V
- Low Power Consumption: 33 mW @ ± 5 V
- Low Cost
- Available in Die Form

Applications

- Dual GSMi CDMA
- PCS wireless system
- Bluetooth system



ELECTRICAL CHARACTERISTICS

(@ VS = _15 V, IREF = 2.0 mA, -40_C to +85_C for SW500, unless otherwise noted. Output characteristics refer to both IOU1 and IOU2 .)

Parameter	Symbol	Condition	SW500			Unit
			Min	Type	Max	
Resolution			8			Bits
Monotonicity			8			Bits
Nonlinearity	NL				0.39	%FS
Setting Time	ts	To 1/2LSB, All Bits Switched ON or OFF, TA= 25		85	150	ns
Propagation Delay Each Bit	tPLH	TA= 25		35	60	ns
	tPHL			35	60	ns
Full-Scale Tempe	TCIFS			10	80	Ppm/
Output Voltage Compliance	VOC	Full Scale Current Change<1/2, Rout>20M	-10		18	V
Full Range Current	IFR4	VREF=10.000V, R14 R15=5.000K, TA= 25	1.94	1.99	2.04	mA
Full Range Symmetry	IFRS	IFR4 – IFR2		2	16	A
Zero-Scale Current	IZS			0.2	4	A
Output Current Range	IOR1	R14 R15=5.000K, VREF=15.0V, V- = -10V VREF=25.0V, V- = -12V	2.1			mA
	IOR2		4.2			mA
Output Current Nositie		IREF =2 mA		25		nA
Logic Input Levels	Logic 0	VLC = 0V			0.8	V
	Logic Input 1		2			V
Logic Input Current	Logic 0	VLC = 0V VIN = -10V~ +0.8V VIN =2.0V~ +18V	-2	-2	-10	uA
	Logic Input 1		2	0.002	10	uA
Logic Input Swing	VIS	V- = -15V	-10		18	V
Logic Threshold Range	VTHR	VS = 15V1	-10		13.5	V
Reference Bias Current	I15			-1	-3	uA
Reference Input Slew Rate	dI/dt	REQ=200, RL=100, CC=0PF	4	8		mA/ us