

Arrival of a Gain Control Amplifier that Supports CDMA and PCS Reception IF GCA and Transmission IF GCA

CXA3201N CXA3202N CXA3221N CXA3222N

Sony semiconductors lead the CDMA market.

The superlative characteristics of Sony semiconductor are backed by high-frequency analog technology developed over many years. These products have won the trust of the mobile communication field, and expectations and hopes for future developments in this area are becoming stronger and stronger. The CXA3201N, CXA3202N, CXA3221N, and CXA3222N are wide dynamic range, low-noise, low-distortion gain control amplifiers which support CDMA and PCS. These products feature operation at lower voltages, wider bandwidths, and smaller sizes than earlier products.

- n Wide gain control range
- n Good linearity in the gain slope
- n Operating frequency: 50 to 300 MHz
- n Low noise and low distortion
- n Miniature 8 and 16-pin SSOP packages
- n Low-voltage operation: 2.7 to 3.8 V
- n Built-in power saving functions

Superlative Characteristics

Figure 2 shows the system block of a CDMA communication terminal, i.e. an IS-95 conforming terminal. In this communication technique, the level of the signal handled by the base-band IC must be held at a fixed level. Thus the reception side requires an automatic gain control (AGC) circuit with a wide input dynamic range, and, similarly, the transmission side requires an AGC circuit with a wide output dynamic range.

Sony gain control amplifiers (GCA) provide dynamic ranges of about 90 dB for reception and about 80 dB for transmission, and furthermore, they achieve the low noise and low distortion required to meet the IS-95 specifications.

Figure 3 shows the gain control characteristics of these reception GCAs (CXA3201N and CXA3221N) and figure 4 shows the characteristics of these transmission GCAs (CXA3202N and CXA3222N).

Extensive Lineup

The GCAs introduced here retain the high-performance and superlative temperature characteristics of the CXA3001N and CXA3002N, which have been well-received in the market, and in addition provide further miniaturization, operation at even lower voltages, and the wide bandwidth required to handle PCS applications. Table 1 summarizes this product line.

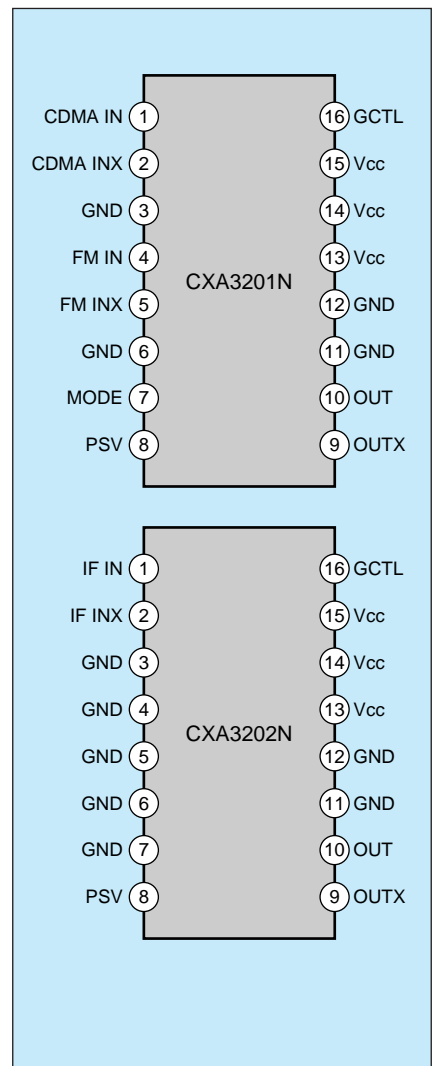
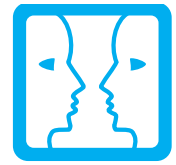


Figure 1 CXA3201N and CXA3202N Pin Configurations

V O I C E

In developing these products I pushed myself as hard as I could and developed four devices at the same time. I think that this was an efficient way to develop such products. Still, even though still young, I found it difficult to be flexible enough in my thinking, and it was quite a strain. I'm sure you won't regret it if you use Sony ICs.



*New
Products*

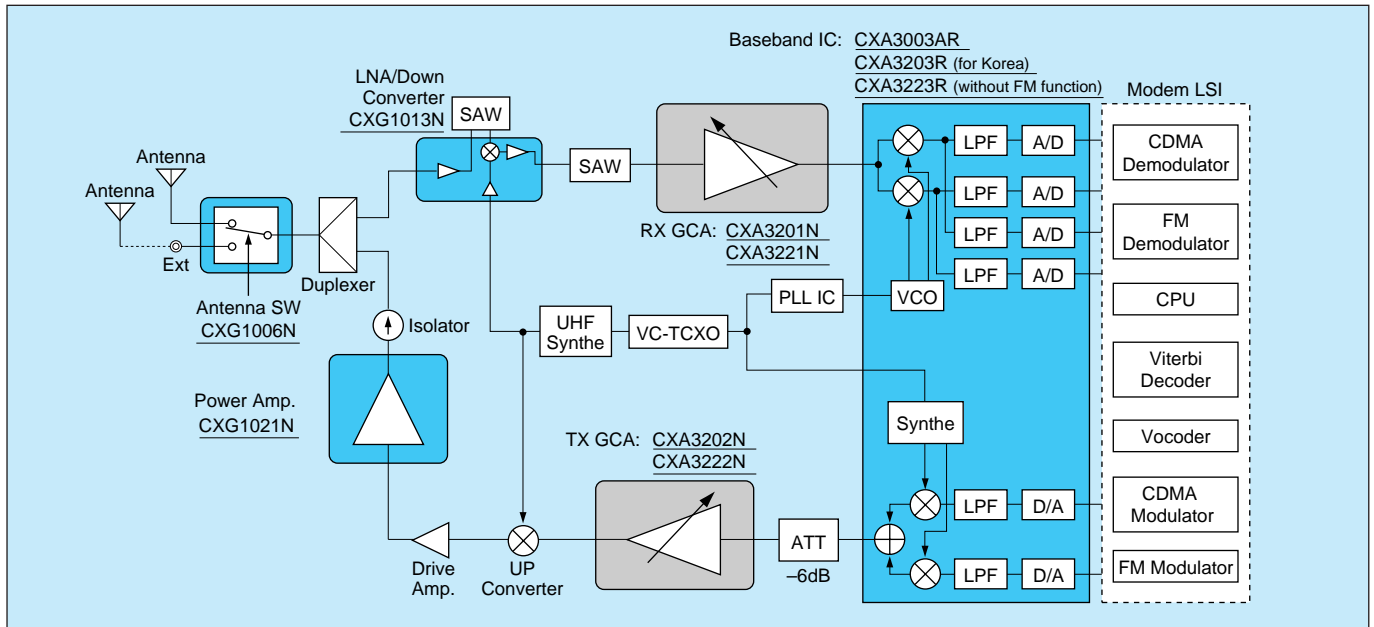


Figure 2 CDMA/PCS Block Diagram

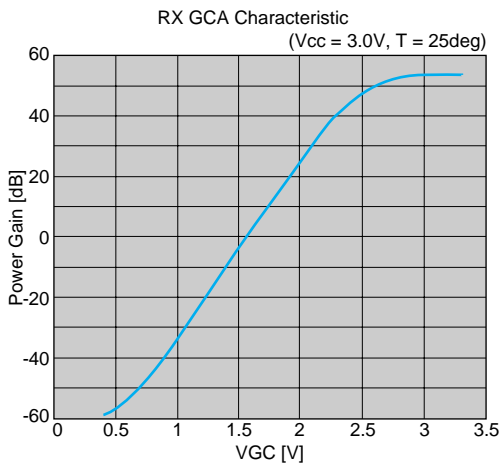


Figure 3 CXA3201N and CXA3221N Gain Control Characteristics

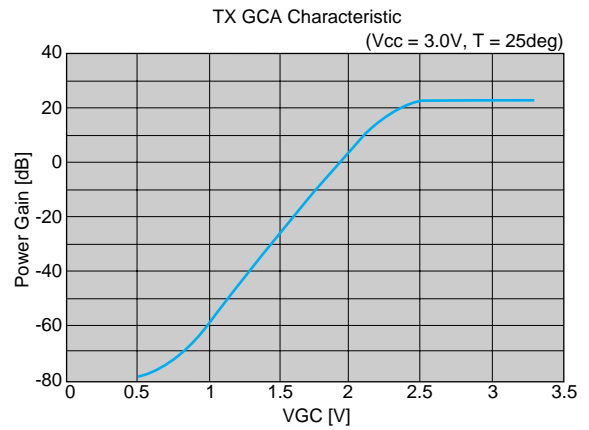


Figure 4 CXA3202N and CXA3222N Gain Control Characteristics

Table 1 GCA Lineup

	Product name	Vcc (V)	Fopr (MHz)	Package	Gain range (dB)
RX IF	CXA3001N	3.1 to 3.8	10 to 100	24pin SSOP	±45
	CXA3201N	2.7 to 3.8	50 to 300	16pin SSOP	
	CXA3221N			8pin SSOP	
TX IF	CXA3002N	3.1 to 3.8	10 to 200	24pin SSOP	±40
	CXA3202N	2.7 to 3.8	50 to 300	16pin SSOP	+20
	CXA3222N			8pin SSOP	-60