

**MOTOROLA  
SEMICONDUCTOR  
TECHNICAL DATA**

**MC13104  
MC13105**

*Product Preview*

**1.0 GHz Receiver LNA/Mixer/VCO**

The MC13104/13105 are fully integrated UHF down converters intended for use in receivers operating in the 800 MHz to 1.0 GHz frequency range. The design utilizes Motorola's advanced Mosaic® 3 RF bipolar process to yield high gain, low noise, low current drain in a cost effective monolithic device. The basic receiver functions of low noise amplifier, mixer and AGC are included in both devices, while the MC13104 also includes a VCO with two buffered outputs which permit simple interfacing to multichannel PLL/prescaler frequency synthesized systems. Applications for the MC13104/13105 include CT-2 cordless telephones, security monitor receivers, remote control, video and audio short range links, field disturbance receivers, and low cost cellular radios. A power down control to minimize current drain with minimum recovery/turn-on time.

- Low Cost Silicon Bipolar Design
- Internal VCO
- VCO Buffer to Drive Prescaler
- Low Drain Current: Nominal 10 mA Current Drain (ON)
- Power Down Current: Nominal 10  $\mu$ A
- LNA Has AGC Input with Nominal  $\geq 20$  dB Range
- Performance Optimized for CT-2 and Similar Systems
- Target Noise Figure of 5.0 dB Overall at 1.0 GHz
- Input Impedance: Nominal 50  $\Omega$

**1.0 GHz RECEIVER  
LNA/MIXER/VCO**

**SILICON MONOLITHIC  
INTEGRATED CIRCUIT**



**D SUFFIX  
PLASTIC PACKAGE  
CASE 751B  
(SO-16)**

**ORDERING INFORMATION**

Device	Temperature Range	Package
MC13104D	-20° to +70°C	SO-16
MC13105D		SO-16

8

**PIN CONNECTIONS AND BLOCK DIAGRAMS**

