

IP SELECTION GUIDE

ANALOG, MIXED-SIGNAL & RF



CHIPUS MICROELECTRONICS **SELECTED IP CORES**

DATE Feb 2012 **VERSION 1V1**

Power Management

| IP PN | NAME | DESCRIPTION | TECH | FOUNDRY | STATUS |
|----------|--|--|--------|----------|--------------------|
| CM1011bg | 17.5nA Current Bias with Enable | Supply voltage range 1.0V – 3.3V, current consumption below 90nA in active mode | 0.15μm | LFoundry | Silicon Proven |
| CM1012bg | 17.5nA Current Bias with Auto-Start | Supply voltage range 1.0V – 3.3V, current consumption below 90nA in active mode | 0.15μm | LFoundry | Silicon Proven |
| CM1013eh | 12nA Current Bias with Enable | Supply voltage range 1.0V – 3.3V, current consumption below 50nA in active mode | 0.13μm | UMC | Silicon Proven |
| CM1014ff | 15.5nA Current Bias with Enable | Supply voltage range 1.0V – 2.0V, current consumption below 55nA in active mode | 0.18μm | SilTerra | Silicon Under Test |
| CM1111bg | Ultra-Low-Power LDO | Input voltage range 1.2V – 3.6V, current consumption below 2.8μA in active mode incl. internal voltage reference, short-circuit protection | 0.15μm | LFoundry | Silicon Proven |
| CM1112ae | Linear Voltage Regulator | Input voltage range 5.0V – 30.0V, load up to 5mA, short-circuit protection | 0.35μm | X-FAB | Silicon Proven |
| CM1211bg | 750mV Voltage Reference with Enable | Supply voltage range 1.0V – 3.3V, current consumption below 400nA in active mode | 0.15μm | LFoundry | Silicon Under Test |
| CM1212bg | 750mV Voltage Reference with Auto-Start | Supply voltage range 1.0V – 3.3V, current consumption below 400nA in active mode | 0.15μm | LFoundry | GDS Available |
| CM1213eh | 750mV Voltage Reference with Enable | Supply voltage range 1.0V – 3.3V, current consumption below 400nA in active mode | 0.13μm | UMC | Silicon Under Test |
| CM1311bg | Ultra-Low-Power PMU | 2 LDOs, built-in POR, oscillator, references 750mV-17.5nA, ADC for supply voltage monitoring; supply voltage range 1.2V – 3.6V, current consumption below 4μA in active mode | 0.15μm | LFoundry | Silicon Proven |
| CM1412ae | Power-On Reset (POR) | Low-power, configurable threshold from 0.9V to 5.5V, configurable hysteresis (default 100mV), configurable delays (defaults are 2 assertion delays, 1μs and 20μs) | 0.35μm | X-FAB | Silicon Proven |
| CM1413ff | Power-On Reset (POR) | Ultra low power, configurable threshold from 1.0V to 1.3V, configurable hysteresis from 70mV to 200mV | 0.18μm | SilTerra | Silicon Under Test |
| CM1511ae | Low-Power Combo Voltage and Current References | Vref=1.29V, iref=1.6μA, supply voltage range 1.6V – 3.6V, current consumption below 5μA | 0.35μm | X-FAB | GDS Available |

Data Converters

| IP PN | NAME | DESCRIPTION | TECH | FOUNDRY | STATUS |
|----------|------------------------------|---|--------|----------|--------------------|
| CM2011bg | Low-Power 10-Bit SAR ADC | Successive Approximation, 240kSPS, 8 multiplexed inputs, avdd=3.3V, dvdd=1.8V | 0.15µm | LFoundry | Silicon Under Test |
| CM2012bg | Low-Power 8-Bit SAR ADC | Successive Approximation, 50kSPS, avdd=1.8V, dvdd=1.8V, current consumption below 30µA in active mode | 0.15µm | LFoundry | Silicon Proven |
| CM2013ae | Low-Power 10-Bit SAR ADC | Successive Approximation, 50kSPS, 4 multiplexed inputs, targeted for use in microcontrollers | 0.35µm | X-FAB | Silicon Under Test |
| CM2111bg | Ultra-Low-Power ADC | Time-Based, 50SPS, current consumption below 850nA in active mode, supply voltage range 1.0V – 3.6V | 0.15µm | LFoundry | Silicon Under Test |
| CM2211bg | 2 nd Order ΔΣ ADC | SNR=80dB, 20kSPS, CIC decimator filter | 0.15µm | LFoundry | Silicon Proven |
| CM2311de | 11-Bit SAR ADC/DAC Subsystem | 1–5MSPS configurable, hybrid SAR architecture, 3.7MSPS ADC, 10.4MSPS DAC | 0.35µm | AMS | Silicon Under Test |
| CM3011bg | General Purpose DAC | 2MSPS, avdd=3.3V, dvdd=1.8V, buffered output option | 0.15µm | LFoundry | Silicon Under Test |

Clock Management

| IP PN | NAME | DESCRIPTION | TECH | FOUNDRY | STATUS |
|----------|-----------------------------------|---|--------|----------|--------------------|
| CM4011bg | 130kHz Ultra-Low-Power Oscillator | Current consumption of 2nA/kHz, supply voltage range 1.0V – 3.6V, internal level shifter and current bias | 0.15µm | LFoundry | Silicon Proven |
| CM4012bg | 4MHz Ultra-Low-Power Oscillator | Current consumption below 1µA, supply voltage range 1.0V – 3.6V, internal level shifter and current bias | 0.15µm | LFoundry | Silicon Proven |
| CM4013ae | 12MHz Low-Power Oscillator | Current consumption below 5µA, supply voltage range 2.7V – 3.6V, internal level shifter | 0.35µm | X-FAB | Silicon Proven |
| CM4014ff | 2MHz Ultra Low Power Oscillator | Current consumption below 600nA, supply voltage range 1.0V – 2.0V, internal level shifter | 0.18µm | SilTerra | Silicon Under Test |

Sensors and Actuators

| IP PN | NAME | DESCRIPTION | TECH | FOUNDRY | STATUS |
|----------|------------------------|---|--------|---------|--------------------|
| CM6011ae | Capacitive Sensor | 3pF sensibility, 460kHz–600kHz frequency output, targeted for use in microcontrollers | 0.35µm | X-FAB | Silicon Under Test |
| CM6111ae | 30V/20mA Driver/Switch | Power Short circuit protection, over-current detection, programmable output current | 0.35µm | X-FAB | Silicon Under Test |

Complete Front Ends

| IP PN | NAME | DESCRIPTION | TECH | FOUNDRY | STATUS |
|----------|--------------------------------------|---|--------|----------|--------------------|
| CM9011ff | UHF Passive RFID RF/Analog Front End | Compliant with EPCGlobal Class 1 Gen 2 / ISO18000-6C. Complete analog/RF front-end, with rectifier, demodulator, backscattering modulator, PMU, and persistence flag generator. Ultra low current consumption: 1.5uA. | 0.18µm | SilTerra | Silicon Under Test |

IP Portfolio

Our configurable IP cores allow higher level of customization together high IP portability, providing unique level of freedom on customer design requirements. Contact us for availability of our current portfolio in other foundries and nodes as well as for other IPs that are under development or in our roadmap.

Design Services

Flexible and customized design services complements our portfolio, ranging from feasibility studies and design of analog and mixed-signal circuit blocks (schematic/layout) to turnkey ASIC development services solutions. Capable of working with all top EDAs, we focus in providing high-quality and committed design and consulting services.

About Chipus

Chipus Microelectronics is an analog IP design house with strong experience in power management and data converters, focused in reduced time-to-market, but high performance products, accompanied by close and flexible customer support, for IDMs, pure-play foundries, and fabless semiconductor companies worldwide.

Support

For further details, please, visit our website at www.chipus-ip.com or send an e-mail to ip@chipus-ip.com.

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