

# IGADACT09A

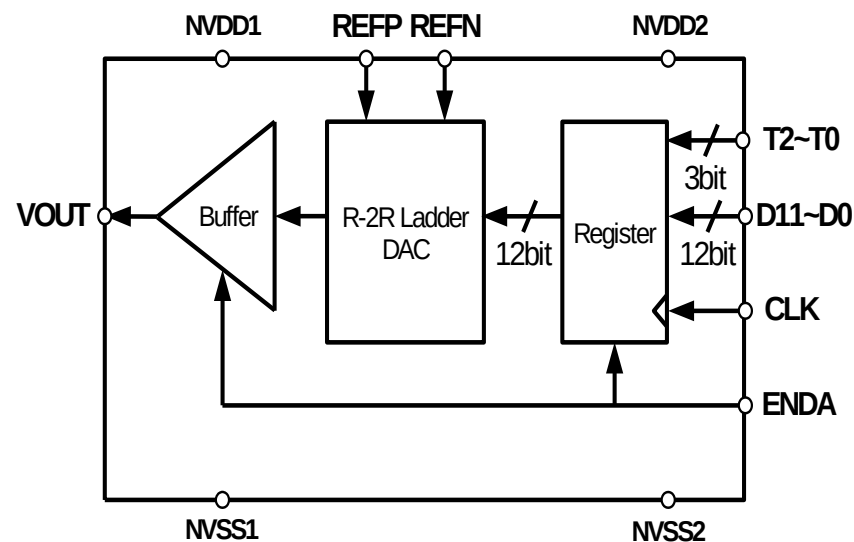
## TSMC CLN28HPC+

### 12-bit 5MHz R2R DAC [1ch]

#### Overview

IGADACT09A is a general-purpose digital-to-analog converter with 12-bit resolution. The sampling rate is up to 5M samples per second. IGADACT09A is composed of a R-2R resistive ladder and a voltage buffer. Output voltage of IGADACT09A is single-ended with rail-to-rail range.

IGADACT09A is fabricated with TSMC 28nm 1.8V/0.9V HPC+ process with 1P7M layout.



**IGADACT09A Block Diagram**

#### Features

- 12-bit resolution
- Up to 5MHz conversion rate
- Monotonic guarantee
- Output voltage range: rail-to-rail
- Operation temperature range: -40°C ~125°C
- DNL < +/- 0.5LSB, INL < +/- 1LSB
- Power down mode is available

#### Technology

- Process: TSMC 28nm 1.8V/0.9V HPC+ Process
- Special Layer & Device: N/A
- Metal Scheme : 1P7M layout (5X1Z)

## Deliverables

| Item | Description             | Format      |
|------|-------------------------|-------------|
| 1    | Comprehensive Documents | .pdf        |
| 2    | Hard Marco              | .gds / .spi |
| 3    | Synthesis Model         | .lib / .db  |
| 4    | Verilog Model           | .v          |
| 5    | LEF Model               | .lef        |

## About Global Unichip Design Excellence

GUC, the Flexible ASIC Leader™, provides a comprehensive suite of Flexible ASIC Services from silicon-proven IP to complete SoC integration and delivery. Founded in 1998, GUC is publicly traded on the Taiwan Stock Exchange. GUC's design services cover all fabrication technologies from mature processes up to the most advanced 28nm node. At the most advanced nodes, high complexity, noise coupling, electro migration, dynamic IR drop and design for manufacturing (DFM) problems now exceed the capability of traditional design methodology. That's why GUC provides an advanced technology design flow that includes a quick prototyping step to achieve rapid timing and signal integrity closure.

As an added assurance, all of GUC IP are silicon-proven and designed with manufacturability, test, and yield considerations in mind. GUC provides a total IP solution through FPGA platform verification for a variety of products.

GUC's in-house IP Portfolio includes DDR, High Speed Interface, Data Converter, Hardened ARM Core, Multimedia and specialized IP. GUC's IP Eco-System provides the flexibility to work with IP from GUC, TSMC and other vendors, creating the widest range of design options. Based in Hsinchu Taiwan, GUC has developed a global reputation with a presence in China, Europe, Japan, Korea, and North America. With a solid track record of shipping more than 150 million complex SoC units to date, GUC provides the fastest time-to-market at the lowest possible risk.

**For more information about this product or other GUC services please visit us on the web at [www.guc-asic.com](http://www.guc-asic.com)**