

Features

- Resolution 8 bits
- Low Noise $31\text{pA}/\sqrt{\text{Hz}}$ for 10 mA full-scale output current
- Full-scale output current 1.14 mA to 10 mA programmable with 5 bits
- Current variation +/- 5 % reducible to +/- 1% with external resistor
- Clock rate up to 1 MHz
- Turn on time 30 μs
- Available in Jazz SiGe 60
- Portable to other BiCMOS technologies

Applications

- Wireless Transmitters
- General Purpose low noise DAC

Description

The Kaben Wireless Silicon KR-DAC-01-JZ60-01 is a general purpose 8-bit low noise DAC.

When integrating the KR-DAC-01-JZ60-01 8-bit low noise DAC into any system platform, our engineers provide an optimized design for system-level integration and verification, fabrication, and maximum re-use. We make your systems design predictable and efficient across many processes and application areas.

The design can be rapidly customized for many BiCMOS foundry processes. Support includes tools for all phases of the life cycle of your SoC.

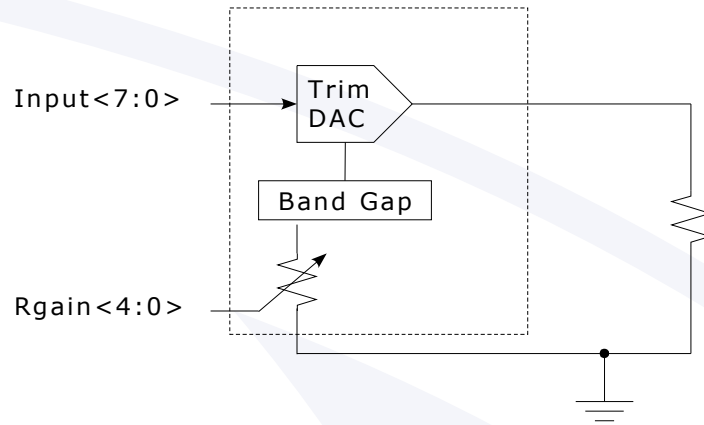
Kaben's 8-bit low noise DAC can drive up to 10 mA into a load and achieve a very low noise density of $31\text{pA}/\sqrt{\text{Hz}}$ at a 100 kHz offset. The full-scale output current is programmable from 1.14 mA to 10 mA through 5 bits making it very versatile for different applications. Output current variation across process, supply and temperature is +/- 5 %. This can be reduced using an external resistor.

For system design, we provide a kit that includes high-level models in Matlab/Simulink, or Verilog/Verilog-A. System-level models offer various modes of abstraction for flexibility in simulation speed vs. accuracy.

At the circuit design level, we deliver GDS II files and a Cadence library containing schematics, symbols, and cell layouts. We also provide production test procedures for the cell.

8-bit low noise DAC

KR-DAC-01-JZ60-01 Data Sheet



KR-DAC-40-JZ60-01

Electrical Characteristics

Parameter	Conditions	Min	Typ	Max	Units
Analog Supply Voltage		2.7	3	3.6	V
Analog Supply Current	Static consumption with full-scale output current of 10 mA.		30		mA
Power Down Current				700	nA
Resolution			8		Bits
Input Clock			DC	1	MHz
Bandwidth			500		kHz
Noise	Noise density at 100 kHz offset. Output current set to full-scale of 10 mA		31		$\frac{\mu A}{\sqrt{Hz}}$
Full Scale Output Current	Programmable with 5 bits. Current variation for any setting is 5 %.	1.14		10	mA
INL	Static			+/- 0.5	LSB
Turn on time				30	μs
Operating Temperature		-40		+85	$^{\circ}C$
Area			300,000		μm^2