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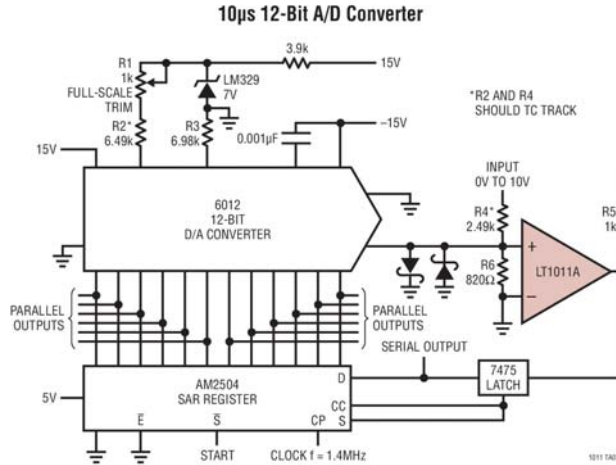
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LT1011/LT1011A - Voltage Comparator

Features

Pin-Compatible with LM111 Series Devices
Guaranteed Max. 0.5mV Input Offset Voltage
Guaranteed Max. 25nA Input Bias Current
Guaranteed Max. 3nA Input Offset Current
Guaranteed Max. 250ns Response Time
Guaranteed Min. 200,000 Voltage Gain
 50mA Output Current Source or Sink
 $\pm 30\text{V}$ Differential Input Voltage
 Fully Specified for Single 5V Operation
 Available in 8-Lead PDIP and SO Packages

Typical Application



ORDER NOW

Request Samples
<http://domain.com/samples/LT1011>

DOCUMENTATION

Datasheet

LT1011/LT1011A - Voltage Comparator
<http://www.linear.com/docs/2476>

Application Note

AN12 - Circuit Techniques for Clock Sources
<http://www.linear.com/docs/4108>

AN13 - High Speed Comparator Techniques (<http://www.linear.com/docs/4109>)

AN14 - Designs for High Performance Voltage-to-Frequency Converters
<http://www.linear.com/docs/4110>

AN17 - Considerations for Successive Approximation A->D Converters
<http://www.linear.com/docs/4113>

AN2 - Performance Enhancement Techniques for Three-Terminal Regulators
<http://www.linear.com/docs/4099>

AN20 - Application Considerations for an Instrumentation Lowpass Filter
<http://www.linear.com/docs/4115>

AN29 - Some Thoughts on DC-DC Converters
<http://www.linear.com/docs/4122>

AN30 - Switching Regulator Circuit Collection
<http://www.linear.com/docs/4123>

AN67 - Linear Technology Magazine Circuit Collection, Volume III (<http://www.linear.com/docs/4156>)

AN7 - Some Techniques for Direct Digitization of Transducer Outputs (<http://www.linear.com/docs/4103>)

AN8 - Power Conditioning Techniques for Batteries
<http://www.linear.com/docs/4104>

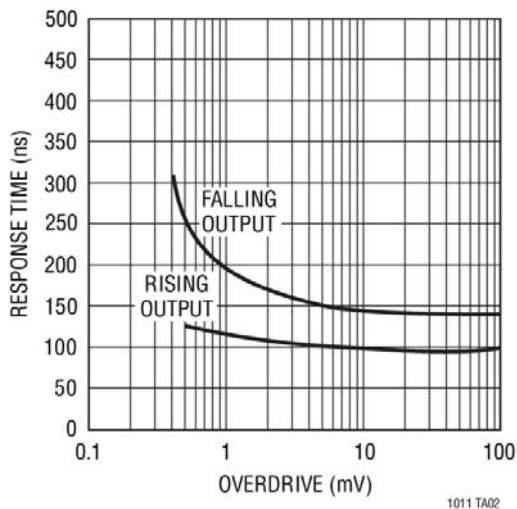
AN9 - Application Considerations and Circuits for a

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Response Time vs Overdrive



Description

The LT1011 is a general purpose comparator with significantly better input characteristics than the LM111. Although pin compatible with the LM111, it offers four times lower bias current, six times lower offset voltage and five times higher voltage gain. Offset voltage drift, a previously unspecified parameter, is guaranteed at $15\mu\text{V}/^\circ\text{C}$. Additionally, the supply current is lower by a factor of two with no loss in speed. The LT1011 is several times faster than the LM111 when subjected to large overdrive conditions. It is also fully specified for DC parameters and response time when operating on a single 5V supply. The LT1011 retains all the versatile features of the LM111, including single 3V to $\pm 18\text{V}$ supply operation, and a floating transistor output with 50mA source/sink capability. It can drive loads referenced to ground, negative supply or positive supply, and is specified up to 50V between V^- and the collector output. A differential input voltage up to the full supply voltage is allowed, even with $\pm 18\text{V}$ supplies, enabling the inputs to be clamped to the supplies with simple diode clamps.

Applications

- SAR A/D Converters
- Voltage to Frequency Converters
- Precision RC Oscillator
- Peak Detector
- Motor Speed Control
- Pulse Generator
- Relay/Lamp Driver

People Who Viewed This Product Also Viewed

[LT1016 - Ultra Fast Precision 10ns Comparator \(http://domain.com/product/LT1016\)](http://domain.com/product/LT1016)

[LT1017 - Micropower Dual Comparator \(http://domain.com/product/LT1017\)](http://domain.com/product/LT1017)

[LT3080 - Adjustable 1.1A Single Resistor Low Dropout Regulator \(http://domain.com/product/LT3080\)](http://domain.com/product/LT3080)

[Amp \(http://www.linear.com/docs/4105\)](http://www.linear.com/docs/4105)

Design Note

[DN111 - LT1510 High Efficiency Lithium-Ion Battery Charger \(http://www.linear.com/docs/4312\)](http://www.linear.com/docs/4312)

Reliability Data

[R088 Reliability Data \(http://www.linear.com/docs/2477\)](http://www.linear.com/docs/2477)

LT1716 - SOT-23, 44V, Over-The-Top, Micropower, Precision Rail-to-Rail Comparator (<http://domain.com/product/LT1716>)

LT5400 - Quad Matched Resistor Network (<http://domain.com/product/LT5400>)

LT1719 - 4.5ns Single/Dual Supply 3V/5V Comparator with Rail-to-Rail Output (<http://domain.com/product/LT1719>)

LT6700 - Micropower, Low Voltage, Dual Comparator with 400mV Reference (<http://domain.com/product/LT6700>)

LT6703 - Micropower, Low Voltage Comparator with 400mV Reference (<http://domain.com/product/LT6703>)

LT1167 - Single Resistor Gain Programmable, Precision Instrumentation Amplifier (<http://domain.com/product/LT1167>)

LT1028 - Ultra Low Noise Precision High Speed Op Amps (<http://domain.com/product/LT1028>)

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