

COMLINEAR® CLC2550, CLC4550

Low Power, Low Offset, 2V to 36V Comparators



FEATURES

- 2mV input offset voltage
- 25nA input bias current
- ±5nA input offset current
- 0.9mA supply current
- CMIR includes ground
- 200mV output saturation voltage at 4mA
- 2V to 36V single supply voltage range
- ±1V to ±18V dual supply voltage range
- Open collector output
- CLC2550: improved replacement for LM393
- CLC4550: Improved replacement for LM339
- CLC2550: Pb-free SOIC-8
- CLC4550: Pb-free SOIC-14

APPLICATIONS

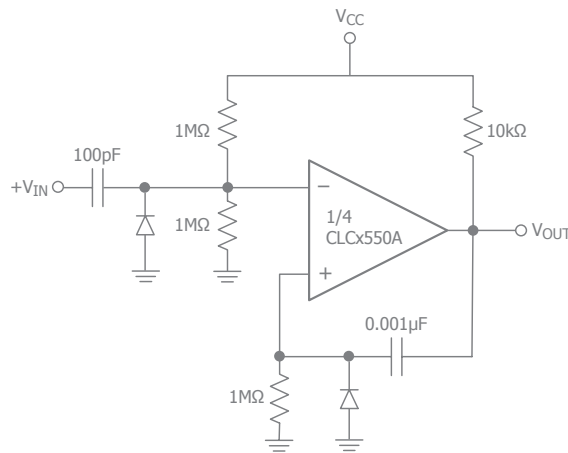
- Battery charger
- Cordless telephone
- Switching power supply
- DC-DC module
- PC motherboard
- Communication equipment
- Widerange VCO
- Squarewave and time delay generators
- MOS clock timers
- High voltage digital logic gates
- Multivibrators

General Description

The COMLINEAR CLC2550 (dual) and CLC4550 (quad) are precision voltage comparators with a typical offset of 2mV and high gain (200V/mV). These comparators also offer an input common-mode voltage range that includes ground.

The COMLINEAR CLC2550, and CLC4550 operate from a wide supply voltage range of ±1V to ±18V, or from a single supply range of 2V to 36V. These comparators are available in Pb-free, RoHS compliant SOIC-8 and SOIC-14 packages. They operate over the industrial temperature range of -40°C to +85°C.

Typical Application - One Shot Multivibrator



COMLINEAR CLC2550, CLC4550 Low Power, Low Offset, 2V to 36V Comparators Rev 1A

Ordering Information

Part Number	Package	Pb-Free	RoHS Compliant	Operating Temperature Range	Packaging Method
CLC2550ISO8X	SOIC-8	Yes	Yes	-40°C to +85°C	Reel
CLC4550ISO14X	SOIC-14	Yes	Yes	-40°C to +85°C	Reel

Moisture sensitivity level for all parts is MSL-1.

Electrical Characteristics

T_A = 25°C (if **bold**, T_A = -40 to +85°C), V_S = +5V, -V_S = GND unless otherwise noted.

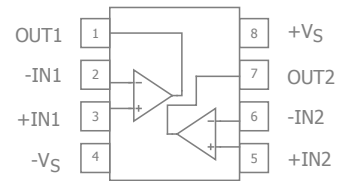
Parameter	Conditions	Min	Typ	Max	Units
Frequency Domain Response					
Input Offset Voltage	V _{OUT} = 1.4V, R _S = 0Ω, V _S = 5V to 30V		2	5	mV
				7	mV
Input Bias Current	V _{CM} = 0V		25	250	nA
				400	nA
Input Offset Current	V _{CM} = 0V		5	50	nA
				200	nA
Common Mode Input Range ⁽³⁾	+V _S = 30V	0		+V _S -1.5	V
Voltage Gain	+V _S = 15V, R _L = ≥15kΩ, V _{OUT} = 1V to 11V	50	200		V/mV
Supply Current, CLC2550	R _L = ∞, +V _S = 30V		0.7	1.7	mA
	R _L = ∞, +V _S = 5V		0.6	1.0	mA
Supply Current, CLC4550	R _L = ∞, +V _S = 30V		1.2	2.5	mA
	R _L = ∞, +V _S = 5V		0.9	2.0	mA
Time Domain Response					
Large Signal Response Time	V _{IN} = TTL logic swing, V _{REF} = 1.4V, V _{RL} = 5V, R _L = 5.1kΩ		200		ns
Response Time	V _{RL} = 5V, R _L = 5.1kΩ, 5mV overdrive		1.3		μs
	V _{RL} = 5V, R _L = 5.1kΩ, 10mV overdrive		0.9		μs
	V _{RL} = 5V, R _L = 5.1kΩ, 15mV overdrive		0.8		μs
Output Characteristics					
Output Sink Current	V _{IN+} = 0V, V _{IN-} = 1V, V _{OUT} = 1.5V	6.0	16		mA
Output Leakage Current	V _{IN+} = 1V, V _{IN-} = 0V, V _{OUT} = 5V		0.1		nA
	V _{IN+} = 1V, V _{IN-} = 0V, V _{OUT} = 30V			1	μA
Saturation Voltage	V _{IN+} = 0V, V _{IN-} = 1V, I _{SIK} ≤ 4mA		200	400	mV
				500	mV

Notes:

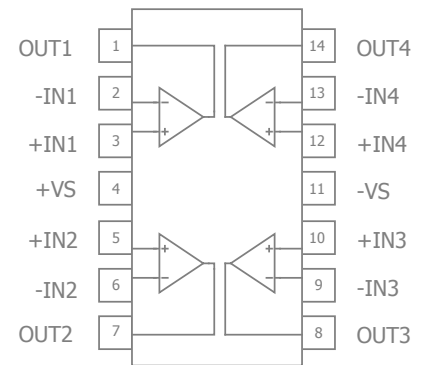
1. 100% tested at 25°C.
Refer to the data sheet for complete product specifications

Available Packages

CLC2550 SOIC-8



CLC4550 SOIC-14



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For additional information regarding our products, please visit CADEKA at: cadeka.com

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