



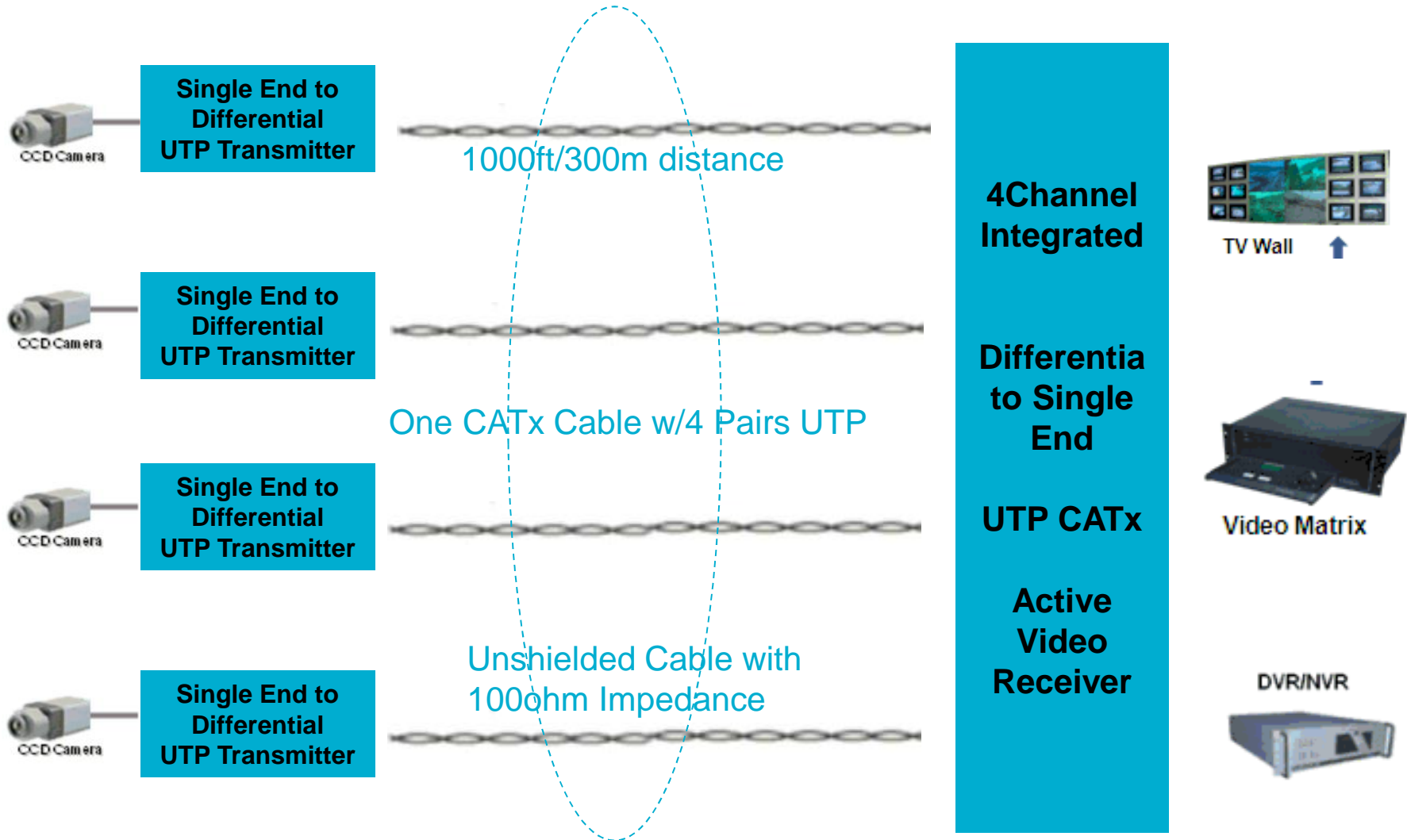
CADEKA Solution in Surveillance Video UTP Cable Transmission





CLC2000_5 & CLC4601 Reference Design
for Camera and DVR 300m UTP CAT5 Cable SD-Video High
Integrated Video Transmission

System Configuration Diagram for CCTV Video Transmission over UTP CATx Cable



- Using cost effective UTP CAT3/4/5/5e/6 cable instead of expensive coaxial cable and easy for installation
- Amplified active transmission solution has higher cable compatibility
- Robust lightning & surge protection, ESD immunity circuits
- Ensure the video source, camera and receiver equipment like DVR could not be damaged by transient.
- Functional like interface-body guarder for system reliability.

- Sharing system power, Integrated solution on both camera and DVR
- High integrated solution and enhanced transient immunity for DVR
- Ensure the UTP transmission be compatible with different type cables
- Ensure the system has better brightness and sharpness compensation
- Enhanced 'Hum-bar' rejection due to active amplifiers highest CMRR
- System can be easily functional as Power-Video-Data (PVD) topology
- Lower system power design, green energy power

- ü **CLC2000, 450MHz Bandwidth, G=+1**
- ü **Dual Channel High Speed Amplifier**
- ü **$\pm 200\text{mA}$ Large Current Output Op Amp**
- ü **Work at +5V to +12V Single Power Supply**
- ü **Up to 80dB Common Mode Rejection Ratio**
- ü **ESD Protection: 2.5kV (HBM)**
- ü **Industrial Temperature Range (-40° C to +85° C)**
- ü **Standard SOIC-8 Package**



COMLINEAR® CLC2000

High Output Current Dual Amplifier

- ü **CLC2005, 260MHz Bandwidth**
- ü **Dual Channel Rail to Rail Amplifier**
- ü **$\pm 55\text{mA}$ Current Output Op Amp**
- ü **Work at +5V Single Power Supply**
- ü **Up to 85dB Common Mode Rejection Ratio**
- ü **ESD Protection: 2.5kV (HBM)**
- ü **Industrial Temperature Range (-40° C to +85° C)**
- ü **Standard SOIC-8 Package**



Comlinear® CLC2005

Dual, Low Cost, +2.7V to 5.5V, 260MHz
Rail-to-Rail Amplifier

- ü CLC4601, 550MHz Bandwidth, CFA
- ü Current Feedback Amplifier for Equalization
- ü Up to 1500V/uS Slew Rate
- ü Quad Channel High Speed Amplifier
- ü 52mA Current Output Op Amp
- ü Work at +5V to +12V Single Power Supply
- ü Up to 55dB Common Mode Rejection Ratio
- ü ESD Protection: 2.5kV (HBM)
- ü Industrial Temperature Range (-40° C to +85° C)
- ü Standard SOIC-14 Package



COMLINEAR® CLC2601, CLC3601, CLC4601
Dual, Triple, and Quad 550MHz Amplifiers

CLC4601 Real Product Design Case - 16CH UTP CAT5 Active Receiver Hub

- 4X RJ45 Compact Jacks for UTP Cable Differential Inputs
- 16pcs BNC-Female Connectors for Single End Outputs
- Broadcast Video Compensation for Brightness & Sharpness
- Compatible with different UTP Cables w/ Image Figure Restore
- Enhanced 'Hum-Bar' Rejection in Hush Engineering Environment
- 12VDC/500mA External Power to Internal 9VDC Regulator
- Robust Lightning & Surge, ESD Protection Against Passive Way
- Grounding Connector for Lightning Surge 'GND' Path
- Standard 1U,19" Rack Mounting Housing
- CE/FCC/Rohs Standard Compatibility



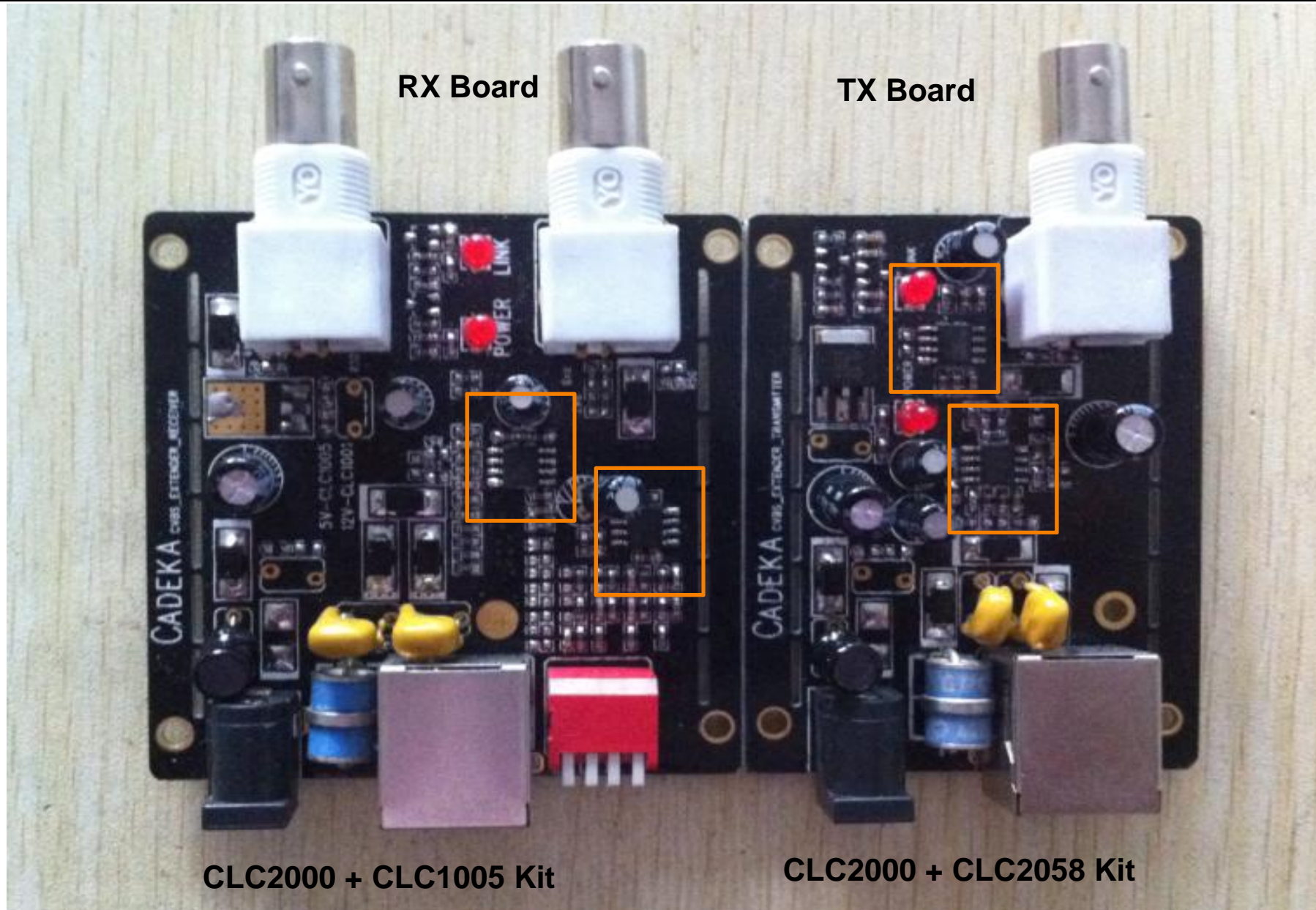


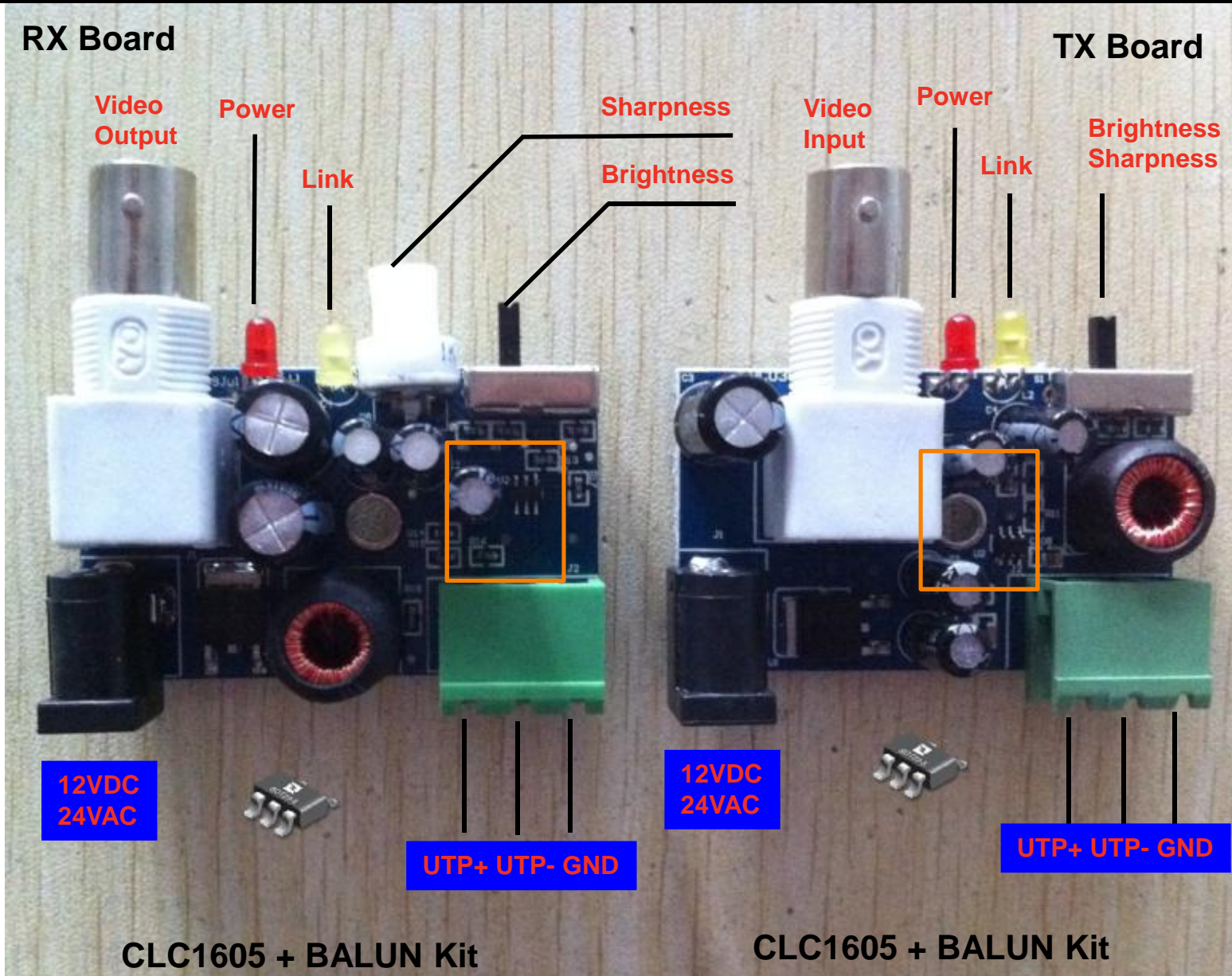
CADEKA Solution in Video UTP Cable Transmission



CLC2000+CLC2058 & CLC2000+CLC1005
Reference Design
for Camera and Monitor/DVR 900m UTP CAT5 Cable SD-Video
Transmission

900m Tx & Rx DEMO BOARD





CLC1605 + BALUN Kit

CLC1605 + BALUN Kit

Real Product Design Case - Single Channel UTP CAT5 Active Transceiver

- 2X Screw Terminal Blocks for UTP Cable Differential Outputs
- Single BNC-Female Connectors for Single End Video Input
- Broadcast Video for Brightness & Sharpness (*Optional)
- Enhanced 'Hum-Bar' Rejection in Hush Engineering Environment
- 12VDC/200mA External Power to Internal Secondly 9VDC Regulator
- Robust Lightning & Surge, ESD Protection Against Passive Way
- Grounding Connector for Lightning Surge 'GND' Path
- Standard Metal Case, Low Power Design
- CE/FCC/Rohs Standard Compatibility





CADEKA Solution in Surveillance Video Transmission



CLC2601 + CLC2601 Reference Design
for Camera and Monitor/DVR 1500m UTP CAT5 Cable SD-Video
Transmission

- ü **CLC2601, 550MHz Bandwidth, CFA**
- ü **Current Feedback Amplifier for Equalization**
- ü **Up to 1500V/uS Slew Rate**
- ü **Dual Channel High Speed Amplifier**
- ü **52mA Current Output Op Amp**
- ü **Work at +5V to +12V Single Power Supply**
- ü **Up to 55dB Common Mode Rejection Ratio**
- ü **ESD Protection: 2.5kV (HBM)**
- ü **Industrial Temperature Range (-40° C to +85° C)**
- ü **Standard SOIC-8 Package**

COMLINEAR® CLC2601, CLC3601, CLC4601
Dual, Triple, and Quad 550MHz Amplifiers

Analog HD-Video Coaxial Transmission



**CLC1005/2005(TX) +
CLC1002+CLC3605+CLC3605(RX/EQ)**

Reference Design

**for Camera and Monitor/DVR 500m Coaxial Cable Analog HD-Video
Transmission**

Comlinear™ CLC1002, CLC2002

Single and Dual, Ultra-Low Noise Amplifiers

FEATURES

- 0.65 nV/√Hz input voltage noise
- Rail-to-Rail output
- 1.1GHz gain bandwidth product
- Minimum stable gain of 5
- 360V/μs slew rate
- 100mA output current
- -55°C to +125°C operating temperature range
- Fully specified at 5V and ±5V supplies
- CLC1002: Lead-free SOT23-6
- Future option CLC2002: Lead-free SOIC-8

Functional as ground floating isolation

Common mode noise rejection for cable

Differential to single end convertor

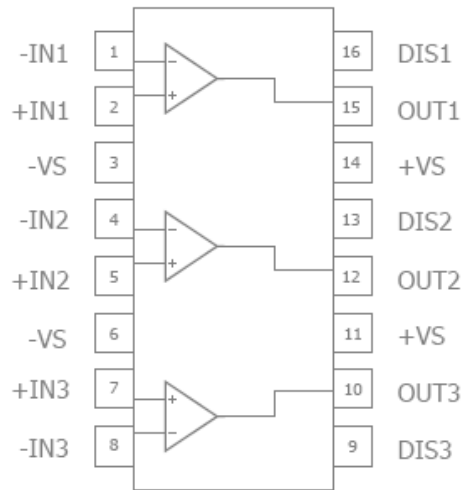
High bandwidth with low noise

Mini stable gain=5



World's Only Triple 1.5GHz HS Current Feedback Op Amp – CLC3605

CLC3605 Pin Configuration



- **Bandwidth –3 dB**
 - ü 1.5GHz on all three channels, unity gain
 - ü 1000 MHz on all three channels, Gain=2
- **Slew Rate**
 - ü 2500 V/us into a 150 ohm load
- **Power consumption**
 - 11 mA / amplifier driving a video load
- **Topology**
 - Triple Current Feedback

THANK YOU TRUST CADEKA!

- Web Site: <http://www.cadeka.com>
- Application Contact Window:

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