Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

Contact us

Tel: +86-755-8981 8866 Fax: +86-755-8427 6832
Email & Skype: info@chipsmall.com Web: www.chipsmall.com
Address: A1208, Overseas Decoration Building, #122 Zhenhua RD., Futian, Shenzhen, China

BROADCOM®

SELECTION GUIDE

Optoisolation and Optical Sensor Products

broadcom.com

Optoisolation Products

Optical Sensors





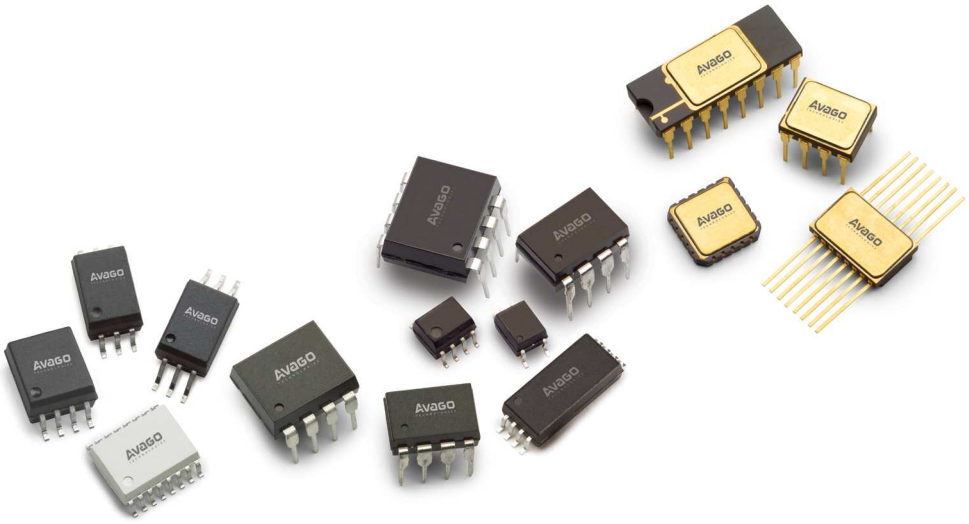
Broadcom offers the industry's best isolation technology along with the industry's leading CMR performance

Broadcom optocouplers can be used in an array of isolation applications ranging from power supply and motor control circuits to data communications and digital logic interface circuits.

The primary purpose of an optocoupler is to provide both electrical insulation and signal isolation. The popularity of Broadcom optocouplers is due to cost effective innovations in these areas.

Optocouplers eliminate the effects of electrical noise caused by crosstalk, power glitches and electrical interference. They provide high voltage isolation allowing safe interface between high and low voltages in electrical circuits. They are also used for shifting logic levels. Broadcom' key products include optocouplers with phototransistor output, digital and analog output, high speed and high gain performance, drivers for isolated gate transistors and intelligent power modules, smart current sensors, solid state relay (Photo MOSFET) and other application specific devices.

Broadcom offers the industry's best isolation technology along with the industry's leading CMR performance of up to 100 kV/µs in a broad line of packages. Products include the lowest power dissipation with input current as low as 40 µA, high speed digital optocouplers operating at up to 50 MBd, propagation delays as low as 22 ns, 3.3 V JEDEC compatible optocouplers. Broadcom' optocouplers are manufactured with high quality and reliability and have worldwide safety approvals including the highest maximum insulation voltage (V_{IORM}) at 2262 V_{PEAK} (per IEC/EN/DIN EN 60747-5-5).



Broadcom offers a broad range of isolation products that provide performance features and benefits that are unmatched in the industry for industrial, computing, consumer, communication, medical, military and aerospace markets.

Applications for Broadcom Isolation Products

Industrial

The widest portfolio of optocouplers to meet the extensive requirements of applications in factory automation.

- Automated test equipment
- Battery operated vehicle
- Fieldbus
- Industrial communications
- Industrial networking
- Motor control
- PLC input/output isolation
- Power distribution systems
- Power generation
- Renewable energy power generation
- Energy storage system
- Electric vehicle charging station
- Robotics
- Switching panel
- Switching power supplies
- Test and measurement equipment

Automotive

Broadcom automotive R²Coupler are AEC-Q100 qualified with applications in:

- Automotive and shipboard system CANBus interface isolation
- Motor inverter drives
- DC-DC converters/inverters for battery chargers
- Battery/inverter voltage monitoring
- Status/fault signal feedback isolation interface
- Heating, ventilation and air conditioning

Medical

Broadcom offers optocouplers with high linearity and high resolution for severe isolation requirements to:

- Defibrillators
- ECG/EKG
- Endoscopes
- Magnetic resonance imaging
- Patient monitoring

Computers and Office Equipment

Broadcom' optocouplers with CMOS compatibility and high speed are used to provide interface isolation for:

- Isolated input/output module
- Isolated USB hub
- Printers and plotters

Communications

Broadcom provides high speed optocouplers in both single and dual surface-mount packages which are used in:

- Automated metering reading
- Digital cross connect
- Distributed power architecture
- ISDN
- Modems
- PBX and central office
- Power line communication
- Power over ethernet
- Telephone switching equipment
- Telephone terminal equipment
- Wireless base station

Consumer Electronics

Broadcom offers lower solution costs with highly integrated optocouplers for many consumer applications, such as:

- Air conditioning
- Alarm systems
- Audio and video equipment
- Electronic gaming
- Fitness equipment
- Induction cookers
- Plasma displays
- Washing machines

Military and Aerospace

Broadcom' high reliability hermetic optocouplers are suitable for military, aerospace and harsh industrial applications such as:

- Switching power supplies /UPS
- Motor control
- Field bus
- Inverters
- Power distribution
- Communications

Quick Guide to Direct Upgrades

Upgrade Part	Feature	Benefit
High Voltage Insulation		
Improved Isolation/Insulation Ability to protect surrounding circuitry against physical damage resulting from differential voltages.	ACNT-Hxxx and ACNV family offers highest available working voltage ratings with regulatory approval per IEC/EN/DIN EN 60747-5-5 of 2262 V peak.	Meets international safety regulations and standards. Provides better isolation and overall safety performance.
Noise Isolation		
High CMR Common-mode transient rejection or signal isolation of data through suppression of noise transients.	Offers guaranteed CMR performance up to 100 kV/µs which is the highest available in the market.	**Improves system performance, and reliability.** More robust systems and better data integrity meet EMI and ESD requirements.
Power Consumption		
Drive Current, I_F Low Drive Current, LED drive current.	Offers the **lowest I_F (as low as 40 µA)** devices in the market and broadest HCMOS compatibility.	**Eliminates additional LED drive circuitry.** Improves system efficiency and reduces power consumption and LED degradation.
Lower Power Supply Lower power supply (3.3V)	Lower the **power consumption** and meets JEDEC low voltage requirements.	Up to **50%** energy saving.
Flexible Supply Voltages (3.3V/5V)	Support a combination of two different supply voltages at the input and output.	**Built-in internal level shifter,** eliminate the need of extra power supply. 3.3V or 5V. 3.3V helps to improve the overall power consumption.
Temperature		
Temperature The DC, speed performance and the reliability information is ensured at the specific temperature range.	Support up to **-55°C to 125°C** temperature range.	Allow extreme temperature operation.
Speed Benefits		
Propagation Delay, tp Describes how quickly a logic signal can propagate through the system.	High speed digital optocouplers to meet wide range of applications with **tp as low as 22 ns.**	Increase **switching efficiency** and better speed performance.
Upgrade Pulse Width Distortion, PWD PWD is the difference between t_{PHL} and t_{PHL} and often determines the maximum data rate capability of a transmission system.	The lowest PWD offered by optocoupler is **2 ns.**	To ensure signal **data integrity** over long bus line.
Packages for Space Savings		
Multi-Channels, Bi-directional Features	Integrated **dual, triple, quad** with **bi-directional** channels offers in small SO8 and SO16 package. 2-channels Bidirectional offers in new Stretched SO12 package.	The integrated bi-directional channels help in **space savings** and ease of designs.
Surface Mount Device SMD permits more component density than DIP.	Smaller package to deliver the same functionality as standard DIP. True surface mount technology and standard footprint.	Lower **assembly cost,** easier and faster handling as well as better solderability.
8mm and 11mm (ACNU) Creepage/ Clearance Packages	The package is 50% smaller than conventional DIP package. It can withstand high isolation voltages and meet regulatory requirements such as IEC/UL/CSA standards.	Provides **space savings.** Allows high voltage surge protection. Meets many IEC/UL/CSA equipment standards that call for clearance and creepage of 8mm.
Smaller SO5 Package	**Smaller SO5** package (as compared to existing SO-8 package).	Provides greater than **40% space savings.**

Upgrade Parts

Existing Parts	Upgrade Parts	Upgrade Features	Footprint Information
High Speed Family (>12.5MBd)			
ACPL-072L HCPL-0710/0720/0721	ACSL-7210 ACPL-077L	• Better noise rejection (CMR)performance • Dual supply voltages (3.3V/5V) • Wide temperature (-40°C to 105°C) • Compactness - Bi-directional dual-channel, low profile height 2mm (ACSL-7210)	Drop-in replacement (A CPL-077L) Smaller footprint (ACSL-7210)
HCPL-7710/7720/7721	ACPL-772L	• Dual supply voltages (3.3V/5V) • Wide temperature (-40°C to 105°C) • Lower PWD (<6ns)	Drop-in replacement
HCPL-0708 HCPL-0738	ACPL-071L ACPL-074L	• Dual supply voltages (3.3V/5V) • Better timing specs (<40ns) • Wide temperature (-40°C to 105°C)	Drop-in replacement
HCPL-0708	ACPL-M75L	• Dual supply voltages (3.3V/5V) • Better timing specs (<40ns) • Wide temperature (-40°C to 105°C)	Smaller footprint
HCPL-2400 HCPL-2430	ACPL-W70L ACPL-K73L	• Dual supply voltages (3.3V/5V) • Better timing specs (<40ns) • Wide temperature (-40°C to 105°C) • Higher working insulation and isolation voltages	Smaller footprint
10MBd Family			
ACPL-M60L HCPL-M600/M601/M611	ACPL-M61L	• Up to 80% power consumption saving • Ultra low forward current (IF) to allow direct drive from microcontroller • Wider temperature range (-40°C to 105°C) • CMOS output to eliminate pull-up resistor • Wider supply voltage (2.7V to 5.5V) • Part specific: • Higher working insulation voltage 1140Vpk, isolation 5000Vrms with smaller footprint (ACPL-W61L/K64L) • Open-drain output (ACPL-M62L) • Enable pin included (ACPL-061L/C61L/ ACNW261L)	Pin to Pin (SO-5 package) (no pull-up resistor is required)
HCPL-060L/061A/061N HCPL-0600/0601/0611			Smaller footprint (SO-5 vs SO-8)
HCPL-063A/063L/063N/0630 HCPL-0631/0661	ACPL-064L		Pin to Pin (SO-8 package) (no pull-up resistor is required)
ACPL-W60L/W611/P611 HCPL-260L/2601/2611/261A/261N	ACPL-W61L		Pin to Pin (stretched SO-6 package) (no pull-up resistor is required) Smaller footprint (stretched SO-8 vs 300mil DIP-8)
ACPL-K63L HCPL-263A/263L/263N/2630/2631 HCPL-4661	ACPL-K64L		Pin to Pin (stretched SO-8 package) (no pull-up resistor is required) Smaller footprint (stretched SO-8 vs 300mil DIP-8)
ACPL-M60L HCPL-M600/M601/M611	ACPL-M62L		Pin to Pin (SO5 package)
HCPL-060L/061A/061N HCPL-0600/0601/0611			Smaller footprint (SO-5 vs SO-8)
HCPL-060L/061A/061N HCPL-0600/0601/0611	ACPL-061L		Pin to Pin (SO-8 package) (no pull-up resistor is required)
ACPL-W60L/W611/P611 6N137, HCPL-260L/2601/2611 HCPL-261A/261N	ACPL-C61L		Smaller footprint (no pull-up resistor is required)
HCNW137/2601/2611	ACNW261L		Pin to Pin (400mil DIP-8 package) (no pull-up resistor is required)
ACNV2601 ACNW261L	ACNT-H61L	• Market highest insulation voltage 2262Vpeak • 15mm creepage & clearance	Smaller footprint
HCPL-0600/01/11/1A/1N HCPL-M600/01/11 HCPL-2601/11/1A/1N HCPL-260L/3L HCPL-0630/31/3A/3N/61 HCPL-2630/31/3A/3N HCPL-4661 HCPL-7601/11	ACSL-6210/6300/6310/6400/6410/6420	• Multi-channel, bidirectional • Wide temperature (-40°C to 100ºC) • Flexible supply voltages (3.3V/5V)	Smaller footprint
HCPL-M611	ACPL-M61U R2Coupler	• Wide temperature (-40°C to 125ºC) • Low LED input drive current IF=10mA	Drop-in replacement

Upgrade Parts

Existing Parts	Upgrade Parts	Upgrade Features	Footprint Information
1MBd Family			
HCPL-050L/0500/0501	ACPL-M50L / M51L	• 80% power consumption saving • Low forward current (IF > 3mA min) • High CTR rato >90% min @ IF=3mA • Wide temperature range (-40°C to 105°C) • Wide supply voltage (2.7V to 24V) • Excellent CMR performance 15kV/µs @ Vcm 1500V • Part specific (For ACPL-W50L/K54L): Offer higher working insulation voltage 1140 V_{peak}, isolation voltage, 5000Vrms • Low supply Voltage, 2.5V+/-10% and 4-pin configurable (ACPL-M51L)	Smaller footprint
HCPL-053L/0530/0531	ACPL-054L		Drop-in replacement
6N135, 6N136 HCPL-250L/2502/2503	ACPL-W50L		Smaller footprint
HCPL-253L/2530/2531/2533	ACPL-K54L		Smaller footprint
5MBd Family			
HCPL-0201/0211	ACPL-M21L ACPL-021L	• Low Forward Current (IF@1.6mA min), allowing direct drive from microcontroller without an input buffer • Low Supply Current (IDD@1.1mA max) • Low Supply Voltages (VDD @ 2.7 – 5.5V), with support to go lower to 2.5V • SO5 package to reduce PCB board space and cost • Min CMR at 25kV/µs @ Vcm 1000V to preserve data integrity under noisy environment • Wide Temperature range up to 105 °C for robust temperature environments	Smaller footprint Drop-in replacement
HCPL-2231/2232	ACPL-024L ACPL-K24L		Smaller footprint
HCPL- 2200/2201/2202/2211/2212/2219	ACPL-W21L		
Isolation Amplifier			
HCPL-786x	ACPL-C799	• ±50mV input range for lower shunt losses • More accurate clock (10MHz ±10%) • 8mm creepage and clearance	Smaller footprint
	ACPL-C797	• Wide operating temperature (-40 to +105°C) • More accurate clock (10 MHz ± 10%) • Input offset voltage (0.3 mV typ) • Offset drift (1.5 µV/°C typ) • 3V to 5.5V wide supply range for digital interface	Smaller footprint
	ACPL-796J	• External clocking (up to 20 MHz) for multichannel synchronization • Up to 20MHz External Clocking	SO-16 footprint
	ACPL-798J	• LVDS external clock and data Interface • Up to 25MHz external clocking	
HCPL-7800 HCPL-7800A HCPL-7840	ACPL-C79B, ACPL- C79A, ACPL-C790 ACPL-790B, ACPL-790A, ACPL-7900	• ±0.5%/±1%/±3% gain accuracy • Better linearity • 30% smaller package size • 8 mm Creepage and Clearance • 1414 Vpeak working insulation voltage	Smaller footprint
	ACPL-C87A, ACPL-C87B, ACPL-C870	• 0-2V input range voltage sensor • ±0.5%/±1%/±3% gain accuracy • -35 ppm/°C Low Gain Drift • -0.3 mV Input Offset Voltage • 3 V to 5.5 V Wide Supply Range for Output Side	Smaller footprint
	HCPL-788J / 785J	• ± 3%/± 5% gain accuracy • Overcurrent fault detection	
	HCPL-7510	• -/+ 3% gain accuracy • Single Ended Output	
	HCPL-7520	• -/+ 5% gain accuracy • Single Ended Output	
ACPL-C790, ACPL-C79A, ACPL-C79B, ACPL-C87B, ACPL-C87A, ACPL-C870^	ACNT-H79A, ACNT-H79, ACNT-H87B, ACNT-H87A, ACNT-H870	• Market highest insulation voltage 2262Vpeak • 15mm creepage & clearance • ± 0.5% / ± 1% / ± 3% gain accuracy	Larger footprint to achieve higher creepage and clearance

Note: ^ - Advance information, subject to change without notice.

Upgrade Parts

Existing Parts	Upgrade Parts	Upgrade Features	Footprint Information
Highly Integrated Smart Gate Drive Optocoupler			
HCPL-316J	ACPL-352J	• 5A max. peak output current • Rail-to-rail Dual output • Low Propagation Delay (<150ns) • SiC/GaN MOSFET ready • Functional Safety Reporting • Integrated Active Miller Clamp	Pin layout change
	ACPL-302J	• Integrated DC-DC Controller for floating power supply • Rail-to-Rail output voltage • DESAT and UVLO detection with isolated fault feeback • Integrated Active Miller Clamp	Pin layout change
	ACPL-337J ACPL-336J	• Up to 4A maximum peak output current • Rail-to-Rail output voltage • DESAT and UVLO detection with isolated fault feeback • Integrated LED Driver • Integrated Active Miller Clamp	Pin layout change
	ACPL-335J	• 2.5A MOSFET gate drive optocoupler • UVLO threshold for MOSFET protection • Over current threshold for MOSFET protection • Hard shut down for fast MOSFET protection	Pin layout change
	ACPL-339J	• Scalable & Efficient gate drive design • Dual Rail-to-Rail output to drive external MOSFET buffer • Active timing control to prevent cross conduction in MOSFET buffer • DESAT and UVLO detection with isolated fault feeback	Pin layout change
	ACPL-330J ACPL-331J ACPL-332J ACPL-333J	• Integrated Active Miller Clamp • Lower Propagation Delay (<250ns) • Low PWD (<100ns) • Direct LED drive without Buffer	Pin layout change

Upgrade Parts

Existing Parts	Upgrade Parts	Upgrade Features	Footprint Information
Basic Gate Drive Optocoupler			
HCPL-3120 HCPL-3180 HCPL-3150 HCPL-J312 ACPL-3130 ACPL-J313	ACPL-312U R^2 Coupler™	• Extended operating temperature -40°C to 125°C	Drop-in replacement
	ACPL-P349 ACPL-W349 ACPL-P346 ACPL-W346	• Power & SiC/GaN MOSFET Gate Drive • Rail-to-Rail output voltage • Low Propagation Delay (<120ns) • Very High CMR (50kV/µs)	Smaller footprint
	ACPL-P341 ACPL-W341 ACPL-P343 ACPL-W343	• Up to 4A maximum peak output current • Rail-to-Rail output voltage • Low Propagation Delay (<200ns) • 50% smaller package size	Smaller footprint
	ACPL-H342 ACPL-K342	• Rail-to-Rail output voltage • Integrated Active Miller Clamp • Lower Propagation Delay • Anti-Cross conduction • Very High CMR (40kV/µs)	Smaller footprint
HCNW3120 ACNW3130 ACNW3190	ACNU-3430 ACNU-3410	• - 40% smaller 11mm SSO8 package • - Up to 5A max. peak output current • - Very High CMR (100kV/µs) • - UVLO with VE reference for negative power supply • - Low Propagation Delay (<150ns)	Smaller footprint
	ACNW3430 ACNW3410	• - Up to 5A max. peak output current • - Very High CMR (100kV/µs) • - UVLO with VE reference for negative power supply • - Low Propagation Delay (<150ns	Drop-in replacement
	ACNT-H313 ACNV3130	• Up to 15mm Creepage & Clearance • High Working Voltage V_{IORM} 2262V_{PEAK} • High Insulation Voltage V_{ISO} 7500V_{RMS} • High CMR 40kV/µs	Larger footprint to achieve higher creepage and clearance
HCPL-3140 HCPL-0314 HCPL-J314	ACPL-P314 ACPL-W314	• Low Propagation Delay	Smaller footprint
	ACPL-P347 ACPL-W347 ACPL-P345 ACPL-W345 ACPL-P340 ACPL-W340	• 1A maximum peak output current • Rail-to-Rail output voltage • Low Propagation Delay (ACPL-x345/7 MOSFET Drive <120ns, ACPL-x340 IGBT Drive <200ns) • 50% smaller package size	Smaller footprint
HCPL-3020 HCPL-0302	ACPL-P302 ACPL-W302	• 50% smaller package size • 8mm Creepage and Clearance (ACPL-W302)	Smaller footprint

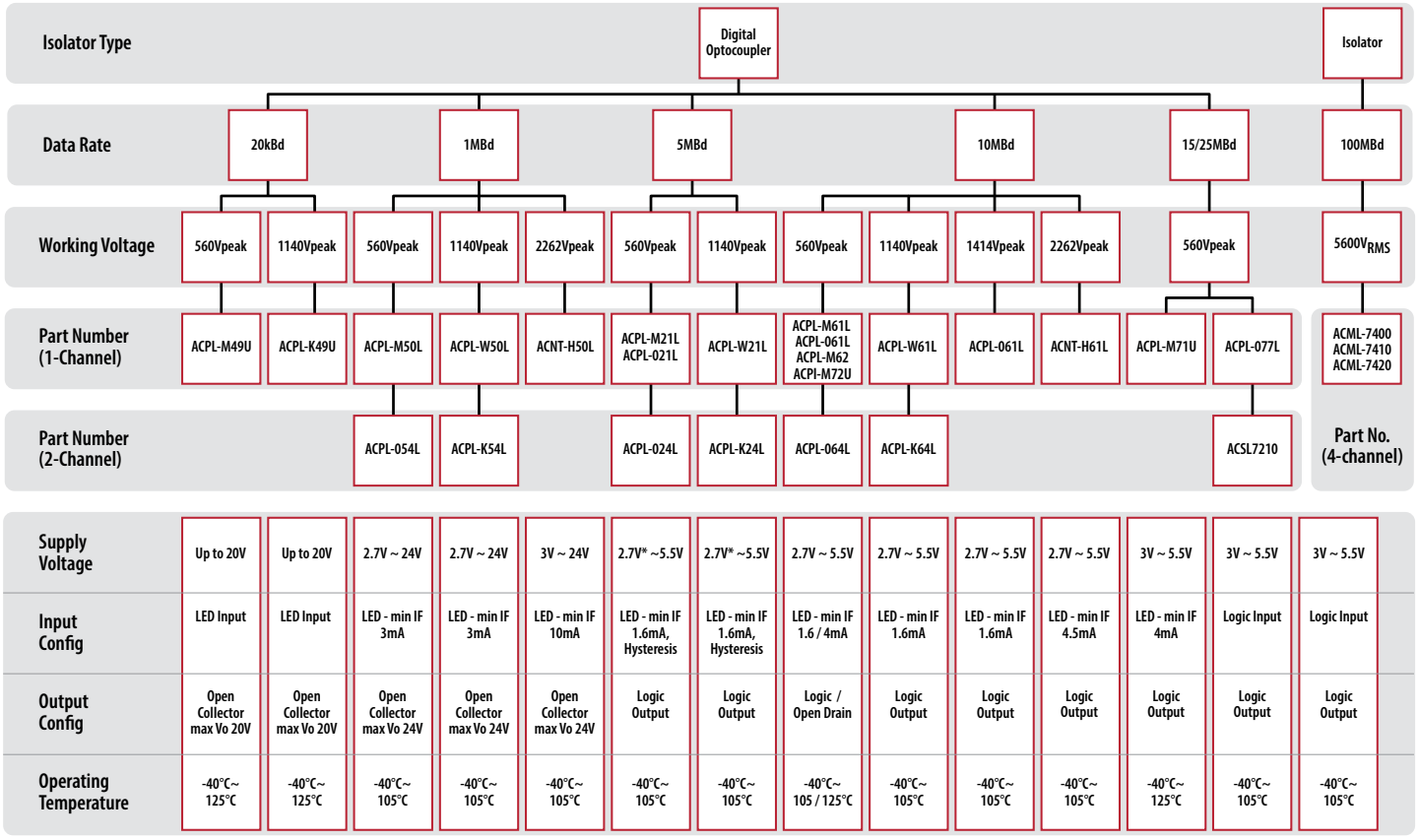
Upgrade Parts

Existing Parts	Upgrade Parts	Upgrade Features	Footprint Information
Intelligent Power Module Interface Optocoupler			
HCPL-4502 HCPL-4503	ACPL-K453	8mm Creepage and Clearance 50% smaller package size	Smaller footprint
HCPL-4504	ACPL-W454	8mm Creepage and Clearance 50% smaller package size	Smaller footprint
	ACPL-P454	8mm Creepage 50% smaller package size	Smaller footprint
HCPL-4506	ACPL-W456	8mm Creepage and Clearance 50% smaller package size	Smaller footprint
	ACPL-P456	8mm Creepage 50% smaller package size	Smaller footprint
ACPL-4800 ACPL-P480 ACPL-W480	ACPL-W484 ACPL-W483	Higher CMR 30kV/µs 10MBd speed Totem-pole output, positive logic (W484) inverting logic (W483) 8mm Creepage and Clearance 50% smaller package size	Smaller footprint Faster speed
	ACPL-P484 ACPL-P483	Higher CMR 30kV/µs 10MBd speed Totem-pole output, positive logic (P484) inverting logic (P483) 8mm Creepage 50% smaller package size	Smaller footprint Faster speed
HCPL-M452/3/4/6	ACPL-M484	Higher CMR 30kV/µs 10MBd speed Totem-pole output, positive logic	Faster speed
HCPL-4502/03/04/06 HCPL-0452/53/54/66	ACPL-W484	8mm Creepage and Clearance Higher CMR 30kV/µs 10MBd speed Totem-pole output, positive logic	Faster speed
HCNW4502/03/04/06	ACNV4506	13mm Creepage and Clearance Higher Working Voltage Viorm 2262Vpk Higher CMR 30kV/µs Totem-pole output, positive logic	Higher Working Voltage
HCPL-M452/53/54	ACPL-M43U	Wide temperature (-40°C to 125°C) Low LED input drive current IF 10mA	Drop-in replacement
HCPL-M456	ACPL-M46U	Wide temperature (-40°C to 125°C)	Drop-in replacement

Note:
Drop-in replacement means no PCB board redesign is required, Pin-to-Pin means the footprint is same but requires minimum PCB board redesign (eg. Removing of external resistor)
* Lower speed
^ Advanced information, may subject to changes.

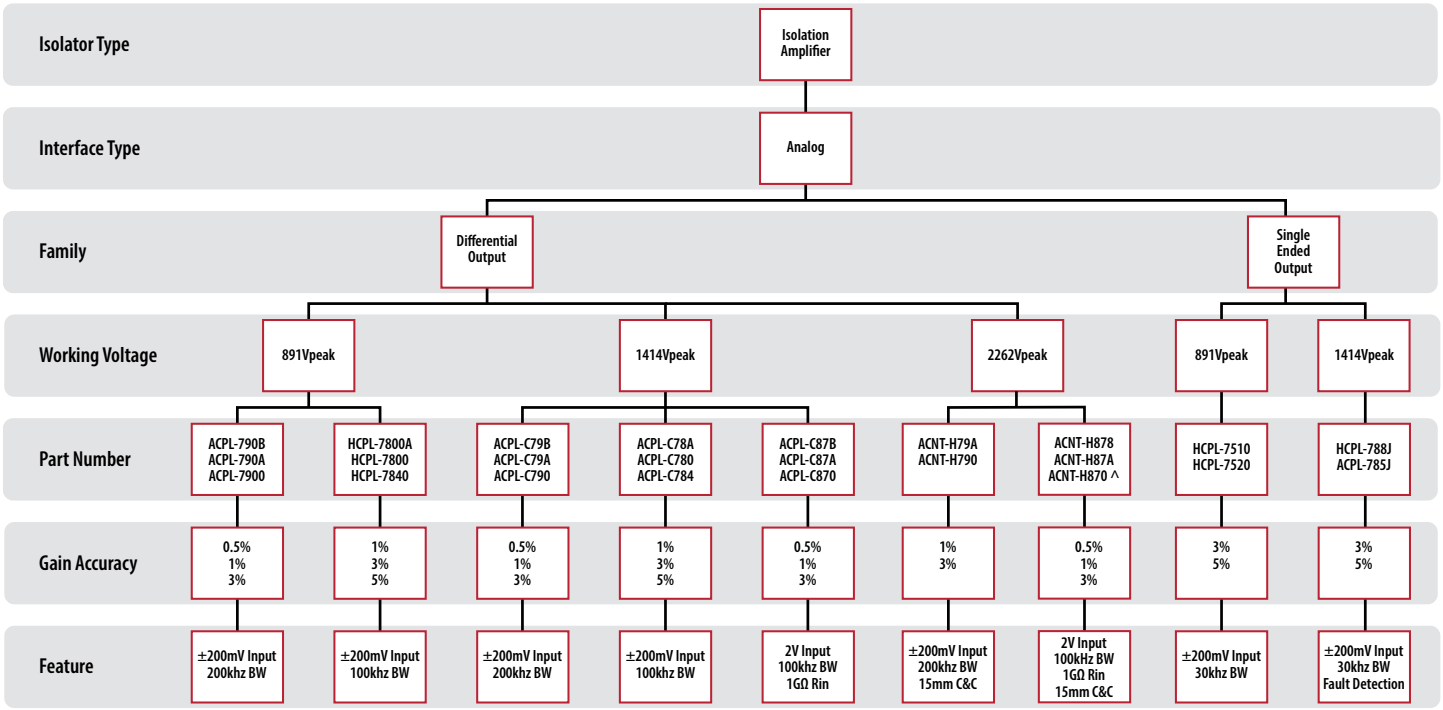
Product Selection Trees

Digital Optocoupler NPI Product Tree



* - 2.5V option available

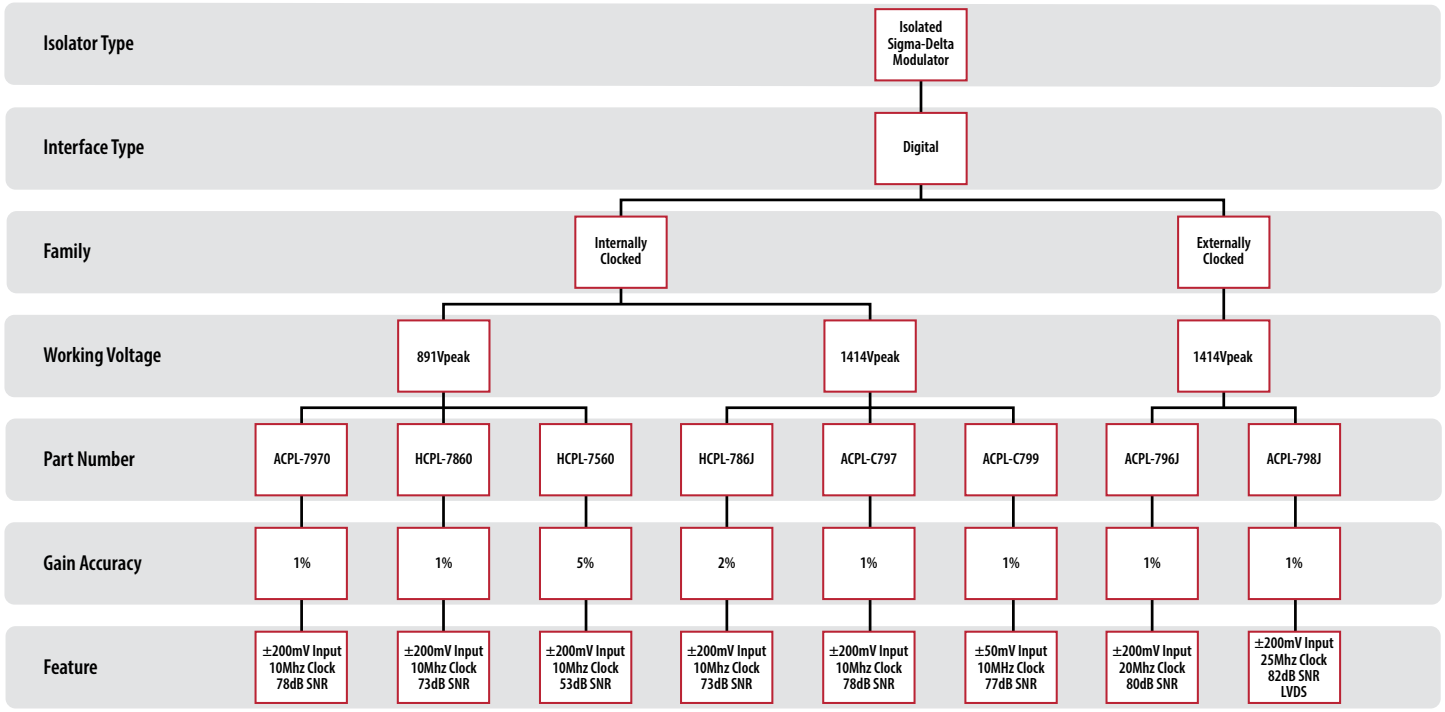
Isolation Amplifier Product Tree



^ - Advanced information, may be subject to changes.

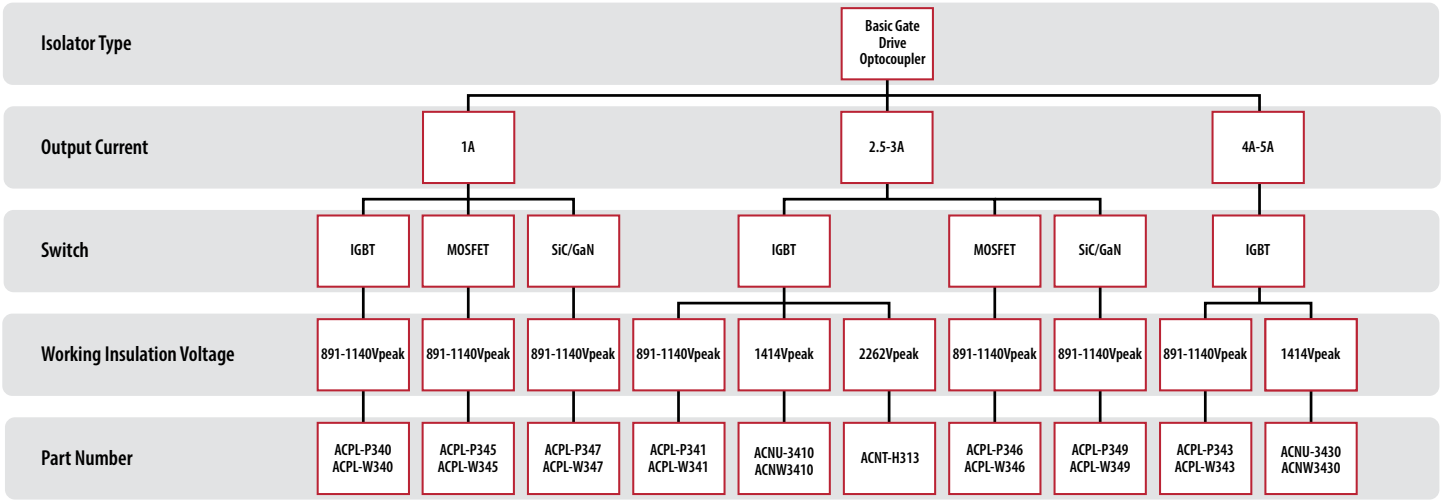
Product Selection Trees

Isolated Sigma-Delta Modulator Product Tree



Note: ^ - Advanced information, may be subject to changes.

Basic Gate Drive Optocoupler NPI Product Tree



Product Selection Trees

Highly Integrated Smart Gate Drive Optocoupler NPI Product Tree

Isolator Type	Highly Integrated Smart Gate Drive Optocoupler					
Power Switch	IGBT				Power MOSFET	IGBT Si/GaN MOSFET
Output Current	1A+MOSFET BUFFER	2.5-3A		4A	2.5A	5A
Part Number	ACPL-339J	ACPL-336J	ACPL-302J	ACPL-337J	ACPL-335J	ACPL-352J
Function						
Short Circuit Protection	Yes	Yes	Yes	Yes	Yes	Yes
Rail-to-Rail Output	Yes	Yes	Yes	Yes	Yes	Yes
Active Miller Clamp	No	Yes	Yes	Yes	Yes	Yes
UVLO Feedback	Yes	Yes	Yes	Yes	Yes	Yes
Power Switch GATE Status Feedback	No	No	No	No	No	Yes
DC-DC Controller for Floating Power Supply	No	No	Yes	No	No	No

Automotive Gate Drive Optocoupler NPI Product Tree

Isolator Type	Automotive Gate Drive Optocoupler					
Switch	IGBT				Mosfet	
Integration	Simple		Smart		Smart	Simple
Features	General Purpose	Tight Delay Control	Protection + Power	Protection Features	Protection Features	Tight Delay Control
Part Number	ACPL-312T	ACPL-K33T*	ACPL-32JT ACPL-33JT*	ACPL-34JT ACPL-38JT	ACPL-31JT*	ACPL-K34T
Application	Heater Converters		Powertrain Inverters		AC/DC, DC-DC Converters	

Note: ^ - Advanced information, may be subject to changes. - Advanced information, may be subject to changes.

Multi-Channel Bi-Directional Digital Optocoupler

Description

The ACSL-6xx0 series are optoisolated, multi-channel and bidirectional, high-speed optocouplers. Integration of multiple optocouplers in monolithic form is achiev-ed through patented process technology. These devices provide full duplex and bidirectional isolated data transfer and communication capability in compact surface mount packages. They are available in a 15Mbd speed option, wide supply voltage range and wide temperature range. For higher speed requirement, ACSL-7210 is 25MBd dual-channel bi-directional optocoupler with buffered inputs (not LED driven inputs).

The isolated data acquisition system is ideal for digitizing the output of the sensors that operate in hostile environment. The ADC is a 24-bit sigma delta or fast conversion type, converts the analog voltage to a digital number. The digital number represents the input voltage in discrete steps with finite resolution. The quad-channel and bi-directional, ACSL-6410, provides high CMR of 10kV/µs and electrical isolation of 2500Vrms between the host system and the data acquisition circuitry and sensors. The power supply is also isolated, usually via a transformer to isolate the AC line voltage from the DC voltages generated to power the data acquisition system.

The ACFL-xxxxU is the new package with fine pitch of 0.8mm and operating temperature up to 125°. They come in the new compact stretched SO12 package, able to accommodate 2-channels bi-directional, which helps to reduce PCB board space and each channel is also galvanically isolated from the other channel. They are used for serial communication isolation for inverter drives and medical equipments that require reinforced isolation with > 8mm creepage/clearance and/or Viso at 5KVrms.

Benefits

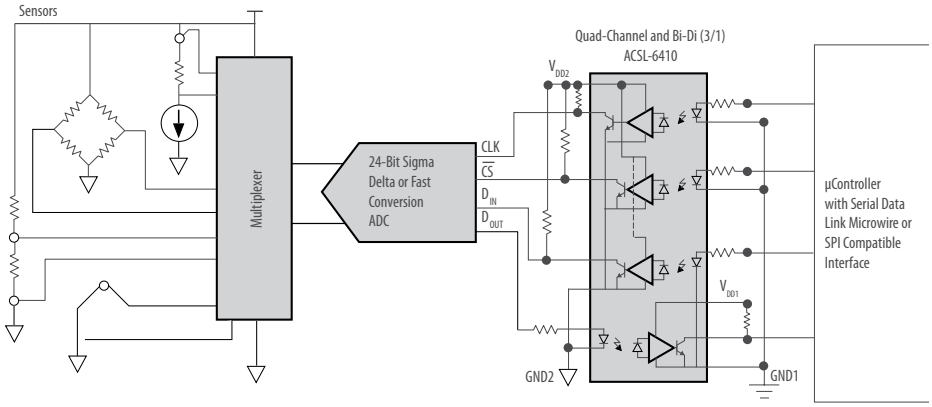
- Higher integration - multi-channel provides small and thin packages for space savings; bi-directional channel facilitates pcb routing
- Wide voltage supply and temperature

  -provides design flexibility

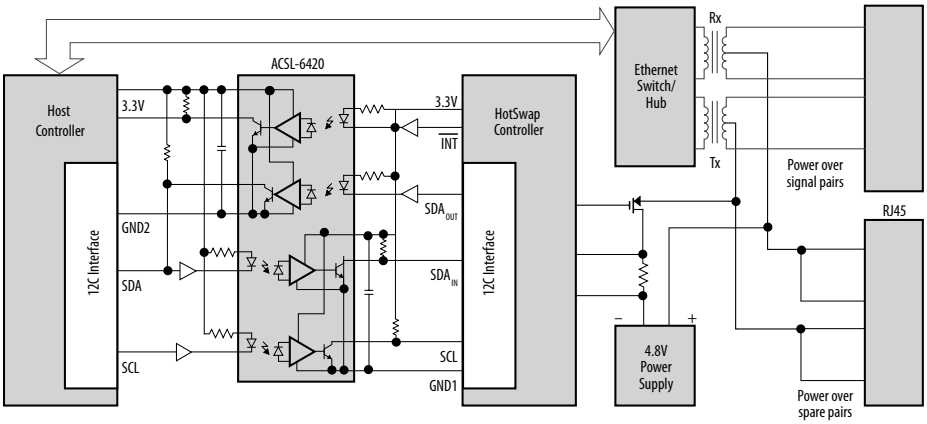
Applications

- Full duplex communication
- Isolated line receiver
- Computer-peripheral interfaces
- Microprocessor system interfaces
- Digital isolation for A/D and D/A conversion
- Switching power supply
- Instrument input/output isolation
- Ground loop elimination
- Pulse transformer replacement

Typical Block Diagram



Typical Power over Ethernet Diagram



Multi-Channel Bi-Directional Digital Optocoupler Product Selection

Part No.	Package	Channel	Forward Direction	Reverse Direction	$I_{F(on)}$ mA Min.	t_{PLH} ns Max.	t_{PLH} ns Max.	PWD ns Max.	t_{PSK} ns Max.	VCC V Min.	VCC V Max.	CMR - V/µs@V_{CM}		V_{ISO} V_{RMS} Min.	V_{IORM} V peak
												CMR V/µs (Min.)	V_{CM} V		
ACSL-7210	SO8	2	1	1	-	40	40	8	20	3	5.5	25000	1000	3750	567*
ACSL-6210	SO8	2	1	1	7	100	100	35	40	3	5.5	10000	1000	2500	567*
ACSL-6400	SO16	4	4	0	7	100	100	35	40	3	5.5	10000	1000	2500	567*
ACSL-6410	SO16	4	3	1	7	100	100	35	40	3	5.5	10000	1000	2500	567*
ACSL-6420	SO16	4	2	2	7	100	100	35	40	3	5.5	10000	1000	2500	567*
ACSL-6310	SO16	3	2	1	7	100	100	35	40	3	5.5	10000	1000	2500	567*
ACSL-6300	SO16	3	3	0	7	100	100	35	40	3	5.5	10000	1000	2500	567*
ACFL-5211U	SSO12	2	1	1	0.8	10000	10000	850	-	-	20	15000	1500	5000	1140*
ACFL-6211U	SSO12	2	1	1	10	35	35	12	15	3.0	5.5	15000	1000	5000	1140*
ACFL-6212U	SSO12	2	1	1	4	100	100	50	60	3.0	5.5	25000	1000	5000	1140*

Note: * - with IEC/EN/DIN EN 60747-5-5 Option 060.

High Speed Digital CMOS Logic Gate Optocoupler

Description

These optocouplers use the latest CMOS IC technology to achieve outstanding performance with very low power consumption. Serial fieldbuses are used today primarily as the communication system for the exchange of information between automation system and distributed field devices. PROFIBUS is the leading open fieldbus system and it has worldwide acceptance. PROFIBUS is essentially a twisted wire pair seial link that is very similar to RS 485. Profibus speed standard is either lower speed (1.5 MBd) or higher speed (12 MBd).

In this isolated multipoint transmission application circuit, two different optoisolators are utilized (HCPL-0721 and HCPL-061N). The benefits include low input drive current that maximizes LED lifetime/reliability and optimizes speed for Profibus and RS-485 applications.

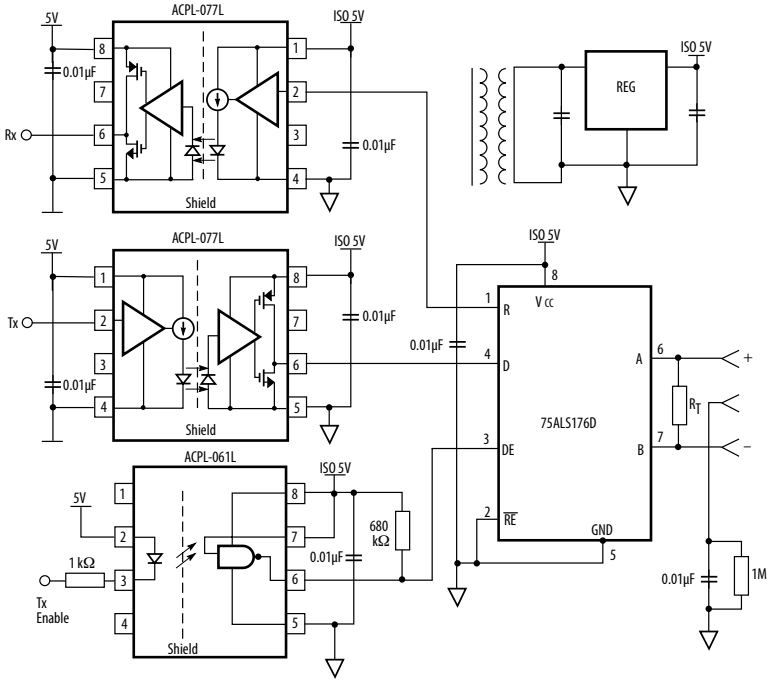
Benefits

- High speed (up to 50 MBd)
- 3.3V/5V dual supply voltage available
- Wide temperature operation -40°C to 100°C (HCPL-x710)
- Low PWD (2ns) & low tp (22ns) to meet DeviceNet and Profibus application
- Buffer input and CMOS output to eliminate any pull-up resistor
- 5 kV isolation voltage (HCPL-77xx)
- Dual channel device is available to save space(HCPL-0738)
- Certified with reinforced insulation under IEC/EN/DIN EN 60747-5-5

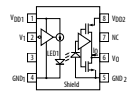
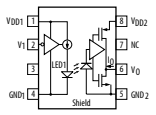
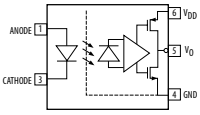
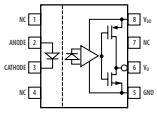
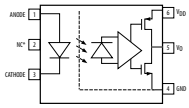
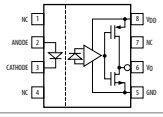
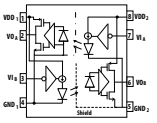
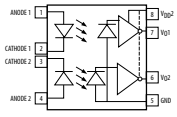
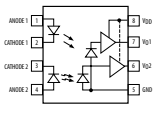
Applications

- AC plasma display panel level shifting
- CAN Bus
- CC_Link
- Microprocessor system interface
- Mutiplexed data transmission
- Switching power supply

Typical Profibus Block Diagram



High Speed Digital CMOS Optocoupler Product Selection

Device	Part No.	Package	V_{DD} V	$I_{F(on)}$ mA Min.	Max Data Rate MBd Min.	t_{PLH} ns Max.	t_{PHL} ns Max.	PWD ns Max.	t_{PSK} ns Max.	CMR - V/µs@V_{CM}		V_{ISO} V_{RMS} Min.	V_{IORM} V peak
										CMR V/µs (Min.)	V_{CM} V		
Single Channel CMOS Input 	ACPL-077L	SO8	3.3/5	-	25	40	40	6	20	35000	1000	3750	567*
	ACPL-772L	300 mil DIP8	3.3/5	-	25	40	40	6	20	10000	1000	3750/5000#	630*
	HCPL-0710	SO8	5	-	12.5	40	40	8	20	10000	1000	3750	567*
	HCPL-0720	SO8	5	-	25	40	40	8	20	10000	1000	3750	567*
	HCPL-0721	SO8	5	-	25	40	40	6	20	10000	1000	3750	567*
	HCPL-0723	SO8	5	-	50	22	22	2	16	10000	1000	3750	567*
	HCPL-7710	300 mil DIP8	5	-	12.5	40	40	8	20	10000	1000	3750/5000#	630*
	HCPL-7720	300 mil DIP8	5	-	25	40	40	8	20	10000	1000	3750/5000#	630*
	HCPL-7721	300 mil DIP8	5	-	25	40	40	6	20	10000	1000	3750/5000#	630*
	HCPL-7723	300 mil DIP8	5	-	50	22	22	2	16	10000	1000	3750/5000#	630*
Single Channel LED Input 	ACPL-M75L	SO5	3.3/5	4	15	55	55	25	40	10000	1000	3750	567*
	ACPL-M71U	SO5	3.3/5	4	15	35	35	12	15	15000	1000	3750	567*
	ACPL-071L	SO8	3.3/5	9	15	40	40	25	30	10000	1000	3750	567*
	ACPL-W70L	Stretched SO6	3.3/5	4	15	55	55	25	40	10000	1000	5000	1140*
	HCPL-0708	SO8	5	10	15	60	60	30	40	10000	1000	3750	567*
Dual Channel Bi-direct CMOS Input 	ACSL-7210	SO8	3.3/5	-	25	40	40	8	20	25000	1000	3750	567*
Dual Channel LED Input 	ACPL-074L	SO8	3.3/5	9	15	40	40	25	30	10000	1000	3750	567*
	HCPL-0738	SO8	5	10	15	60	60	30	40	10000	1000	3750	567*
	ACPL-K73L	Stretched SO8	3.3/5	4	15	55	55	25	40	10000	1000	5000	1140*

Note: * - with IEC/EN/DIN EN 60747-5-5 Option 060, # - with UL5000VRMS/1 minute Option 020.

20 MBd Logic Gate Optocoupler

Description

These optocouplers have high data rate capability and low input current requirements. In analog-to-digital converters, designers should isolate the two portions of a circuit so that interference generated by digital switching and clock signals are not coupled to the analog section. The below figure demonstrates the ability of optocouplers to achieve isolation in a high speed parallel interface data communication application. Optocouplers reduce the channel distortion and thereby maximize the reliability of the circuit.

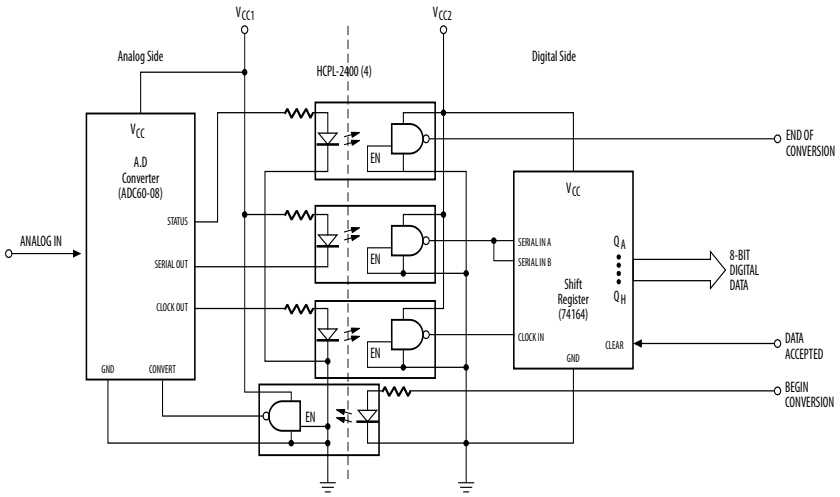
Benefits

- Totem pole & tri state output (with enable pin for HCPL-2400) to eliminate output pull-up resistors
- Certified with reinforced insulation under IEC/EN/DIN EN 60747-5-5, approved with V_{iorm}=630V_{peak} (option 060)
- DIP8 package (for min. 7mm creepage/clearance need) with 5kV V_{iso} protection (option 020)
- 2-channel for higher integration and space saving (HCPL-2430)

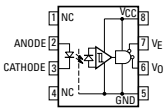
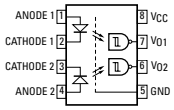
Applications

- Computer-peripheral interface
- High speed disk drive I/O
- Isolated bus driver (networking applications)
- Isolation of higher speed logic system
- Switching noise elimination

Typical Block Diagram



20 MBd Logic Gate Optocoupler Product Selection

Device	Part No.	Package	$I_{F(on)}$ mA Min.	t_{PLH} ns Max.	t_{PLH} ns Max.	PWD ns Max.	t_{PSK} ns Max.	CMR - V/ µs@V_{CM}		V_{ISO} V_{RMS} Min.	V_{IORM} V peak
								CMR V/µs (Min.)	V_{CM} V		
Single Channel 	HCPL-2400	300 mil DIP8	4	60	60	25	35	1000	300	3750	630*
Dual Channel 	HCPL-2430	300 mil DIP8	4	60	60	25	35	1000	300	3750	630*

Notes: * - with IEC/EN/DIN EN 60747-5-5 Option 060.

10 MBd Logic Gate/ CMOS Optocoupler

Description

This isolated RS-422 circuit uses two high-speed optocouplers that can switch up to 10 MBd signals. An isolated power supply Vcc2 is required to power the DS 75176A driver/receiver integrated circuit.

The main benefit is preventing common-mode transients from interfering with the signal.

Broadcom's new range of 3.3 V/5 V optocouplers are the first commercially available optocouplers designed to meet the JEDEC specification for 3.3 V LVTTL/LVCMOS logic, thereby simplifying the implementation of isolation in systems utilizing 3.3 V logic circuits.

A typical Power over Ethernet power source equipment (PSE) block diagram uses two 15 MBd 3.3 V optocouplers to isolate between the 13 W 48 V power supply and the inter-integrated chip (I2C) control bus.

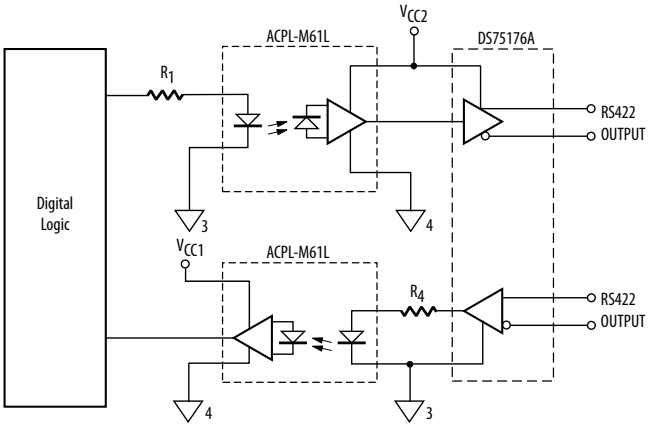
Benefits

- Provides high data rate transmission. It also offer high CMR for signal isolation from common mode transient noises

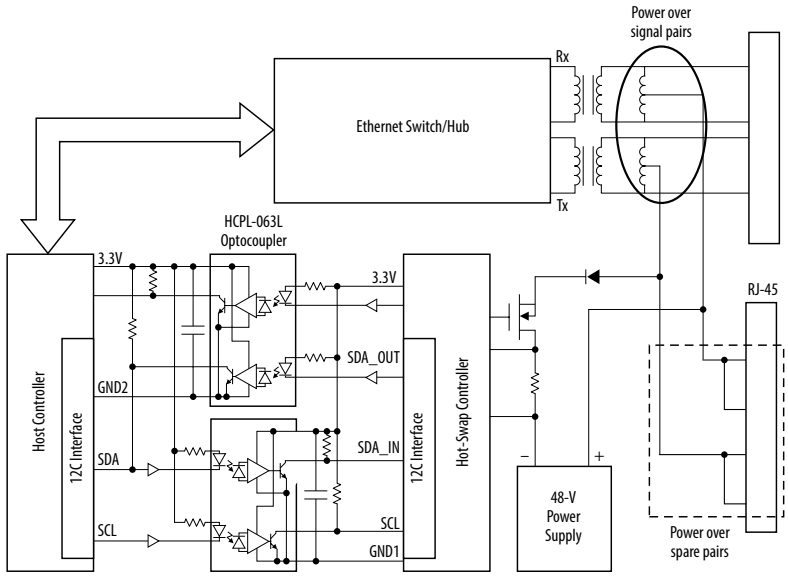
Applications

- Computer-peripheral interface
- Instrument input/output isolation
- Isolated line receiver
- Microprocessor system interface
- Switching power supply

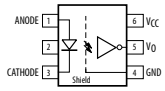
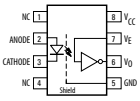
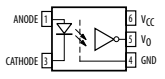
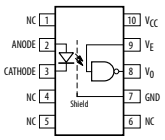
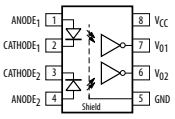
Typical RS-422 Interface Block Diagram



Typical Power over Ethernet Power Source Block Diagram

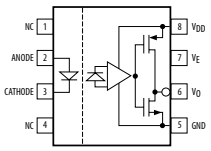
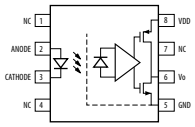
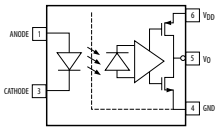
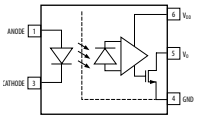
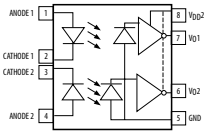


10 MBd Logic Gate Optocoupler Product Selection

Device	Part No.	Package	VDD V	$I_{F(on)}$ mA Min.	t_{PLH} ns Max.	t_{PHL} ns Max.	PWD ns Max.	t_{PSK} ns Max.	CMR - V/µs@V_{CM}		V_{ISO} V_{RMS} Min.	V_{IORM} V peak
									CMR V/µs (Min.)	V_{CM} V		
Single Channel	ACPL-W60L	Stretched SO6	3.3/5	5	90	75	25	40	15000	1000	5000	1140*
	ACPL-P611	Stretched SO6	5	5	100	100	35	40	10000	1000	5000	891*
	ACPL-W611	Stretched SO6	5	5	100	100	35	40	10000	1000	5000	1140*
	6N137	300 mil DIP8	5	5	100	100	35	40	1000	10	3750/5000#	630*
	HCNW137	400 mil DIP8	5	5	100	100	40	40	5000	1000	5000	1414
	HCNW2601	400 mil DIP8	5	5	100	100	40	40	10000	1000	5000	1414
	HCNW2611	400 mil DIP8	5	5	100	100	40	40	15000	1000	5000	1414
	HCPL-060L	SO8	3.3/5	5	90	75	25	40	15000	1000	3750	567*
	HCPL-260L	300 mil DIP8	3.3/5	5	90	75	25	40	15000	1000	3750/5000#	630*
	HCPL-061N	SO8	5	3	100	100	45	60	1000	1000	3750	567*
	HCPL-0600	SO8	5	5	100	100	35	40	5000	1000	3750	567*
	HCPL-0601	SO8	5	5	100	100	35	40	10000	1000	3750	567*
	HCPL-0611	SO8	5	5	100	100	35	40	15000	1000	3750	567*
	HCPL-2601	300 mil DIP8	5	5	100	100	35	40	10000	1000	3750/5000#	630*
	HCPL-2611	300 mil DIP8	5	5	100	100	35	40	15000	1000	3750/5000#	630*
	HCPL-261N	300 mil DIP8	5	3	100	100	45	60	1000	1000	3750/5000#	630*
	ACPL-M60L	SO5	3.3/5	5	90	75	25	40	15000	1000	3750	567*
	ACPL-M61U	SO5	5	5	100	100	35	40	15000	1000	3750	-
	HCPL-M611	SO5	5	5	100	100	35	40	10000	1000	3750	-
	ACNV2601	500 mil DIP10	5	5	100	100	40	40	20000	1500	7500	2262
	ACNV260E	500 mil DIP10	5	5	100	100	40	40	20000	1500	5000	ATEX (375V)
Dual Channel	ACPL-K63L	Stretched SO8	3.3/5	5	90	75	25	40	15000	1000	5000	1140*
	HCPL-063L	SO8	3.3/5	5	90	75	25	40	15000	1000	3750	567*
	HCPL-063N	SO8	5	3	100	100	45	60	1000	1000	3750	567*
	HCPL-0630	SO8	5	5	100	100	35	40	5000	1000	3750	567*
	HCPL-0631	SO8	5	5	100	100	35	40	10000	1000	3750	567*
	HCPL-0661	SO8	5	5	100	100	35	40	15000	1000	3750	567*
	HCPL-263L	300 mil DIP8	3.3/5	5	90	75	25	40	15000	1000	3750/5000#	630*
	HCPL-263N	300 mil DIP8	5	3	100	100	45	60	1000	1000	3750/5000#	630*
	HCPL-2630	300 mil DIP8	5	5	100	100	35	40	5000	1000	3750/5000#	630*
	HCPL-2631	300 mil DIP8	5	5	100	100	35	40	10000	1000	3750/5000#	630*
	HCPL-4661	300 mil DIP8	5	5	100	100	35	40	15000	1000	3750/5000#	630*

Note: * - with IEC/EN/DIN EN 60747-5-5 Option 060, # - with UL 5000VRMS/1 minute Option 020.

10 MBd CMOS Optocoupler Product Selection

Device	Part No.	Package	VDD V	$I_{F(on)}$ mA Min.	t_{PLH} ns Max.	t_{PHL} ns Max.	PWD ns Max.	t_{PSK} ns Max.	CMR - V/µs@V_{CM}		V_{ISO} V_{RMS} Min.	V_{IORM} V peak
									CMR V/µs (Min.)	V_{CM} V		
Single Channel LED Input 	ACPL-061L	SO8	3.3/5	1.6	80	80	30	30	20000	1000	3750	567*
	ACPL-C61L	Stretched SO8	3.3/5	3.0	90	90	30	30	20000	1000	5000	1414*
	ACNW261L	400 mil DIP8	3.3/5	4.0	95	95	40	30	20000	1000	5000	1414
Single Channel LED Input 	ACNT-H61L NEW	15mm Stretched SO8	3.3/5	4.5	100	100	40	40	20000	1000	7500	2262
	ACPL-W61L	Stretched SO6	3.3/5	1.6	80	80	30	30	20000	1000	5000	1140*
	ACPL-M61L	SO5	3.3/5	1.6	80	80	30	30	20000	1000	3750	567*
	ACPL-M72U	SO5	3.3/5	4.0	100	100	50	60	25000	1000	3750	567*
	ACPL-M62L	SO5	3.3/5	2.0	80	80	30	30	20000	1000	3750	567*
Dual Channel LED Input 	ACPL-064L	SO8	3.3/5	1.6	80	80	30	30	20000	1000	3750	567*
	ACPL-K64L	Stretched SO8	3.3/5	1.6	80	80	30	30	20000	1000	5000	1140*

Note: * - with IEC/EN/DIN EN 60747-5-5 Option 060, # - with UL 5000V_{RMS}/1 minute Option 020.

8 MBd Logic Gate Optocoupler

Description

The circuit shows a CMOS interface circuit for 8 MBd applications. Over the temperature range a CMOS CD4050 Hex Buffer can source about 0.7 mA (minimum), which is sufficient to drive the HCPL-2300 optocoupler. The 20 pF capacitor allows peaking currents to assist the LED in turning on and off quickly.

These optocouplers utilize a simle interface requiring low power consumption.

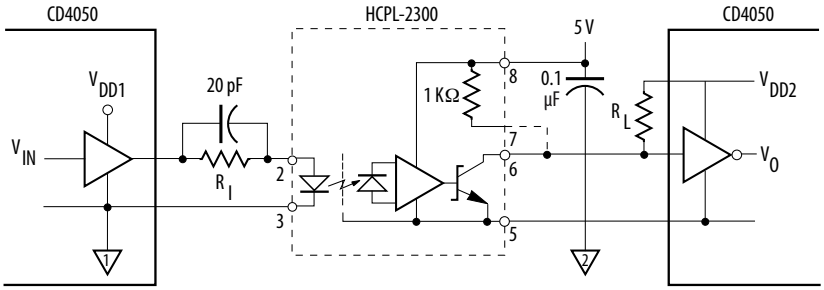
Benefits

- Offers low power consumption

Applications

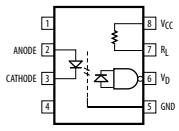
- Computer-peripheral interface
- Digital isolation for A/D, D/A conversion
- High speed, long distance isolated line receiver
- Level shifting
- RS 232C interface

Typical CMOS Interface Block Diagram



V_{DD1} (V)	R_I (KΩ)	R_L (KΩ)	V_{DD2} (V)
5	5.11	1	5
10	13.3	2.37	10
15	19.6	3.16	15

8 MBd Logic Gate Optocoupler Product Selection

Device	Part No.	Package	$I_{F(on)}$ mA Min.	t_{PLH} µs Max.	t_{PHL} µs Max.	CMR - V/µs@V_{CM}		V_{ISO} V_{RMS} Min.	V_{IORM} V peak
						CMR V/µs (Min.)	V_{CM} V		
Single Channel 	HCPL-0300	SO8	0.5	0.16	0.2	100	50	3750	–
	HCPL-2300	300 mil DIP8	0.5	0.16	0.2	100	50	3750	630*

Note: * - with IEC/EN/DIN EN 60747-5-5 Option 060.

5 MBd Logic Gate/CMOS Optocoupler

Description

For the CMOS Optocouplers, they consume low power, at maximum supply current of 1.1mA per channel and forward current as low as 1.6mA, thus allowing direct current drive by most microprocessors. They operate with low supply voltage for supply scaling of FPGA and microcontrollers, are CMOS output and optical receiver input stages with built-in Schmitt triggers to provide logic compatible waveforms, eliminating the need for additional waveshaping. A superior internal shield guarantees common mode transient immunity of 25 kV/µs at a common mode voltage of 1000 V over a temperature range of -40°C to 105°C. The stretched SO6/SO8 packages are up to 50% smaller than the conventional DIP package, facilitates smaller compact design.

For the Logic Gate Optocouplers, the circuit shown in the typical TTL interface block diagram is an interface between two TTL gates using an active output (totem pole) optocoupler, the HCPL-2201. A series switching circuit drives the optocoupler LED. The active output HCPL-2201 can be directly connected to a TTL gate, and no pull-up resistor is required. The HCPL-2201 can sink enough current to handle up to 16 LSTTL or 4 TTL loads.

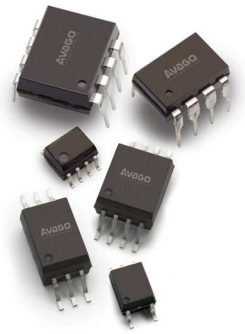
Typically, the 5 MBd logic gate optocoupler is used in the Isolated High-Low Gate Drive interface block diagram as shown below.

Benefits

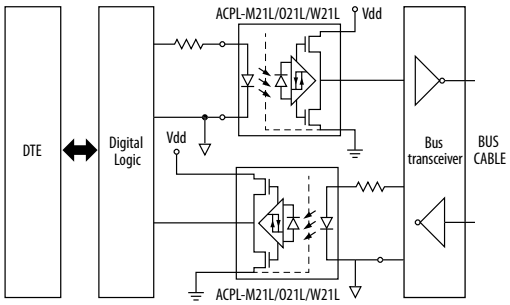
- Pull up resistor not required at the optocoupler output
- Low power consumption with low supply current @1.1mA max and low forward current @1.6mA min (5MBd CMOS Optocoupler)
- Low Supply voltages to 2.5V (5MBd CMOS Optocoupler)
- Wide operating supply voltages up to 20V (5MBd Logic Gate Optocoupler)
- Built-in Schmitt Triggers for better signal integrity and accuracy in a noisy network/circuits.
- High CMR (min. 25kV/µs@VCM=1kV) (5MBd CMOS Optocoupler)

Applications

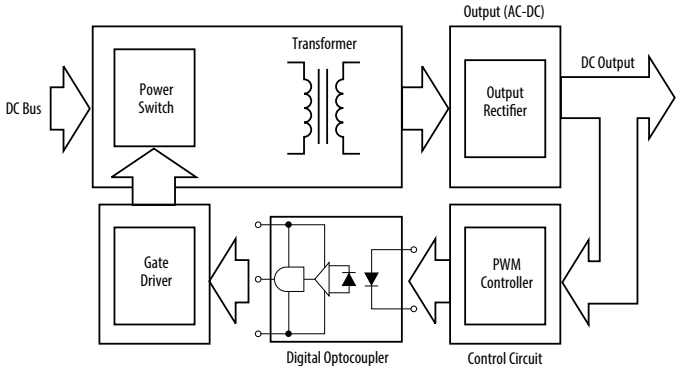
- Computer-peripheral interface
- Ground loop
- High speed line receiver
- Microprocessor system interface
- Pulse transformer replacement



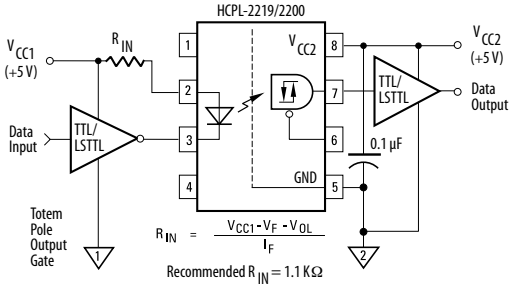
CANBus Isolation Block diagram



Isolated High-Low Gate Drive Interface Block Diagram



Typical TTL Interface Block Diagram



5 MBd Logic Gate Optocoupler Product Selection

Device	Part No.	Package	VCC V	$I_{F(on)}$ mA Min.	t_{PLH} µs Max.	t_{PHL} µs Max.	CMR - V/µs@V_{CM}		V_{ISO} V_{RMS} Min.	V_{IORM} V peak
							CMR V/µs (Min.)	V_{CM} V		
Single Channel	HCNW2201	400 mil DIP8	5/20	1.6	0.3	0.3	1000	50	5000	1414
	HCNW2211	400 mil DIP8	5/20	1.6	0.3	0.3	10000	1000	5000	1414
	HCPL-0201	SO8	5/20	1.6	0.3	0.3	1000	50	3750	567*
	HCPL-0211	SO8	5/20	1.6	0.3	0.3	10000	1000	3750	567*
	HCPL-2201	300 mil DIP8	5/20	1.6	0.3	0.3	1000	50	3750	630*
	HCPL-2211	300 mil DIP8	5/20	1.6	0.3	0.3	10000	1000	3750	630*
	HCPL-2219	300 mil DIP8	5/20	1.6	0.3	0.3	2500	400	3750	630*
	HCPL-2200	300 mil DIP8	5/20	1.6	0.3	0.3	1000	50	3750	630*
	HCPL-2202	300 mil DIP8	5/20	1.6	0.3	0.3	1000	50	3750	630*
	HCPL-2212	300 mil DIP8	5/20	1.6	0.3	0.3	10000	1000	3750	630*
Dual Channel	HCPL-2231	300 mil DIP8	5/20	1.8	0.3	0.3	1000	50	3750	630*
	HCPL-2232	300 mil DIP8	5/20	1.8	0.3	0.3	10000	1000	3750	630*

Note: * - with IEC/EN/DIN EN 60747-5-5 Option 060.

5 MBd CMOS Optocoupler Product Selection

Device	Part No.	Package	VCC V	$I_{F(on)}$ mA Min.	t_{PLH} µs Max.	t_{PHL} µs Max.	PWD µs Max.	t_{PSK} µs Max.	CMR - V/µs@V_{CM}		V_{ISO} V_{RMS} Min.	V_{IORM} V peak
									CMR V/µs (Min.)	V_{CM} V		
Single Channel	ACPL-M21L	SO5	2.5^ / 3.3 / 5	1.6	0.25	0.25	0.2	0.22	25000	1000	3750	567*
	ACPL-W21L	Stretched SO6	2.5^ / 3.3 / 5	1.6	0.25	0.25	0.2	0.22	25000	1000	5000	1140*
Dual Channel	ACPL-024L	SO8	2.5^ / 3.3 / 5	1.6	0.25	0.25	0.2	0.22	25000	1000	3750	567*
	ACPL-K24L	Stretched SO8	2.5^ / 3.3 / 5	1.6	0.25	0.25	0.2	0.22	25000	1000	5000	1140*
	ACPL-021L	SO8	2.5^ / 3.3 / 5	1.6	0.25	0.25	0.2	0.22	25000	1000	3750	567*

Note: * - with IEC/EN/DIN EN 60747-5-5 Option 060, ^ - 2.5V option available.

1 MBd Transistor Output Optocoupler

Description

The ACPL-M50L (single-channel in SO-5 footprint), ACPL-054L (dual-channel in SO-8 footprint), ACPL-W50L (single-channel in stretched SO-6 footprint) and ACPL-K54L (dual-channel in stretched SO-8 footprint) are low power, low-input current, 1MBd digital optocouplers.

They have an increased common mode transient immunity of 15kV/µs minimum at VCM = 1500V over a temperature range of -40 to 105°C. The current transfer ratio (CTR) is 140% typical for ACPL-M50L or 130% typical for ACPL-054L/W50L/K54L at IF = 3mA. This digital optocoupler can be use in any TTL/ CMOS, TTL/ LSTTL or wide bandwidth analog applications.

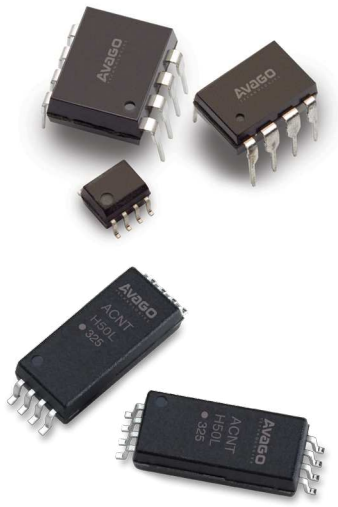
The new ACNT-H50L comes in 15mm Stretched SO8 package and high voltage insulation capability, is suitable for isolated communication logic interface and control in high-voltage power systems such as 690VAC drives, renewable inverters and medical equipments.

The circuit in the level shifting/TTL interface block diagram shows how a 0 to 5 V logic signal can be level shifted to a -15 to 0 V signal. This circuit can safely be used for level shifting up to ±800 V. The circuit uses an open collector output logic gate, the 74LS405, to drive the LED of the 6N135/6 optocoupler. The 6N135/6 also has an open-collector output. The designer chooses RIN to agree with the equation shown in the schematic. This equation sets the value of the optocoupler LED forward current. The output of the 6N135/6 requires a pull-up resistor, RL. The current-transfer ratio (CTR) of the optocoupler determines the maximum amount of current the optocoupler output can sink while maintaining the output voltage (between pins 5 and 6) of 0.5 V or less.

The benefit of the application is that it reduces the transient immunity problem and it is a convenient way of replacing the pulse transformer for high-voltage level shifting.

Benefits

- Allow level shifting capability
- High current transfer ratio



Applications

- Analog signal ground isolation
- High speed logic ground isolation
- Line receivers
- Replace pulse transformers
- Replace slow phototransistor isolators

Typical Level Shifting/TTL Interface Block Diagram