

Optocoupler – Ten Focus NPIs

Part No.	Product Description	Competition	Strengths	Benefits	
Digital (part nos. rank from low speed to high speed)	ACPL-x5xL (ACPL-M50L, 054L, W50L, K54L)	Low Power 1 MBd Digital Optocoupler	Toshiba / Renesas / Sharp / Fairchild	1. Lowest power consumption 1MBd optocoupler in the market 2. Low forward current IF 3mA min 3. High CTR ratio 90% min 4. Wide temperature range -40°C to 105°C 5. Wide supply voltage 2.7V to 24V 6. Excellent CMR performance	1. >80% power consumption savings 2. LED degradation is minimal 3. Offerings for customers willing to pay extra for guaranteed better performance as compare to phototransistors
	ACPL-x6xL (ACPL-M61L, 064L, W61L, K64L)	Ultra Low Power 10 MBd Digital Optocoupler	Toshiba / Renesas / Fairchild / Sharp / Vishay	1. Lowest power consumption 10MBd optocoupler in the market 2. Good LED reliability performance 3. High common mode noise rejection 4. Wide temperature -40°C to 105°C 5. Wide supply voltage 2.7V to 5.5V 6. Output slew-rate controlled feature to allow rise and fall time to be independent of the load capacitance 7. Certified for reinforced insulation 8. Good lead-time (6-8 weeks)	1. Help to reduce power consumption for >90% 2. Preserve data integrity under noisy environment 3. More design flexibility in power consumption versus noise immunity performance 4. Robust extended temperature support 5. Ease of integration modules that have two different power supply ratings 6. Enable synchronization in the parallel communication as different communication line may have different load/fan-out, resulting in tighter propagation delay skew 7. Highly reliable 8. Faster time to market with the “reinforced” component safety approval
	ACSL-6xxx (ACSL-6210, 6300, 6310, 6400, 6410, 6420)	Multi-channel (2,3,4) 10 MBd Digital Optocoupler	Indirect competition ADI, TI, SiLabs etc	1. The only optical multi-channel solution available in the market 2. Provide reinforced insulation	1. Cost saving for smaller PCB 2. Faster time to market with the “reinforced” component safety approval
	ACPL-x7xL (ACPL-071L, 074L, M75L, W70L, K73L)	15 MBd 3.3V/5V Digital Optocoupler	Direct competition Toshiba, Renesas Indirect competition ADI, TI, SiLabs etc	1. Certified for reinforced insulation vs non-opto isolators 2. AC/DC performance is guaranteed over wide temperature -40°C to 105°C 3. Dual supply voltage 3.3V/5V 4. Glitch free during power up and down	1. Help to reduce power consumption 2. Excellent for failsafe application and faster time to market 3. Robust extended temperature support 4. Ease of integration modules that have two different power supply ratings 5. Prevent output glitch at the lost/recovery of power supply
	ACPL-x72L (ACPL-072L, 772L)	25 MBd 3.3V/5V Digital Optocoupler	Direct competition Toshiba, Renesas Indirect competition ADI, TI, SiLabs etc	1. Wide temperature -40°C to 105°C 2. Dual supply voltage 3.3V/5V 3. Certified for reinforced insulation	1. Excellent for failsafe application 2. Allow equipment manufacturer to speed up time to market in bypass certain critical regulatory certification 3. Robust extended temperature support 4. Ease in integrating modules that have two different power supply ratings

Application Specific	ACPL-33XJ (ACPL-331J, 332J)	2.5A Gate Drive Optocoupler with Integrated Desaturation Detection, UVLO and Fault Status Feedback and Active Miller Clamp	Infineon / Sharp	1. High output peak current 2. Short propagation delay allows short dead-time 3. IGBT desaturation detection and fault feedback 4. High common mode noise rejection 5. Active Miller Clamp	1. Will not under-drive the IGBT and ensure a reliable efficient system 2. Improves efficiency of motor inverter and precision of motion 3. Prevent expensive IGBT from being destroyed by over current 4. Allows reliable operation under noisy environment and prevent erroneous driving of IGBT 5. Eliminates costly negative power supply
	ACPL-P343/W343	4.0A Gate Drive Optocoupler with Rail-to-Rail Output Voltage	Sharp / Fairchild / Toshiba / NEC	1. Low power consumption in small stretched package 2. High output peak current with rail-to-rail output voltage 3. Short propagation delay allows short dead-time 4. Active Miller Clamp 5. High common mode noise rejection	1. 40%-70% space saving as compared to DIP and allows use of bootstrap power supply 2. Will not under-drive the IGBT and ensure a reliable efficient system 3. Improves efficiency of motor inverter and precision of motion with IGBT protection 4. Eliminates costly negative power supply 5. Allows reliable operation under noisy environment and prevent erroneous driving of IGBT
	ACPL-H342/K342	2.5A Gate Drive Optocoupler with Active Miller Clamp and Rail-to-Rail Output Voltage			

Additional Isolation products are available. See [www.avagotech.com/optocouplers](http://www.avagotech.com/optocouplers)

Optocoupler – Ten Focus NPIs *(Continued)*

	Part No.	Product Description	Competition	Strengths	Benefits
Application Specific	ACPL-796J	Isolated Sigma-Delta Modulator, External Clock	ADI , TI	1. External clock for synchronized data conversion 2. -40 to 105°C extended operating temperature range 3. Certified in safety approval standard UL1577 and IEC/EN/DIN EN 60747-5-2/5 4. Thicker insulation therefore better insulation capability	1. Clock Synchronization enables no data lost 2. User configurable clock speed 3. Robust extended temperature support 4. Meets international safety regulations and standards 5. Provides better isolation and overall safety performance
	ACPL-C79x (ACPL-C790, C79A, C79B)	Miniature Isolation Amplifiers	LEM / Honeywell	1. Miniature stretched SO-8 package 2. High gain accuracy of 0.5% (C79B) and high linearity with very low temperature drift 3. Competitively priced system solution compared to traditional Hall effect current transducer.	1. Cost saving for smaller PCB 2. High system measurement accuracy over temperature. 3. Reduce solution cost
	ACPL-P/W480, ACPL-P/W481, ACPL-M/P/484, ACPL-M/P/W483, ACNV4506	Totem Pole Output Intelligent Power Module and Gate Drive Interface Optocoupler	Toshiba	1. Totem pole output 2. Short propagation delay 3. High common mode noise rejection 4. Caters to wide range of VIORM (560Vpk to 2262Vpk) with different packages that meet creepage/clearance of 5mm to 13mm	1. No pull-up resistor required 2. Short dead-time improves efficiency of motor inverter, and precision of motion 3. Allows reliable operation under noisy environment and prevent erroneous driving of IGBT

R <sup>2</sup> Coupler™ Isolation	ACPL-xxxT (ACPL-M43T, M46T, M49T, M61T, M71T, M72T, K43T^, K44T^, K49T^, 312T, 38JT, 782T)	Automotive Grade R <sup>2</sup> Coupler™	NEC / Toshiba	1. AECQ-100 qualified 2. Wide temperature operating range -40 to 125°C 3. Automotive LED, reinforced wiring process for robustness 4. Manufactured under TS 16949 standards and data record retention capability 5. Certified optical isolation component standards for reinforced insulation and working voltage specified in IEC60747-5-5	1. Demonstrated robustness and reliability under well-recognized criteria 2. Can be used in harsh environments under the hood 3. Excellent performance across temperature and long lifetimes 4. APQP and PPAP support
	ACPL-xxxU (ACPL-M43U, M46U, M61U, 312U)	High Temperature Gate Driver and IPM Interface R <sup>2</sup> Coupler™	NEC /Toshiba	1. Wide temperature operating range -40 to 125°C 2. Certified optical isolation standards for reinforced insulation and working voltage specified in IEC60747-5-5 3. Reinforced wiring process	1. Suitable temperature environments 2. Recognized component standard that provide easy reference for many equipment standards 3. Supports extended temperature ranges 4. Yields longer life cycle

Note: Avago has lead time of 4-8 weeks.    ^ denote advanced information

Optical Sensors - Six Best Selling and Focus Parts

Part No.	Product Description	Competition	Strengths	Benefits
APDS-9800	Integrated Proximity Sensor	Intersil / Capella, Sharp	1. Product offerings include both ambient light sensors and proximity sensors 2. High volume supplier 3. Provide optical expertise for window design 4. Offer customizations to meet customer needs 5. Offer full portfolio for both ALS and PS applications	1. Reliable delivery and high quality standard 2. Excellent pre and post sales support 3. Support wide variety of applications
APDS-9005	Analog Ambient Light Sensor	Vishay / Rohm		
APDS-9300, 9301,9303	Digital Ambient Light Sensor	Taos / Intersil		
HSDL-9100	Proximity Sensor	Intersil / Capella / Sharp		
APDS-9700	Signal Conditioning Interface IC with Proximity Sensor	Intersil / Capella		

Additional Optical Sensor products are available. See [www.avagotech.com/sensors](http://www.avagotech.com/sensors)

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