

- Optocouplers
 Industrial Fiber
- Encoders

Upgrade Your Design

New Packages More Features Better Performance



● BROADCOM Optocouplers / Safe Isolation

Competitor Parts	Existing Parts	Upgrade Part	Upgrade Features	Footprint Information
Gate Drive				
TLP358F TLP350F FOD3120T PS9552L1/L2	HCNW3120 ACNW3190 ACNW3130	ACNW3430 ACNW3410 ACNU-3430 ACNU-3410	Up to 5A max. peak output current Very High CMR (000kV/µs) UtVLO with VE reference for negative power supply Ow Propagation Delay (<150ns) 40% smaller 11mm SSO8 package (ACNU)	Pin layout change Smaller footprint
TLP350, TLP5754/5774, FOD3120, PS9552, PS9505, VO3120 LTV-3120, LTV343W IEDIGOXIZAF, Si823x*, Si826x, ADUM7223*	ACPL-T350 ACPL-J313 ACPL-J312 HCPL-3120 HCPL-3180 ACPL-H312/K312	ACPL-H342/ACPL-K342 ACPL-P341/ACPL-W341 ACPL-P343/ACPL-W343 ACPL-W346/ACPL-P346 ACPL-P349/ACPL-W349	Rail-to-Rail output voltage Integrated Active Hiller (Jamp (ACPL-x342) Lower Propagation Delay Anti-Cross conduction Very High CMR (up to 50kV/µs)	Smaller footprint
TLP351, TLP701/705, TLP5701, F0D3181, F0D8314, PS9506, PS9306 Si823x*, Si826x	HCPL-0302 HCPL-0314 HCPL-314 HCPL-3150/3140 HCPL-315J/314J* ACPL-P302/W302 ACPL-P314/W314	ACPL-P340/ACPL-W340 ACPL-P345/ACPL-W345 ACPL-P347/ACPL-W347	Rail-to-Rail output voltage low Propagation Delay (<200ns) 50% smaller package size 8mm Creepage and Clearance (ACPL-W3xx)	Smaller footprint
TLP5214/5231, F0D8316, F0D8318, F0D8332, F0D8333, PS9402 Si8285/86, ADuM4136/4135, ISO5451/5452/5500/5851/5852	HCPL-316J ACPL-330J ACPL-333J ACPL-331J ACPL-332J	ACPL-352J	SA max. peak output current Rail-to-rail Dual output Si/Gal MOSFET ready Functional Safety Reporting Integrated Active Miller (Jamp	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 feedback Integrated Active Miller Clamp	Pin layout change
		ACPL-337J ACPL-336J ACPL-335J (Power MOSFET)	Up to 4A maximumpeak output current Rail-to-Rail output voltage DESAT and UVLO detection with isolated fault feedback Integrated Active Miller Clamp	Pin layout change
		ACPL-339J	Dual Output drive for external NMOS and PMOS buffer Integrated DESAT Detection Fault + UVLO status feedback	Pin layout change
PSS9905 UCC53x0	HCNW3120 ACNV3130	ACNT-H343	Market highest insulation voltage 2262Vpeak ISmm creepage & clearance Up to SA max. peak output current Very High CMR (100KV/µs) UVIO with VE reference for negative power supply tow Propagation Delay (<150ns)	Smaller footprint
* Dual Channel Digital Optocouplers Low Power 1MBd				
FODM453	6N135/6N136	ACPI-M50I /ACPI-M51I	low forward current (IF > 3 mA min)	Smaller footprint

Low Power 1MBd				
FODM453	6N135/6N136	ACPL-M50L/ACPL-M51L	Low forward current (IF > 3 mA min)	Smaller footprint
TLP109, TLP112, TLP114	HCPL-05xx	ACPL-W50L	High CTR ratio >90% min @ IF = 3 mA	
PS8101, PS8821, PS9113, PS9122,	HCPL-253x		Wide temperature range (-40°C to 105°C)	
PS9123			Wide supply voltage (2.7 V to 24 V)	
	HCPL-x53x	ACPL-054L	 Low supply voltage down to 2.25V and 4-pin configurable (ACPL-M51L) 	Drop-in replacement
			• Excellent CMR performance 15kV/µs @ Vcm 1500V	
TLP714F, TLP719F	HCPL-053x	ACPL-K54L	Offer higher working insulation voltage 1140 Vpeak,	Smaller footprint
PS8302, PS9313	HCPL-253x		isolation Voltage, 5000 Vrms (ACPL-W50L/K54L)	
CNY64,	HCNW135/136	ACNU-250L	Wider 11mm creepage and 10.5 mm clearance	Smaller footprint
VOW13x / VOW2611			Wider Operating Temperature up to 105°C	
			Lower supply voltage at 3.3V	
			Higher CMR	
TLP2303, TLP2403	HCPL-270x/4701	ACPL-K70A	Wider 8mm creepage/ clearance	Pin layout change
HCPL273x, MCL273x	HCPL-273x/4731	ACPL-K73A	Wider Operating Temperature up to 105°C	

Low Power 5MBd

SFH6720T, SFH6721, TLP105,	HCPL-0201/0211	ACPL-M21L	Low Forward Current (IF@1.6mA min), allowing direct drive from	Smaller footprint
TLP2355,TLP2105, TLP2405		ACPL-021L	microcontroller without an input buffer	Drop-in replacement
	HCPL-220x/221x	ACPL-W21L	Low Supply Current (IDD@1.1mA max.)	Smaller footprint
SFH6731, SFH6732	HCPL-223x	ACPL-024L	 Low Supply Voltages (VDD @ 2.7 – 5.5V), with support to go lower to 2.5V 	Smaller footprint
		ACPL-K24L	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 (-40°C to 105°C)	

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Competitor Parts	Existing Parts	Upgrade Part	Upgrade Features	Footprint Information
Jitra Low Power 10MBd				
FODM8061 [LP2361, TLP2366, TLP2468,	HCPL-M6xx	ACPL-M61L/ACPL-M62L APL-M61M	More than 80% power saving. Low forward current (If) to allow direct drive from microcontroller.	Drop-in replacement
LP2160, TLP2161	HCPL-060x	• Wide temperature range (-40°C to 105°C).		Drop-in replacement
	HCPL-061x		Wider supply voltage (2.5V-5.5V). CMOS output to aliminate will un recistor.	Drop-in replacement
	HCPL-063x HCPL-0661	ACPL-064L	CMOS output to eliminate pull-up resistor. Open-drain output (ACPL-M62L)	Drop-in replacement
OD8163T	HCPL-260x	ACPL-W61L/ACPL-C61L		Smaller footprint
.P2768F, TLP2766F	HCPL-261x			Smaller footprint
59324L2	ACPL-W611	-		Smaller footprint
	ACPI-W60I	-		Smaller footprint
	ACPL-P611	-		Smaller footprint
	HCPL-263x	ACPL-K64L		Smaller footprint
	ACPL-K63L			Smaller footprint
	HCPL-4661	_		Smaller footprint
	ACPL-W60L/W611/	ACPL-C61L		Smaller footprint
	P611, 6N137, HCPL- 260L/2601/2611,	ACPL-W61L		Smaller rootprint
OD8160	HCPL-261A/261N HCNW137/2601/2611	ACNW261L	_	Drop-in replacement
59924	ACNW261L	ACNT-H61L	- Maylest highest insulation veltage 23C2Vneak	
	ACNV2601	ALN1-HolL	Narrket highest insulation voltage 2262/peak 14.2mm creepage & clearance in compact strethed 508 High transient overvoltage 12,000/peak Lowest power consumption <20mW	Stretched SO8 package
S9351L2, PS9309L2, LP2766F, TLP2768F x 2	ACPL-W6IL x2	ACFL-6211U/ACPL-6212U	Compact size in fine-pitch (0.8mm) in Stretched S012 package, reducing PCB Board space Extended Temperature range up to 125°C Bi-directional Feature	Smaller footprint
ligh Speed Family (>12.5Ml	Bd)			•
	HCPL-0708	ACPL-071L	Flexible supply voltages (3.3V/5V)	Drop-in replacement
	HCPL-0738	ACPL-074L	Lower Propagation Delay (<40ns) Wide temperature (-40°C to 105°C) Glitch-Free Output	
	HCPL-0708	ACPL-M75L	Similariree output Hexible supply voltages (3.3V/5V) Lower Propagation Delay (<40ns) Wide temperature (<40°C to 105°C) Glitch-Free Output	Smaller footprint
	HCPL-2400	ACPL-W70L	Hexible supply voltages (3.3V/5V) Lower Propagation Delay (~40ns) Wide temperature (~40°C to 105°C) Smaller 8mm C/C package (Stretched SO6) Glitch-Free Output Lower Speed (SMBd)*	Smaller footprint
	HCPL-2430	ACPL-K73L	Hexible supply voltages (3.3V/5V) Lower Propagation Delay (<40ns) Wide temperature (-40°C to 105°C) Smaller 8mm C/C peakage (Stretched S08) Glitch-Free Output Lower Speed (5MBd)*	Smaller footprint
OD0720, FOD8012A	HCPL-0710/20/21	ACPL-077L	Flexible supply voltages (3.3V/5V)	Drop-in replacement
	ACPL-072L HCPL-7710/20/21	ACSL-7210 ACPL-772L	Wide temperature (-40°C to 105°C) tower PWD (<6ns) (ACPL-07TL) 3.75kViso Bi-directional in <2mm low height (ACSL-7210)	for ACPL-077L Smaller footprint in dual-channel Bi-directional (ACSL-7210)

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Competitor Parts	Existing Parts	Upgrade Part	Upgrade Features	Footprint Information
Isolation Amplifier	· · · · · · · · · · · · · · · · · · ·			
AMC1204/B, AMC1305M25 AD7401, AD7403	HCPL-786x	ACPL-796J	External docking (up to 20MHz) for multichannel synchronization	SO-16 footprint
AMC1305L25 AD7405		ACPL-798J	Up to 25MHz external clocking LVDS clock and data interface	
AMC1203/B	HCPL-7860	ACPL-C799 / ACPL-C740	• 50mV / 250mV linear range	
AD7400/A, AD7402	ACPL-C797	,	10MHz / 20MHz internal clock	
TLP7830	ACPL-7970		16-bits resolution no missing codes (12 bits ENOB)	
			• 77dB SNR (typ)	
			• 1.3uV / C offset drift (max.)	
			3V to 5.5V wide supply range for digital interface	
AMC1200/B	HCPL-7800	ACPL-C79B, ACPL- C79A,	• 30.5%/31%/33% gain accuracy	Smaller footprint
TLP7820, TLP790	HCPL-7800A	ACPL-C790	Better linearity	
Si8920	HCPL-7840	ACPL-790B, ACPL-790A,	• 30% smaller package size	
PS8551	ACPL-C78x	ACPL-7900	8 mm Creepage and Clearance	
			1414 Vpeak working insulation voltage	
IS0122		ACPL-C87A	0-2V input range voltage sensor	Smaller footprint
AMC1200/B		ACPL-C87B	• 3 5% / 31% / 33% gain accuracy	
TLP7820		ACPL-C870	• -35 ppm/°C Low Gain Drift	
			-0.3 mV Input Offset Voltage 7 V to F F V Wilde Supply Pages for Output Side	
		HCPL-788J / HCPL-785J	3 V to 5.5 V Wide Supply Range for Output Side 0-2V input range voltage sensor	
		UCL-1003 / UCL-1033	• 30.5%/31%/33% 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	
		HCPL-7510	• 3 3% gain accuracy	
			Overcurrent fault detection	
		HCPL-7520	• 3 5% gain accuracy	
			Single Ended Output	
AMC120/B	ACPL-C790	ACNT-H79A	Market highest insulation voltage 2262Vpeak	Stretched SO8 package
TLP7820	ACPL-C79A	ACNT-H790	• 14.2mm creepage & clearance	
Si8920	ACPL-C79B		• -50ppm/° Low Gain Drift	
			• 3 1% / 3 3% gain accuracy	
Intelligent Power Module I				
SFH6345 TLP550, TLP559, TLP759	HCPL-4502 HCPL-4503	ACPL-K453	8 mm Creepage and Clearance 50% smaller package size	Smaller footprint
PS8302L2	HCPL-4504	ACPL-W454		Smaller footprint
TLP719F	11012 4304	ACPL-P454		Smaller footprint
PS9213, PS9313L2	HCPL-4506	ACPL-W456		·
P59215, P59515LZ TLP719F	HLPL-4000			Smaller footprint
		ACPL-P456		Smaller footprint
PS9303L2	ACPL-4800	ACPL-W480		Smaller footprint
TLP706, TLP715F, TLP718F		ACPL-P480		Smaller footprint
TLP105, TLP108	HCPL-M452/3/4/6	ACPL-M484	• Higher CMR 30kV/µs	Faster speed
		ACPL-M483	• 10MBd speed	
			Totem-pole output, positive logic (M484), negative logic (M483)	
PS9309L2	HCPL-4502/03/04/06	ACPL-W484	8 mm Creepage and Clearance	Faster speed
TLP715F, TLP718F	HCPL-0452/53/54/66	ACPL-W483	• Higher CMR 30kV/µs	
			• 10MBd speed	
			Totem-pole output, positive logic (W484), negative logic (W483)	
VOW135, VOW136	HCNW4502/3/4/6	ACNU-4803	Wider 11mm creepage and 10.5 mm clearance	Smaller footprint
		ACNU-4804	Wider Operating Temperature up to 105°C Higher CMR	
FODM452, FODM453	HCPL-M452/53/54	ACPL-M43U	Wide temperature (-40°C to 105°C)	Drop-in replacement
TLP109, TLP112, TLP114			Low LED input drive current IF 10mA	1
PS9113, PS9122				
		ACPL-M46U	Wide temperature (-40°C to 105°C)	Drop-in replacement

Note: Drop-in-replacement means no PCB board redesign is required

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Upgrade	Feature	Benefit
High Voltage Insulation	•	
Improved Isolation/Insulation Ability to protect surrounding circuitry against physical damages resulting from differential voltages.	ACNV/ACNT 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	I	
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 \mathbf{l}_r (up to 40 μ A) 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 -40°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 tPHL and tPHL 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.
Package and Space Savings		
Multi-Channels, Bi-directional Features	Integrated dual, triple, quad with bi-directional channels offers in small SO8 and SO16 package. Bi-directional 2 channels with LED direct drive in 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.
ACNT 15mm Creepage/Clearance Package	Compact stretched S08 package able to withstand high insulation 2,262 Vpk and transient overvoltage 12,000 Vpk	Provides space savings. Meets IEC/UL/CSA new/ latest revision equipment standards for C/C, insulation voltage and/or transient overvoltage needs.
ACPL-P/W/H/K 8mm Creepage/Clearance Package ACNU 11mm Creepage/Clearance Package	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.



● BROADCOM Motion Control Upgrade Parts

Existing Parts	Upgrade Part	Upgrade Features	Footprint Information
HEDS-9140	AEDT-9810	High Resolution of up to 5000 Counts per Revolution	Pin Compatible to legacy HEDS-9xxx Series
		• -40°C to 115°C Operating Temperature	
		Low Power Consumption (Typical Icc: 20 mA)	
		Spatial play tolerance of 0.40mm	
		Allows motor shaft axial play of 30.15mm	
		Choice of Index Pulse Width (90° and 180°)	
		Better ESD Immunity HBM 4kV (JESD22-A114D)	
HEDC-55xx	AEDC-55xx	Available in two or three channel encoder A,B and I	Compatible mounting to legacy HEDC-55xx Series
		Latching connector design	 External mounting ears option available for larger motors.
		Single 5V supply	
		Resolution of up to 5000 CPR	
		TTL compatible, with single ended or differential output.	
		Quick assembly	
		No signal adjustment required	
		• Small size -40 °C to 85 °C operating temperature	
HEDM-550x	AEDM-5810	High Resolution - up to 5000 CPR	Compatible mounting to legacy HEDM-55xx Series
		Operating temperature – 40°C to +85°C	 External mounting ears option available for larger motors.
		Quick and easy assembly	
		No signal adjustment required	
		Cost Effective solution	
		• Small size	
		• TTL compatible output	
		Single 5V supply with 310% tolerance	
AFDR-8320	AFDR-8773	Differential Output (Line Driver) available with AEDL-581x Series Applies Output at the Driver available with AEDL-581x Series	Conference while allowers down
AEDK-8520	AEDK-8725	Analog Output option – 2 channels differential analog output (Sin, /Sin, Cos, /Cos) and with a digital index (N) output	Surface mount leadless package - 705 mm (4) v 7.4 mm (44) v 0.0553 mm (4)
		with a digital index (I) output.	3.95 mm (L) x 3.4 mm (W) x 0.9562 mm (H)
		Operating voltage of 3.3V or 5V supply Built in LED current regulation, hence no external biasing resistor needed.	
		Built in LED current regulation, fielde no external biasing resistor needed. -20°C to 85°C absolute operating temperature	
		High encoding resolution; 318 (lines/inch)	
AEDR-8300	AEDR-8710	World smallest 3 channels reflective technology encoder.	Surface mount leadless package
AFDR-8400	ALDR-0710	Digital Output option - 3 channels TL compatible; two channel quadrature digital outputs	3.95 mm (L) x 3.4 mm (W) x 0.9562 mm (H)
AFDR-8500		for direction sensing and a 3rd channel. Index digital output.	3.55 Hilli (L) X 3.4 Hilli (W) X 0.5502 Hilli (H)
ALDK-0300		Built in interpolator for 4x, 8x and 16x interpolation.	
		Operating voltage of 3.3V or 5V supply	
		Built in LED current regulation, hence no external biasing resistor needed.	
		• -20°C to 85°C absolute operating temperature	
		Encoding resolution: 318 (lines/inch)	
AFAT-6600-S16	AFAT-8800-Q24	Smaller form factor with QFN 5mm x 5mm package	Smaller form factor with QFN 5mm x 5mm package
5555 510	7.27.1 0000 024	UVW pinout for low end comutation motor applications	Shake form factor that any shift A shift puckage
		Higher accuracy with lower step jump for absolute encoder applications	
		Lower latency for incremental encoder operations across different resolutions	
		Typically lower latency > 3X	
	AFAT-8811-024	Better performance	-
	ALAI 0011-024	No customer offset calibration required	



♠BROADCOM Motion Control Products Overview - IC, Module, Kits and Housed Encoder

		M	Modulo				House		
		OL OL	Mulc				nacnou		
	HEDS -90/91/92x	HEDS-97xx	HEDL-90/91xx	AEDB/T-9340	AEDB/T-9140	HEDT-90/91xx, AEDT-981x (Wide range upto 5000CPR)	HEDL-55/56xx AEDL-58xx	HEDS/HEDM-55/56xx AEDM-58xx (2 or 3Ch Upto 5000CPR)	HEDC-55/56xx AEDC-55/56xx (Upto 5000CPR)
letnem		# 6 # 6 & P			2		34		
ncrei					Reflective				
	AEDR-83xx	AEDR-8400	AEDR-8320	AEDR-8500 (294LP1,3Ch Upto 4X interpolation)	AEDR-87xx (318LP1,3Ch,Upto16X interpolation)	AEDR-98xx (318LPI/225LPI 3Ch,1x/ Upto16X interpolation, -40°C to 115C, 200Kitz)	HEDR-54xx	ASZZ-MSXX (Bearingless house Upto 2048CPR)	HRPG-Axxx (Rotary Pulse Generator)
					C !				
		00	Optical				Magnetic		
			Module			House		<u> </u>	
	Transn	Transmissive		Reflective					
psolute	AEAT-7000	AEAT-84/86AD	AR18/35 Abs 21Bits/25Bit + Incr8192CPR)	Tes AR	AR35-T(Thru Hole Abs 17B-25B)	AEAT-60xx (10/12Bits, 256CPR)	AEAT-6600(Upto 16Bits/1024CPR)	AEAT-8800(GFN, Lower latency, Abs Upto 16Bits/ Incr 4096CPR)	AEAT-8811-024 (Enhance accuracy, Abs Upto 16Bits + Incr 4096CPR, No Offset CAL
A						00			AEAT-8811 468750 1912
1	AS38 House Abs	AS35 Kit Optical Energy	AS37 Kit Optical Battery	AS33-M50M Magnetic	Codewheel	vheel		Integrated Circuit	
	ST23B+MT16B Energy	Harvesting ST 20B and	Backup ST 23B and MT16B,	18B ST+ 32b MT Energy	Selective Metal / Mylar / Glass	/ Mylar / Glass		Decoder / Counter / Line Driver	river
jiX\əsuo	Harvesting SSI & BiSS C, RS485/ESL, OD 38mm	MT16B,RS485/ESL and BISS-C, 0D35mm	RS485/ESL and BiSS-C, 0D38mm	Harvesting, OD 33mm, SSI, BISS C, RS485,-40 to 115C	HEDx-51/61xx/AEDM-5840	/AEDM-5840	HCTL-2017-PLC, HCTL-2032-SC	AEIC-7272/7273/2631 (3.5\	AEIC-7272/7273/2631 (3.5V - 30V. AEIT-5000 (5V, 2Mhz)
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● BROADCOM Industrial Fiber / Improve your System

Existing Parts	Upgrade Part	Upgrade Features	Pricing Comparison	Footprint Information
Versatile Link Transmitter an	d Receivers			
HFBR-15ZIZ / HFBR-25ZIZ HFBR-15ZIZ / HFBR-25ZIETZ HFBR-15SIZ / HFBR-25ZIETZ HFBR-15ZIEZ / HFBR-25ZIETZ HFBR-15ZIZZ / HFBR-25ZIETZ HFBR-15ZZZ / HFBR-25ZZ / HFBR-25ZZ / HFBR-25ZZ / HFBR-25ZZETZ / HFBR-25ZETZ / HFBR	AFBR-1521CZ AFBR-2521CZ AFBR-2521CZ AFBR-3531CZ AFBR-3531CZ AFBR-3531CZ AFBR-2541CZ AFBR-2524CZ AFBR-2528CZ	- 40°C to +95°C temperature range - 3.3V or 5V operating voltage - High efficient transmitter - TITL/CMOS receiver output - Lower power consumption - Low propagation delay with guaranteed max. part-to-part skew - High dynamic receiver optical input range - 40°C to +95°C temperature range - 3.3V or 5V operating voltage - High efficient transmitter - Lower power consumption - Low propagation delay with guaranteed max. part-to-part skew	Price Premium due to significant better features: • Industrial temp range • Low propagation delay skew • 3.3V or 5V operation • No Rx optical saturation	Same footprint, changes to Tx driver and Rx output interface required. Optical backwards compliant, but check power budget.
HFBR-1521Z / ETZ HFBR-1522Z / ETZ	AFBR-1629Z AFBR-1639Z	- High dynamic receiver optical input range - Transmitter with integrated driver - TIL/L/MOS compatible input - High efficient transmitter - Low power consumption - 40°C to +85°C temperature range - 3.37 or 5V operating voltage	Price Premium due to significant better features: • Industrial remp range • Tx integrated driver	Same footprint, but digital input, no external driver required
HFBR-1528Z / HFBR-2528Z	AFBR-1629Z AFBR-2529Z	DC to 50MBd Lower power consumption Higher EM Immunity Lower propagation delay time Power on Reset		Tx: Same footprint, but digital input, no external driver required Rx: drop-in replacement
AFBR-2529Z	AFBR-2529SIZ	Additional safety function with RSSI feature	~10% price adder for RSSI	Drop-in replacement
Plastic Optical Fiber (POF) Ca	able & Connectors		1	
HFBR-RUDxxxZ HFBR-EUDxxxZ	AFBR-HUDxxxZ	Halogen Free	Up to 5% cost saving	Drop-in replacement
HFBR-4501Z / HFBR-4511Z HFBR-4503Z / HFBR-4513Z HFBR-4506Z	HFBR-4531Z HFBR-4532Z HFBR-4533Z HFBR-4535Z	Simplified POF connector termination, no crimp tool required No metal at connector, preferred in high voltage and medical applications	Similar prices	Drop-in replacement









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Existing Parts	Upgrade Part	Upgrade Features	Pricing Comparison	Footprint Information
Miniature Link Transmit	ters and Receivers			
HFBR-1412xZ	HFBR-1412xPZ	ESD enhanced device: 2kV HBM	Same prices	Drop-in replacement
HFBR-1414xZ	HFBR-1414xPZ			
HFBR-2416xZ	AFBR-2418xZ	Integrated quantizer	Price premium due to significant	Same footprint, but digital
	AFBR-2419xZ	Digital TTL/CMOS compatible output	better features:	output along with RSSI
		Analog receiver signal strength indicator output	Fully integrated Rx with digital output	
		Reduced design effort and PCB space		
		Enhanced EMC performance		
		Short propagation delay		
		Lower power consumption		
		• 3.3V or 5V supply voltage		
High Galvanic Insulation	n Link		•	
HFBR-3810xZ	AFBR-390525RZ	VDE Certification as per IEC 60747-5-5	Up to 30% cost saving	Similar footprint
		Lower power consumption		
		Shorter propagation delay with guaranteed max part-to-part skew		
HFBR-3810xZ	AFBR-3905xxRZ	VDE Certification as per IEC 60747-5-5		Different footprints
	AFBR-3950xxRZ	Up to 50 kV peak transient voltage suppression		
		Up to 12 kV effective working voltage		
		Four creepage / clearance length options		
		Two speed options: DC to 5 MBd and DC to 50 MBd		
Fast Ethernet POF & MM	GOF			
AFBR-5972Z	AFBR-5972EZ	45% lower max power consumption	Price premium due to significant	Same footprint, but different
	AFBR-5972BZ	Better EMI Immunity for highest system robustness	better features	electrical interface
		LVDS I/Os for direct interface to FPGAs		
		Up to 250MBd link rate for higher bandwidth requirements		
HFBR-5961ALZ	AFBR-59E4APZ-LH	60% lower max. power consumption	Price premium due to significant	Same footprint, same optical
			lower power consumption	interface (-LT with reduced
				LOP), change of external
				data I/O termination required
HFBR-57E5APZ	AFBR-57E6APZ	• 50% lower max. power consumption	Price advantage possible	Drop-in replacement
AFBR-59E4APZ	AFBR-59E4APZ-HT	• 95°C max. Temp	Price premium	Four additional housing
		Four additional housing leads for improved signal grounding		leads
AFBR-57E6APZ	AFBR-57E6APZ-HT	and heat dissipation (AFBR-59E4APZ)	Small price premium	Drop-in replacement









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