

Marvell Ethernet Transceivers

Product Selection Guide



PRODUCT OVERVIEW

With the proliferation of today's advanced system of broadband networks, the need for reliable performance and faster throughput is increasing. Marvell addresses these growing demands with a complete suite of innovative Ethernet PHY transceivers that meet the unique configurations and requirements of today's vast networking environments. From the completely networked home to the infrastructure that drives it, Marvell's industry-leading transceivers are utilized for a wide array of applications including hubs, switches, routers, PCs, gaming consoles, DVRs, and media vaults.

In addition, Marvell® transceivers include a suite of advanced features that enable optimized form factors and multiple port and cable options, and provide efficient power consumption, high performance, and simple plug-and-play functionality. As an industry leader in the innovation and development of transceiver solutions, Marvell is able to continuously deliver the most advanced and complete PHY products to the broadband market.

GIGABIT ETHERNET

The Marvell Alaska® Gigabit Ethernet (GbE) PHY transceivers address the full range of demands for lower power dissipation, reduced PCB real estate, simplified layout, and higher performance. The quad-port 88E1240 is the latest addition to the Alaska GbE PHY family. The 88E1240 offers the most advanced feature set for low-power, high-port-density switching applications. Also new in the GbE PHY family is the 88E1121R dual-port GbE PHY. The 88E1121R is ideal for DVRs, set-top boxes, and IP phones.

Part Number	LINE INTERFACES										MAC INTERFACES								POWER & FEATURES				Package Type		
	Number of Ports	10/100/1000BASE-T	100BASE-FX	1000BASE-X	SGMII	MII	RMII	SMII	SSSMII	GMII	RGMII	SGMII	TBI	RTBI	SeDdes	Internal Regulator (w/External PNP)	Integrated Passives	Virtual Cable Tester	Programmable LED	JTAG	125 MHz CLK OUT	I-Temp		RoHS 6/6, Green*	Production
Single-Port Devices																									
88E1111-BAB	1	X		X	X					X	X	X	X	X	X			X	X	X	X	X	R	X	117-BGA
88E1111-CAA	1	X		X	X					X	X	X	X	X	X			X	X	X	X	X	R	X	96-BCC
88E1111-RCJ	1	X		X	X					X	X	X	X	X	X			X	X	X	X	R	X	128-PQFP	
88E1112-NNC	1	X	X	X	X							X						X	X			X	R	X	64-QFN
88E1113-NNC	1		X	X								X						X	X			R	X	64-QFN	
88E1114-NNC	1	X										X						X	X			R	X	64-QFN	
88E1116R-NNC	1	X								X					X	X	X	X	X			R	X	64-QFN	
88E1118R-NNC	1	X								X					X	X	X	X	X	X		G	X	64-QFN	
88E1119R-NNW	1	X								X					X	X	X	X	X	X		G	X	72-QFN	
Dual-Port Devices																									
88E1121R-TFE	2	X								X					X	X	X	X	X			R	X	100-TQFP	
Quad-Port Devices																									
88E1141-BBT	4	X	X	X	X					X	X	X	X	X				X	X	X		R	X	388-HSBGA	
88E1143-BAT	4	X	X	X	X					X	X	X	X	X				X	X	X		R	X	364-PBGA	
88E1145-BBM	4	X	X	X	X					X	X	X	X	X				X	X	X	X	R	X	364-HSBGA	
88E1149R-BAM	4	X										X			X	X	X	X	X			R	X	196-TFBGA	
88E1149R-TAH	4	X										X			X	X	X	X	X			R	X	176-TQFP	
88E1240-BAM	4	X										X			X	X	X	X	X			R	X	196-TFBGA	
88E1240-TAH	4	X										X			X	X	X	X	X			G	X	176-TQFP	

* Green: Lead free, Halogen free

FAST ETHERNET

Products in the Fast Ethernet (FE) family are Marvell's third- and fourth-generation DSP-based FE PHY transceivers. Each device in the FE PHY family offers very low power dissipation, enabling manufacturers to decrease their system costs by reducing power supply requirements. Additionally, the 88E3016 and 88E3018 single-port FE devices are pin-upgradeable to Marvell's 88E1116R Gigabit Ethernet PHY which allows for design flexibility and dual layout for both FE and Gigabit Ethernet applications.

Part Number	LINE INTERFACES										MAC INTERFACES								POWER & FEATURES				Package Type	
	Number of Ports	10/100BASE-T	100BASE-FX	1000BASE-X	SGMII	MII	RMII	SMII	SSSMII	GMII	RGMII	SGMII	TBI	RTBI	DDR-SSSMII	Internal Regulator (w/External PNP)	Virtual Cable Tester	Programmable LED	JTAG	I-Temp	RoHS 6/6	Production		
Single-Port Devices																								
88E3015-NNP	1	X	X			X				X					X	X	X			X	X	X	X	56-QFN
88E3016-NNC	1	X	X							X					X	X	X	X		X	X	X	X	64-QFN
88E3018-NNC	1	X	X			X				X					X	X	X	X	X	X	X	X	X	64-QFN
Octal-Port Devices																								
88E3082-BAR	8	X	X			X	X	X						X	X	X	X	X	X	X	X	X	X	224-TFBGA
88E3083-LKJ	8	X	X				X	X						X	X	X	X	X	X	X	X	X	X	128-LQFP

▶ **10 GIGABIT ETHERNET**

Marvell's 88X201x series of IEEE 802.3ae compliant 10 GbE PHYs enable short reach (SR/SW), long reach (LR/LW), or extended reach (ER/EW) applications for module implementation or system board implementation in LAN or LAN/WAN form. The X2010, X2011, X2012, and X2013 transceivers are fully integrated single-chip devices that perform all the physical functions for 10 GbE and 10 Gigabit Fibre Channel applications, delivering high-speed bi-directional point-to-point data transmissions. The devices provide flexibility by supporting the 10 Gigabit Attachment Unit Interface (XAUI) with the X2010 and X2011 and the 10 Gigabit Media Independent Interface (XGMII) with the X2012 and X2013; each adhering to IEEE 802.3ae specifications.

Part Number	LINE INT.		MAC INTERFACES							POWER & FEATURES					
	Number of Ports	10GBASE-SR/ER/LR	10GBASE-SW/EW/LW	XAUI	XGMII	XENPAK	X2	XFP	Programmable LED	JTAG	Reference Clock	I-Temp	RoHS 6/6	Production	Package Type
Single-Port Devices															
88X2010-BAN	1	X	X		X	X	X	X	X	X	156.25/159.375 MHz		X	X	256-TFBGA
88X2011-BAN	1	X	X	X		X	X	X	X	X	156.25/159.375 MHz	X	X	X	256-TFBGA
88X2012-BAN	1	X		X				X	X	X	156.25/159.375 MHz		X	X	256-TFBGA
88X2013-BAN	1	X	X	X				X	X	X	156.25/159.375 MHz		X	X	256-TFBGA
XGXS Devices															
88X2040-BAN	1			X	X	X	X		X	X	62.5/125/156.25/159.375 MHz		X	X	256-TFBGA
88X2080-BBU	2			X	X	X	X		X	X	62.5/125/156.25/159.375 MHz		X	X	448-PBGA

THE MARVELL ADVANTAGE: Marvell chipsets come with complete reference designs which include board layout designs, software, manufacturing diagnostic tools, documentation, and other items to assist customers with product evaluation and production. Marvell's worldwide field application engineers collaborate closely with end customers to develop and deliver new leading-edge products for quick time-to-market. Marvell utilizes world-leading semiconductor foundry and packaging services to reliably deliver high-volume and low-cost total solutions.

ABOUT MARVELL: Marvell is a leader in storage, communications, and consumer silicon solutions. Marvell's diverse product portfolio includes switching, transceiver, communications controller, processor, wireless, power management, and storage solutions that power the entire communications infrastructure, including enterprise, metro, home, storage, and digital entertainment solutions. For more information, visit our Web site at www.marvell.com.



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