



2016 Marvell Product Selector Guide

TOTAL SOLUTIONS FROM MARVELL

Providing a broad spectrum of solutions across a wide range of market segments.

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Fast Ethernet (FE) PHY

Transceivers

Number of Ports
Optical (Line)
MACSec (LinkCrypt)
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10/100BASE-T
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Mac Interfaces
RGMII
Core Voltage
Digital I/O
Analog Voltage
Internal Regulator
Virtual Cable Tester
Programmable LED
JTAG
RoHS 6/6, Green*
Production
Package Type

Single-Port Devices

Part Number	Number of Ports	Optical (Line)	MACSec (LinkCrypt)	I-Temp	1-Step PTP (1588 v2)	10/100BASE-T	100BASE-FX	Mac Interfaces	RGMII	Core Voltage	Digital I/O	Analog Voltage	Internal Regulator	Virtual Cable Tester	Programmable LED	JTAG	RoHS 6/6, Green*	Production	Package Type	
88E3015 10/100BASE-T Fast Ethernet PHY	1	Yes	No	No	No	No	Yes	Yes	MII, RGMII	Yes	1.2V	2.5V/3.3V	2.5V	Yes	Yes	Yes	No	R	Yes	56-QFN
88E3016 10/100BASE-T Fast Ethernet PHY	1	Yes	No	No	No	No	Yes	Yes	RGMII	Yes	1.2V	2.5V/3.3V	2.5V	Yes	Yes	Yes	Yes	R	Yes	64-QFN
88E3018 10/100BASE-T Fast Ethernet PHY	1	Yes	No	Yes	No	No	Yes	Yes	MII, RGMII	Yes	1.2V	2.5V/3.3V	2.5V	Yes	Yes	Yes	Yes	R	Yes	64-QFN
88E3019 10/100BASE-T Fast Ethernet PHY	1	No	No	No	No	No	Yes	No	MII, RMII, RGMII	Yes	1.2V	2.5V/3.3V	2.5V	No	Yes	Yes	No	G	Yes	32-QFN

Octal-Port Devices

88E3082 10/100BASE-T Octal PHY	8	Yes	No	Yes	No	No	Yes	Yes	RMII, SMII, SSSMII, DDR-SSSMII	No	1.5V	2.5V/3.3V	2.5V	Yes	Yes	Yes	Yes	R	Yes	224-TFBGA
88E3083 10/100BASE-T Octal PHY	8	Yes	No	No	No	No	Yes	Yes	SMII, SSSMII, DDR-SSSMII	No	1.5V	2.5V/3.3V	2.5V	Yes	Yes	Yes	Yes	R	Yes	128-LQFP

1-Gigabit Ethernet (ALASKA®)

Transceivers

- Number of Ports
- Optical (Line)
- MACSec (LinkCrypt)
- I-Temp
- 1-Step PTP (1588 v2)
- 2-Step PTP
- SyncE
- BASE-T Speeds (CU)
- Optical Line Interfaces (SGMII)
- Mac Interfaces
- Energy Efficient Ethernet
- Core Voltage
- Digital I/O
- Analog Voltage
- Internal Regulator
- Integrated Passives
- JTAG
- Package Type

Single Port Devices

Alaska 88E1518 EEE 10/100/1000BASE-T PHY with RGMII	1	No	No	No	No	Yes	Yes	10M/100M/1G	None	RGMII, MII	Yes	1.0V	1.8V	1.8V/3.3V	Switching Regulator	Yes	No	48-QFN
Alaska 88E1514P EEE 10/100/1000BASE-T PHY with SGMII, Copper/Fiber Autotmedia Detect and Low-Latency (1Step-PTP) 1588 v2 support	1	No	No	No	Yes	Yes	Yes	10M/100M/1G	SGMII	No	Yes	1.0V	1.8V/2.5V/3.3V	1.8V/3.3V	Switch-cap Regulator	Yes	No	56-QFN
Alaska 88E1514 EEE 10/100/1000BASE-T PHY with SGMII, Copper/Fiber Autotmedia Detect	1	No	No	No	No	Yes	Yes	10M/100M/1G	None	SGMII	Yes	1.0V	1.8V/2.5V/3.3V	1.8V/3.3V	Switch-cap Regulator	Yes	No	56-QFN
Alaska 88E1512P EEE 10/100/1000BASE-T PHY with RGMII, SGMII, Copper/Fiber Autotmedia Detect and Low-Latency (1Step-PTP) 1588 v2 support	1	Yes	No	Yes	Yes	Yes	Yes	10M/100M/1G	SGMII, 100BASE-FX, 1000BASE-X, SFP	RGMII, SGMII, MII	Yes	1.0V	1.8V/2.5V/3.3V	1.8V/3.3V	Switch-cap Regulator	Yes	No	56-QFN
Alaska 88E1512 EEE 10/100/1000BASE-T PHY with RGMII, SGMII Copper/Fiber Autotmedia Detect	1	Yes	No	Yes	No	Yes	Yes	10M/100M/1G	SGMII, 100BASE-FX, 1000BASE-X, SFP	RGMII, SGMII	Yes	1.0V	1.8V/2.5V/3.3V	1.8V/3.3V	Switch-cap Regulator	Yes	No	56-QFN
Alaska 88E1510Q EEE 10/100/1000BASE-T PHY with RGMII and Low-Latency (1Step-PTP) 1588 v2 support	1	No	No	Yes	Yes	Yes	Yes	10M/100M/1G	None	RGMII, MII	Yes	1.0V	1.8V/2.5V/3.3V	1.8V/3.3V	Switch-cap Regulator	Yes	No	48-QFN
Alaska 88E1510P EEE 10/100/1000BASE-T PHY with RGMII and Low-Latency (1Step-PTP) 1588 v2 support	1	No	No	Yes	Yes	Yes	Yes	10M/100M/1G	None	RGMII, MII	Yes	1.0V	1.8V/2.5V/3.3V	1.8V/3.3V	Switch-cap Regulator	Yes	No	48-QFN
Alaska 88E1510 EEE 10/100/1000BASE-T PHY with RGMII	1	No	No	Yes	No	Yes	Yes	10M/100M/1G	None	RGMII	Yes	1.0V	2.5V/3.3V	1.8V/3.3V	Switching Regulator	Yes	No	48-QFN

1-Gigabit Ethernet (ALASKA®)

Transceivers

Number of Ports
Optical (Line)
MACSec (LinkCrypt)
I-Temp
1-Step PTP (1588 v2)
2-Step PTP
SyncE
BASE-T Speeds (CU)
Optical Line Interfaces (SGMII)
Mac Interfaces
Energy Efficient Ethernet
Core Voltage
Digital I/O
Analog Voltage
Internal Regulator
Integrated Passives
JTAG
Package Type

Alaska 88E1112 10/100/1000BASE-T PHY with Dual SERDES/SGMII	1	Yes	No	Yes	No	No	No	10M/100M/1G	100BASE-FX, 1000BASE-X, SFP	SGMII	No	1.2V	2.5V	2.5V	No	No	No	64-QFN
Alaska 88E1111 10/100/1000BASE-T PHY with multiple MAC Interfaces	1	Yes	No	Yes	No	No	No	10M/100M/1G	SGMII, 100BASE-FX, 1000BASE-X, SFP	RGMII, SGMII, MII, TBI, RTBI	No	1.0V/1.2V	2.5V	2.5V	No	No	Yes	Multiple Packages
Quad-Port Devices																		
Alaska 88E1548P EEE 100/100/1000BASE-T PHY with QSGMII	4	Yes	Yes	Yes	Yes	Yes	Yes	10M/100M/1G	SGMII, 100BASE-FX, 1000BASE-X, SFP	SGMII, QSGMII	Yes	1.0V	1.2V/1.8V/2.5V/3.3V	1.8V/3.3V	No	Yes	Yes	15mm x 15mm 196-pin TFBGA
Alaska 88E1548M EEE 100/100/1000BASE-T PHY with SGMII plus MACSec, Automedia Detect	4	Yes	Yes	No	No	Yes	Yes	10M/100M/1G	SGMII, 100BASE-FX, 1000BASE-X, SFP	SGMII, QSGMII	Yes	1.0V	1.2V/1.8V/2.5V/3.3V	1.8V/3.3V	No	Yes	Yes	196-TFBGA
Alaska 88E1548 EEE 100/100/1000BASE-T PHY with QSGMII	4	Yes	No	No	No	No	No	10M/100M/1G	SGMII, 100BASE-FX, 1000BASE-X, SFP	SGMII, QSGMII	Yes	1.0V	1.2V/1.8V/2.5V/3.3V	1.8V/3.3V	No	Yes	Yes	15mm x 15mm 196-pin TFBGA
Alaska 88E1545M EEE 100/100/1000BASE-T PHY with QSGMII plus MACSec	4	No	Yes	No	No	No	No	10M/100M/1G	None	QSGMII	Yes	1.0V	1.2V/1.8V/2.5V/3.3V	1.8V/3.3V	No	Yes	Yes	128-LQFP
Alaska 88E1545 EEE 100/100/1000BASE-T PHY with QSGMII	4	No	No	No	No	No	No	10M/100M/1G	None	QSGMII	Yes	1.0V	1.2V/1.8V/2.5V/3.3V	1.8V/3.3V	No	Yes	Yes	128-LQFP
Alaska 88E1543M EEE 100/100/1000BASE-T PHY with SGMII plus MACSec	4	Yes	Yes	No	No	No	No	10M/100M/1G	SGMII, 100BASE-FX, 1000BASE-X, SFP	SGMII	Yes	1.0V	2.5V/3.3V	1.8V/3.3V	No	Yes	Yes	128-LQFP
Alaska 88E1543 EEE 100/100/1000BASE-T PHY with SGMII	4	Yes	No	No	No	No	No	10M/100M/1G	SGMII, 100BASE-FX, 1000BASE-X, SFP	SGMII	Yes	1.0V	2.5V/3.3V	1.8V/3.3V	No	Yes	Yes	128-LQFP

1-Gigabit Ethernet (ALASKA®)

Transceivers

Number of Ports
Optical (Line)
MACSec (LinkCrypt)
I-Temp
1-Step PTP (1588 v2)
2-Step PTP
SyncE
BASE-T Speeds (CU)
Optical Line Interfaces (SGMII)
Mac Interfaces
Energy Efficient Ethernet
Core Voltage
Digital I/O
Analog Voltage
Internal Regulator
Integrated Passives
JTAG
Package Type

Alaska 88E1540M

EEE 100/100/1000BASE-T PHY with QSGMII plus MACSec

4 No Yes No No Yes Yes 10M/100M/1G None QSGMII Yes 1.0V 1.2V/1.8V/2.5V/3.3V 1.8V/3.3V No Yes Yes 196-TFBGA

Octal-Port-Devices

Alaska 88E1685

EEE 10/100/1000BASE-T PHY with QSGMII

8 No No No No No No 10M/100M/1G No QSGMII Yes 0.9V 1.2V/1.8V/2.5V/3.3V 1.5V/1.8V No Yes Yes 128-LQFP

Alaska 88E1680M

EEE 10/100/1000BASE-T PHY with QSGMII plus MACSec, PTP, SyncE

8 No Yes No Yes Yes Yes 10M/100M/1G No QSGMII Yes 0.9V 1.2V/1.8V/2.5V/3.3V 1.5V/1.8V No Yes Yes 128-LQFP

Alaska 88E1680

EEE 10/100/1000BASE-T PHY with QSGMII, MACSec, PTP, SyncE

8 No No No No Yes Yes 10M/100M/1G No QSGMII Yes 0.9V 1.2V/1.8V/2.5V/3.3V 1.5V/1.8V No Yes Yes 128-LQFP

10-Gigabit Ethernet (ALASKA® X)

Transceivers

Number of Ports
Optical (Line)
MACSec (LinkCrypt)
I-Temp
1-Step PTP (1588 v2)
Supported Speeds
Host Interfaces
Optical Interface
Optical Module Types
Direct Attach Copper
SyncE
Energy Efficient Ethernet
Core Voltage
Digital I/O
Analog Voltage
Reference Clock
Package Type

Copper (Base-T) PHYs

Alaska X 88X3340P

Quad EEE 10/100/1G/2.5G/5G/10GBASE-T PHY with XFI, MACSec, PTP

4 Yes Yes No Yes 10G, 5G, 2.5G, 1G, 100M, 10M USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII XFI/SFI 10GBASE-SR/ER/LR, 1000BASE-SX/LX Yes Yes Yes 0.80V 1.2V/1.5V/1.8V/2.5V/3.3V 1.5V, 1.8V/2.0V, 2.3V/2.5V 50, 156.25 MHz 484-HFCBGA

10-Gigabit Ethernet
(ALASKA® X)

Transceivers

Number of Ports
Optical (Line)
MACSec (LinkCrypt)
I-Temp
1-Step PTP (1588 v2)
Supported Speeds
Host Interfaces
Optical Interface
Optical Module Types
Direct Attach Copper
SyncE
Energy Efficient Ethernet
Core Voltage
Digital I/O
Analog Voltage
Reference Clock
Package Type

<p>Alaska X 88X3340 Quad EEE 10/100/1G/2.5G/5G/10GBASE-T PHY with XFI</p>	4	Yes	No	No	No	10G, 5G, 2.5G, 1G, 100M, 10M	USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII	XFI/SFI	10GBASE-SR/ER/LR, 1000BASE-SX/LX	Yes	Yes	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 1.8V/2.0V, 2.3V/2.5V	50, 156.25 MHz	484-HFCBGA
<p>Alaska X 88X3310P Single EEE 10/100/1G/2.5G/5G/10GBASE-T PHY with XFI, MACSec, PTP</p>	1	Yes	Yes	No	Yes	10G, 5G, 2.5G, 1G, 100M, 10M	USXGMII, XFI, RXAUI, XAUI, 5GBASE-R, 2500BASE-X, SGMII	XFI/SFI	10GBASE-SR/ER/LR, 1000BASE-SX/LX	Yes	Yes	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 1.8V/2.0V, 2.3V/2.5V	50, 156.25 MHz	168-HFCBGA
<p>Alaska X 88X3310 Single EEE 10/100/1G/2.5G/5G/10GBASE-T PHY with XFI</p>	1	Yes	No	No	No	10G, 5G, 2.5G, 1G, 100M, 10M	USXGMII, XFI, RXAUI, XAUI, 5GBASE-R, 2500BASE-X, SGMII	XFI/SFI	10GBASE-SR/ER/LR, 1000BASE-SX/LX	Yes	Yes	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 1.8V/2.0V, 2.3V/2.5V	50, 156.25 MHz	168-HFCBGA
<p>Alaska X 88X3240P Quad EEE 10/100/1G/10GBASE-T PHY with XFI, MACSec, PTP</p>	4	Yes	Yes	No	Yes	10G, 1G, 100M, 10M	XFI, RXAUI, SGMII	XFI/SFI	10GBASE-SR/ER/LR, 1000BASE-SX/LX	Yes	Yes	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 2.0V, 2.5V	50, 156.25 MHz	484-HFCBGA
<p>Alaska X 88X3240 Dual EEE 10/100/1G/10GBASE-T PHY with XFI</p>	4	Yes	No	No	No	10G, 1G, 100M, 10M	XFI, RXAUI, SGMII	XFI/SFI	10GBASE-SR/ER/LR, 1000BASE-SX/LX	Yes	Yes	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 2.0V, 2.5V	50, 156.25 MHz	484-HFCBGA
<p>Alaska X 88X3220P Dual EEE 10/100/1G/10GBASE-T PHY with XFI, MACSec, PTP</p>	2	Yes	Yes	No	Yes	10G, 1G, 100M, 10M	XFI, RXAUI, SGMII	XFI/SFI	10GBASE-SR/ER/LR, 1000BASE-SX/LX	Yes	Yes	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 2.0V, 2.5V	50, 156.25 MHz	256-HFCBGA
<p>Alaska X 88X3220 Dual EEE 10/100/1G/10GBASE-T PHY with XFI</p>	2	Yes	No	No	No	10G, 1G, 100M, 10M	XFI, RXAUI, SGMII	XFI/SFI	10GBASE-SR/ER/LR, 1000BASE-SX/LX	Yes	Yes	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 2.0V, 2.5V	50, 156.25 MHz	256-HFCBGA

10-Gigabit Ethernet
(ALASKA® X)

Transceivers

Number of Ports
Optical (Line)
MACSec (LinkCrypt)
I-Temp
1-Step PTP (1588 v2)
Supported Speeds
Host Interfaces
Optical Interface
Optical Module Types
Direct Attach Copper
SyncE
Energy Efficient Ethernet
Core Voltage
Digital I/O
Analog Voltage
Reference Clock
Package Type

Fiber/Backplane PHYs		Number of Ports	Optical (Line)	MACSec (LinkCrypt)	I-Temp	1-Step PTP (1588 v2)	Supported Speeds	Host Interfaces	Optical Interface	Optical Module Types	Direct Attach Copper	SyncE	Energy Efficient Ethernet	Core Voltage	Digital I/O	Analog Voltage	Reference Clock	Package Type
Alaska X 88X2242 40G/Quad-10G EDC PHY		4	Yes	No	No	Yes	40G, 10G, 1G	XLAUI, XFI, XAUI, RXAUI	SFI, XLPPPI	40GBASE-SR4/LR4, 10GBASE-SR/ER/LR, 10GBASE-SW/ER/LW, 10GBASE-LRM, 1000BASE-SX/LX	Yes	Yes	No	1.0V	1.5V/1.8V/2.5V/3.3V	1.1V/1.5V	156.25, 155.52 MHz	324-FCBGA
Alaska X 88X2222 Dual-10G EDC PHY with MacSec		2	Yes	No	No	No	10G, 1G	XAUI, RXAUI, XFI	SFI	10GBASE-SR/ER/LR, 10GBASE-SW/ER/LW, 10GBASE-LRM, 1000BASE-X	Yes	Yes	No	1.0V	1.5V/1.8V/2.5V/3.3V	1.1V/1.5V	156.25, 155.52 MHz	324-FCBGA
Alaska X 88X2242M 40G/Quad-10G EDC PHY with MacSec		4	Yes	Yes	No	No	40G, 10G, 1G	XLAUI, XFI, XAUI, RXAUI	SFI, XLPPPI	40GBASE-SR4/LR4, 10GBASE-SR/ER/LR, 10GBASE-SW/ER/LW, 10GBASE-LRM, 1000BASE-SX/LX	Yes	Yes	No	1.0V	1.5V/1.8V/2.5V/3.3V	1.1V/1.5V	156.25, 155.52 MHz	324-FCBGA
Alaska X 88X2222M Dual-10G EDC PHY with MacSec		2	Yes	Yes	No	No	10G, 1G	XAUI, RXAUI, XFI	SFI	10GBASE-SR/ER/LR, 10GBASE-SW/ER/LW, 10GBASE-LRM, 1000BASE-X	Yes	Yes	No	1.0V	1.5V/1.8V/2.5V/3.3V	1.1V/1.5V	156.25, 155.52 MHz	324-FCBGA
Alaska X 88X2242P 40G/Quad-10G EDC PHY with MacSec and PTP		4	Yes	Yes	No	Yes	10G, 1G	XAUI, RXAUI, XFI, KR	SFI	10GBASE-SR/ER/LR, 10GBASE-SW/ER/LW, 10GBASE-LRM, 1000BASE-X	Yes	Yes	No	1.0V	1.5V/1.8V/2.5V/3.3V	1.1V/1.5V	156.25, 155.52 MHz	324-FCBGA
Alaska X 88X2222P Dual-10G EDC PHY with MacSec, and PTP		2	Yes	Yes	No	Yes	10G, 1G	XAUI, RXAUI, XFI, KR	SFI	10GBASE-SR/ER/LR, 10GBASE-SW/ER/LW, 10GBASE-LRM, 1000BASE-X	Yes	Yes	No	1.0V	1.5V/1.8V/2.5V/3.3V	1.1V/1.5V	156.25, 155.52 MHz	324-FCBGA

NBASE-T Multispeed Ethernet (ALASKA® N)

Transceivers

	Number of Ports	Optical (Line)	MACSec (LinkCrypt®)	I-Temp	1-Step PTP (1588 v2)	SyncE	BASE-T Speeds (Copper)	Host Interfaces	Energy Efficient Ethernet	Core Voltage	Digital I/O	Analog Voltage	JTAG	Reference Clock	Package Type
88E2040P Quad EEE 10/100/1G/2.5G/5GBASE-T PHY with MACSec, PTP	4	No	Yes	No	Yes	Yes	5G, 2.5G, 1G, 100M, 10M	USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 2.0/1.8V, 2.3V/2.50V	Yes	50, 156.25 MHz	484-HFCBGA
88E2040 Quad EEE 10/100/1G/2.5G/5GBASE-T PHY	4	No	No	No	No	Yes	5G, 2.5G, 1G, 100M, 10M	USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 2.0/1.8V, 2.3V/2.50V	Yes	50, 156.25 MHz	484-HFCBGA
88E2010P Single EEE 10/100/1G/2.5G/5GBASE-T PHY with MACSec, PTP	1	No	Yes	No	Yes	Yes	5G, 2.5G, 1G, 100M, 10M	USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 2.0/1.8V, 2.3V/2.50V	Yes	50, 156.25 MHz	168-HFCBGA
88E2010 Single EEE 10/100/1G/2.5G/5GBASE-T PHY	1	No	No	No	No	Yes	5G, 2.5G, 1G, 100M, 10M	USXGMII, XFI, RXAUI, 5GBASE-R, 2500BASE-X, SGMII	Yes	0.80V	1.2V/1.5V/1.8V/2.5V/3.3V	1.5V, 2.0/1.8V, 2.3V/2.50V	Yes	50, 156.25 MHz	168-HFCBGA

Marvell

Marvell first revolutionized the digital storage industry by moving information at speeds never thought possible. Today, that same breakthrough innovation remains at the heart of the company's storage, network infrastructure, and wireless connectivity solutions. With leading intellectual property and deep system-level knowledge, Marvell's semiconductor solutions continue to transform the enterprise, cloud, automotive, industrial, and consumer markets.

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