

PoE/PoH ICs



Enabling Indoor and Outdoor Powered Devices

DESCRIPTION

Microsemi, the thought leader in PoE technology, offers a series of PoE/PoH PD ICs enabling indoor and outdoor Powered Devices (PDs) to receive up to 95W of power safely and efficiently. These include:

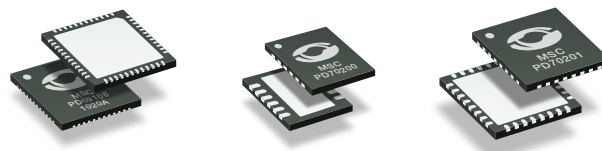
- Small/Femto Cells
- Wireless backhaul
- Outdoor PTZ Cameras
- Outdoor WLAN Mesh APs
- Access Control
- Thin/Zero Clients
- RFID Readers

The PD70XXX family offers a range of interface controllers for emerging PoE+ and PoH (Power over HdBaSeT) applications. The front-end PD IC is compliant with IEEE802.3af, IEEE802.3at and HDBaSeT standards and power is provided using two-pair and four-pair configurations and meets all requirements such as detection, classification, integrated isolation switch with inrush current limiter, and over-current protection. Additionally, devices to perform both the PD front-end and pulse-width modulation (PWM) controller functionality are available.

Additional features include:

- A discharge mechanism for the DC/DC input capacitor, ensuring quick redetection capability in case the RJ-45 plug is disconnected and reconnected within a short time span.
- The PD70101, PD70201 and PD70211 built-in PWM controller has a programmable frequency from 100 KHz to 500 KHz, under 50% duty cycle, the flexibility to be used in Buck, Flyback or Forward topologies, and the exclusive Low-Power Mode and Port Failure Warning features.

As the first solution of its kind, the PD70211 supports up to 95W in one IC with internal FET and operates at high efficiency levels.



HDBaSeT DEVICES

Unlike the non-standard alternatives, Power over HDBaSeT has the same safety mechanisms of IEEE802.3at-2009, with detection performed separately on data and spare pairs, ensuring interoperability and peace of mind. Microsemi offers two devices that meet this 95W standard; the PD70210 and the PD70211, both are backward compatible to IEEE 802.3 standard and support the following power levels.

- 802.3af PoH Twin Type 2 (UPoE)
- 802.3at Type 1 PoH Twin Type 3
- 802.3at Type 2 PoH Type 3

Part #	Max Power	PWM Controller	DC/DC Topology	Frequency	Size	RDSon	1-port midspan
PD70210	95W	No Controller	N/A	N/A	DFN-16 (5mm x 4mm 0.5mm pitch)	0.3 Ohm	PD9601G
PD70211	95W	Internal	Flyback Forward, Boost, Boost	100KHz to 500KHz	QFN-35 (6mm x 6mm)	0.3 Ohm	PD9601G

Microsemi Corporation

One Enterprise, Aliso Viejo, CA 92656 Ph: 949-380-6100 Fax: 949-215-4996 www.microsemi.com

PoE/PoH ICs



Enabling Indoor and Outdoor Powered Devices

IEEE 802.3at DEVICES

Microsemi offers two devices with capability to receive up to 47.7W of power with or without a PWM controller and are backward compatible to the IEEE802.3af standard.

Part #	Max Power	PWM Controller	DC/DC Topology	Frequency	Size	RDSon	1-port midspan
PD70200	47.4W	No Controller	N/A	N/A	12-pin DFN (3x4 mm)	0.6 Ohm	PD9001GR PD9001G-40/SP PD9001GO PD9501G PD9501GO
PD70201	47.4W	Internal	Flyback Forward, Boost, Boost	100KHz to 500KHz	32-pin QFN (5x5 mm)	0.6 Ohm	PD9001GR PD9001G-40/SP PD9001GO PD9501G PD9501GO

IEEE 802.3af DEVICES

Microsemi offers two Powered Device interface controllers in the range of IEEE802.3af with the ability to receive up to 12.95W of power over Ethernet.

Part #	Max Power	PWM Controller	DC/DC Topology	Frequency	Size	RDSon	1-port midspan
PD70100	12.95W	No Controller	N/A	N/A	12-pin DFN (3x4 mm)	0.6 Ohm	PD3501G
PD70101	12.95W	Internal	Flyback, Forward, Boost, Boost	100KHz to 500KHz	32-pin QFN (5x5 mm)	0.6 Ohm	PD3501G

MODULES

Part #	Max Power	PWM Controller	DC/DC Topology	Voltage	Frequency	Size
PD77210	95W	Included	N/A	24V	xxxxx	xxxx

EXTERNAL DC/DC CONTROLLER

Device	Ideal For
IPS18	PWM Controller w/pulse skipping, for low cost Flyback designs that do not require synchronous rectification, and consume up to 25.5W
LX7309	Synchronous PWM Controller w/pulse skipping, for high efficiency Flyback, Forward w/Active Clamp and Buck designs, which consume up to 47.7W
LX27901	Synchronous LLC Controller w/pulse skipping, for very high efficiency and low noise LLC designs, which consume up to 47.7W

For more information:
Sales.Support@microsemi.com

Microsemi Corporation

One Enterprise, Aliso Viejo, CA 92656 Ph: 949-380-6100 Fax: 949-215-4996 www.microsemi.com