

# PD69104 Four-Port HPoE PSE Manager

PD69104 is a four-port, mixed signal, high-voltage High Power over Ethernet (HPoE) power sourcing equipment (PSE) manager. The IC allows the detection of IEEE802.3at-2009 Type 1 and Type 2 powered devices, ensuring safe power feeding and removal over Ethernet ports. With full digital control via a serial communication interface and a minimum of external components, the IC integrates multi-port and highly populated Ethernet switches. The PD69104 has built-in support for energy efficient PoE (EPPoE).

The PD69104 supports 2-event, 3-event and 6-event classification and up to 1000mA (50 W at 50 VDC) per 2-pair channel, or 100 W per 4-pair channel per HDBaseT™ Type 3. It can be operated in Enhanced mode with the PD69100 MCU, in SmartFusion™ mode with a Microsemi SmartFusion device, or in Distributed PoE mode with Marvell ISSR, and is backwards compatible with PD69012, PD64012G, and PD64008G ICs for effortless transition into high power or EPPoE applications.

| Features                                                                                                                            | Benefits                                                                                              |
|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| 4-port PSE with integrated field-effect transistors (FETs)<br>QFN-48 8x8mm with built-in 3.3 VDC                                    | Smallest footprint and lowest total solution cost, when used in PD69108 system<br>Highest reliability |
| IEEE802.3at-2009 with 2-event classification                                                                                        | No need for host or LLDP software                                                                     |
| HDBaseT Type 3 pre-standard compliant                                                                                               | Allows building HDBaseT A/V receivers                                                                 |
| Dynamic power management with LLDP support: smaller power supply                                                                    | Low system cost; lower idle consumption                                                               |
| Emergency power management: multiple power supplies                                                                                 | Low basic system cost; flexibility for full power                                                     |
| Backplane power management: sharing power supplies among switches                                                                   | Rationalizing the usage of external power supply units                                                |
| Resilient power management: prevents powered device disconnection                                                                   | Ensuring the IT manager is never fired for poorly planning the power network                          |
| 4-pair IEEE802.3at high power<br>60 W per port, 100% standard compliant<br>Up to 100 W per port                                     | Can power thin clients / POS / access control devices                                                 |
| Energy efficient PoE (EPPoE)<br>Reduces power dissipation per port by 2.1 W for AT powered devices and 0.6 W for AF powered devices | Employs smaller power supplies<br>Creates EnergyStar™ LNE compliant PoE switches                      |
| Lowest solution power dissipation on the market<br>5.5 W for 24-port AT 2-pair channels                                             | Fanless gigabit, Energy Star™-compliant switches                                                      |
| Backwards compatible with PD690xx<br>Enhanced mode, SmartFusion mode, and xCAT mode                                                 | Low or No migration cost                                                                              |
| Legacy detection<br>All Cisco Inline Power™<br>All Power over LAN™                                                                  | Compatible with all PoE and pre-standard devices                                                      |
| -40 to +85 °C                                                                                                                       | Commercial and Industrial applications                                                                |

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