

HiperPFS™-4 600 V PFC IC in InSOP

Optimal Light Load Power Factor & Efficiency Performance



March 2019



ac-dc converters



led



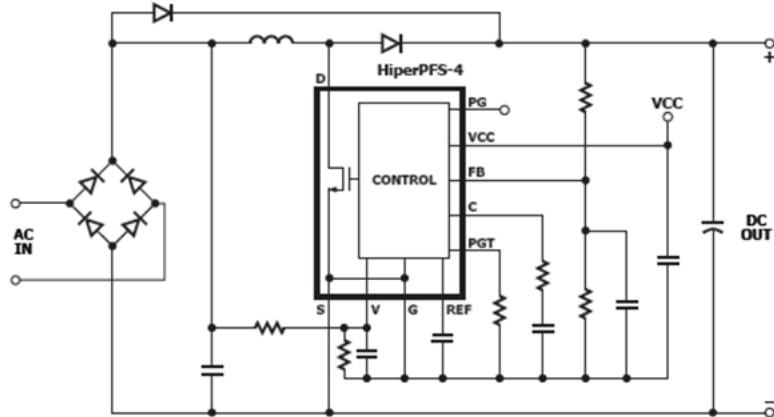
gate drivers



motor drivers

HiperPFS™-4 600 V Integrated PFC IC

- **CCM PFC with integrated 600 V MOSFET**
 - ▶ Ideal for volume constrained applications
 - ▶ Compliance to stringent de-rating
 - ▶ Allows operation up to 305 VAC input
- **Optimized light load performance**
 - ▶ <60mW no-load input at 230 VAC with regulated DC output
- **High efficiency across wide load range**
 - ▶ Flat efficiency from 10% to 100% load
- **Scalable output power**
 - ▶ 75 W to 110 W (universal input)
- **SMD package and no metal heat sink**



HiperPFS™-4 Application Circuit



Target Applications of HiperPFS™-4 InSOP

- **High level of integration without metal heat sink for high power density adaptors**
- **Stringent voltage de-rating of MOSFET and higher input operating voltage**
 - ▶ Up to 277 VAC nominal operation with 440 VDC PFC stage output
- **Power supplies/LED Lighting requiring high power factor & high efficiency**
 - ▶ Achieves >0.95 PF and flat efficiency curve across the load range
 - ▶ Meets DOE VI and CoC Tier 2 adaptor efficiency when paired with InnoSwitch-3
- **Ultra-low no-load input power to meet stringent input standby power**
 - ▶ <60 mW no-load input at 230 VAC maintaining output regulation
 - ▶ <20 mW with PFC off

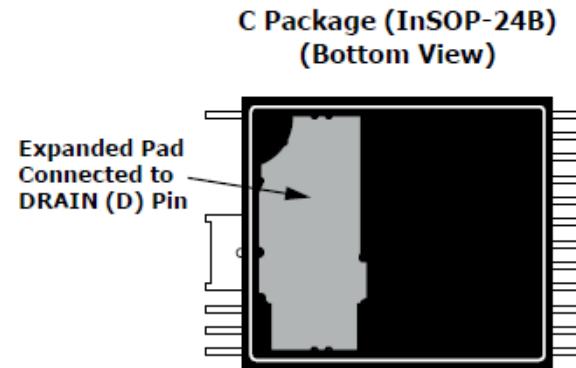
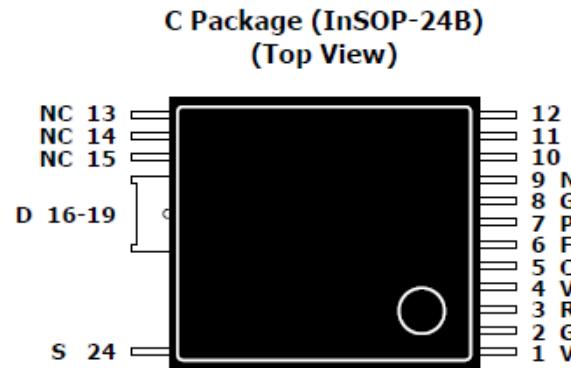
Offered as Universal AC Input

Output Power Table

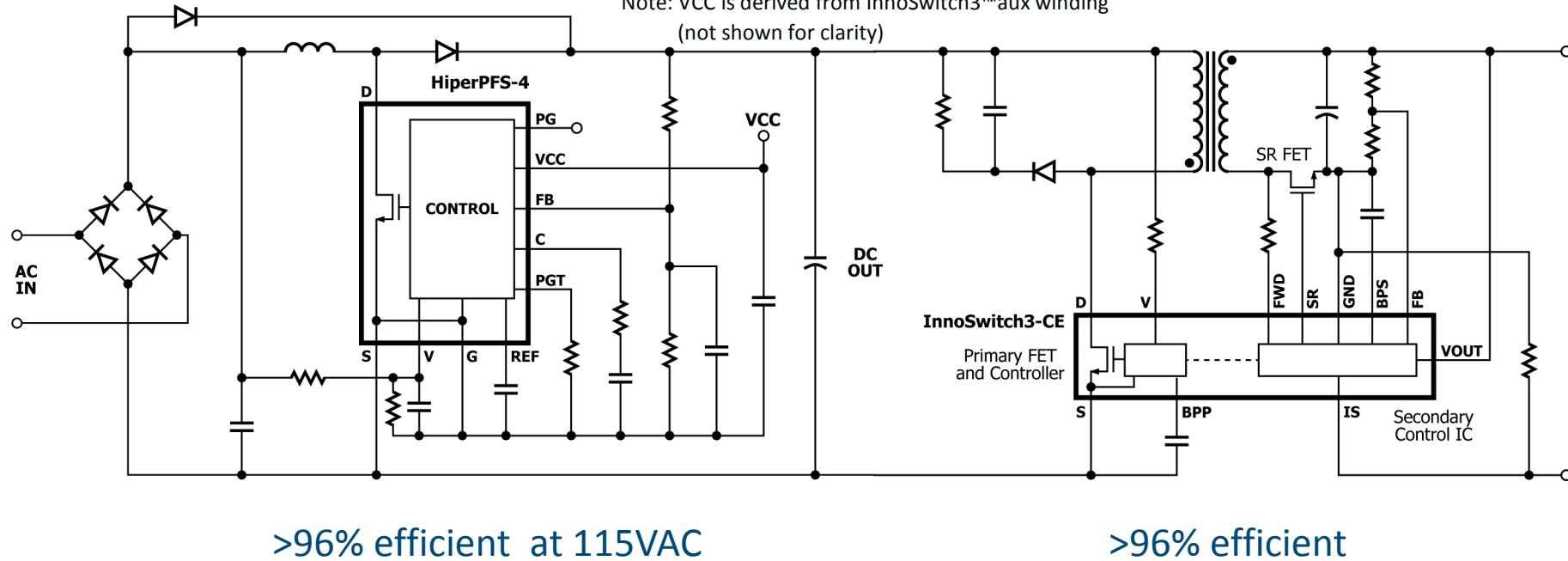
Universal Input Devices (C Package)	
Product	Continuous Output Power at 90 VAC
PFS7623C	75 W
PFS7624C	80 W
PFS7626C	105 W
PFS7628C	110 W

InSOP Package Requires No Metal Heat Sink

- Exposed pad for soldering to the PCB



HiperPFS-4 + Inno3/LYT6 Exceeds DoE 6 Efficiency



HiperPFS-4 Offers the Best PFC Performance

- **Pair with InnoSwitch3™ for complete power supply solution**

- ▶ High efficiency & High Power Factor
- ▶ Allows 100W wall-mount adaptor design no heat sink

- **Advantages of HiperPFS™-4 for adaptors**

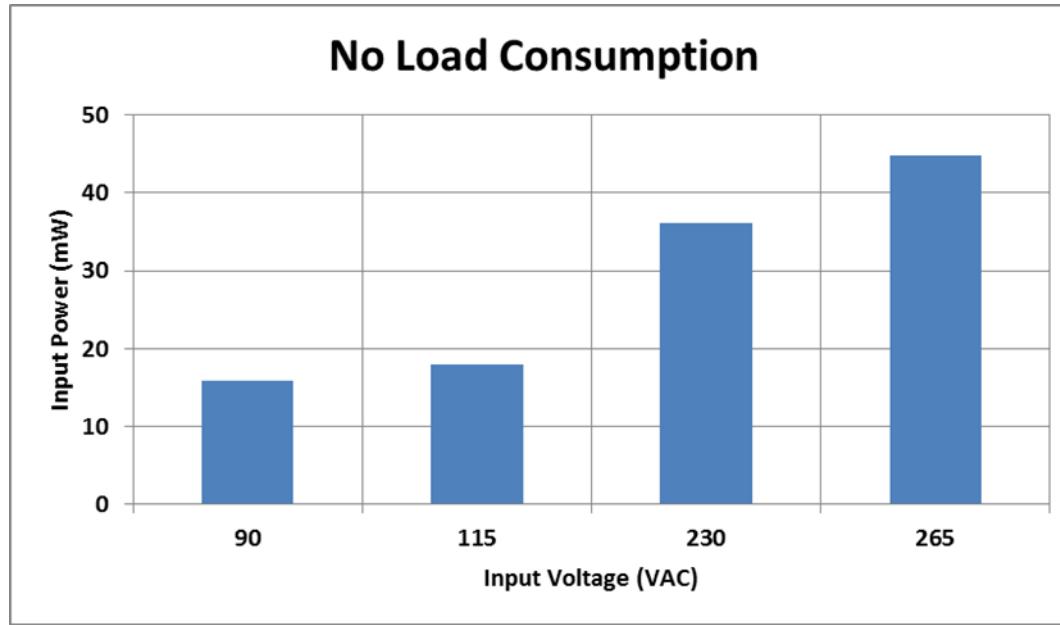
- ▶ High level of integration for volume constrained applications
- ▶ High efficiency across wide load range & ultra-low no-load input power to satisfy DoE VI and CoC tier 2 requirements



Overall Efficiency of 100W Adapter



No-load Input Power of 100W Adapter



HiperPFS-4 InSOP DER Boards

- **DER Boards Available**

- ▶ 42W LED lighting DER-750
- ▶ 65W LED lighting DER-733
- ▶ 100W LED lighting DER-801
- ▶ 100W adaptor DER-602

In Summary

- The InSOP package eliminates the use of metal heat sink
- Erases manufacturing concern of using labor intensive heat sink attachment process
- SMD package suitable for automated board assembly
- Low profile for volume constrained applications like LED ballast and adapters