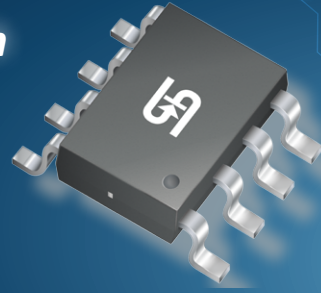


TS19820CS

Single-Stage Power Factor Correction Dimmable LED Driver with 3.3V Voltage Regulator Output



Pin Definition

1. CS	8. V _{CC}
2. DIM	7. OUT
3. COM	6. GND
4. LDO	5. ZCDX

The [TS19820CS](#) is a single-stage active power factor (PF) correction switch-mode power supply IC supporting high PF over a wide AC input voltage range. Output current modulation dimming is controlled from a dedicated pin capable of either PWM or linear analog signal input. The [TS19820CS](#) achieves high accuracy line- and load-regulation in discontinuous conduction mode (DCM) architecture. Output switching regulation is controlled with pulse frequency modulation (PFM) which is particularly suited for high conversion efficiency and high PF even at low output power levels. The [TS19820CS](#) also features a 3.3V LDO output for MCU applications. Integrated protection features such as an external switching MOSFET gate drive voltage clamp, V_{CC} over-voltage protection, and system output open/short circuit protection increase system reliability.

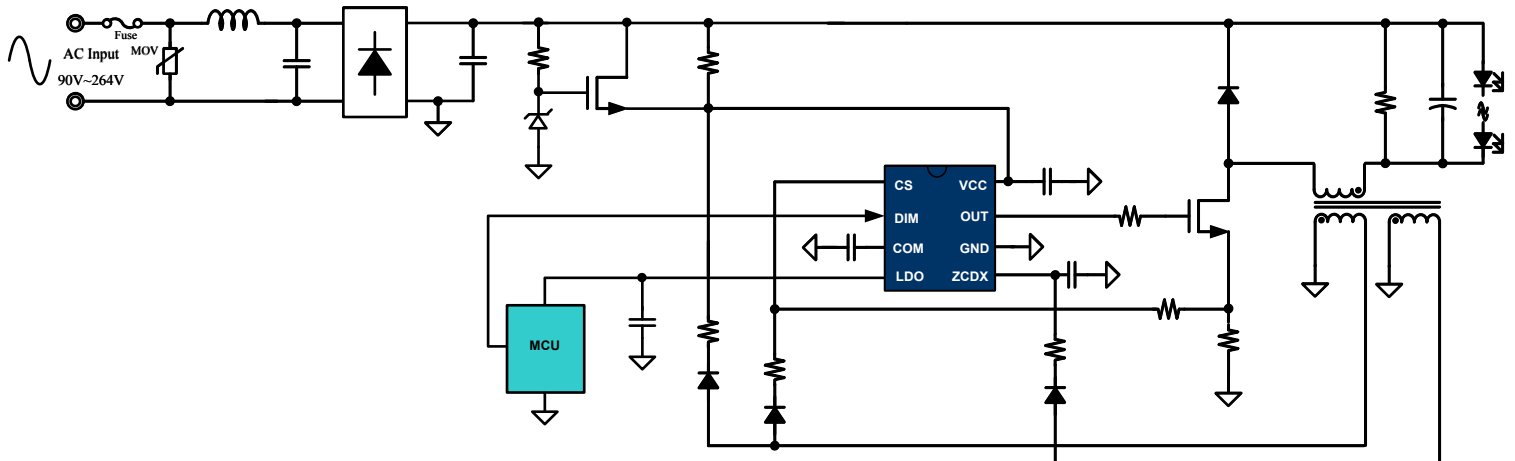
Key Features & Advantages

- PWM/Linear dimming
- Embedded 3.3V LDO output
- Low Cost BOM
- High Power Factor >0.9
- Pulse Frequency Modulation (PFM) Control
- Discontinuous Conduction Mode Control
- No Opto-Coupler Required
- Gate Output Voltage Clamp
- LED Open Protection
- LED Short Protection
- Over Current Protection (OCP)
- Internal Over Temperature Protection (OTP)
- Internal Over Temperature Protection (OTP)
- Low Start-Up Current

Application

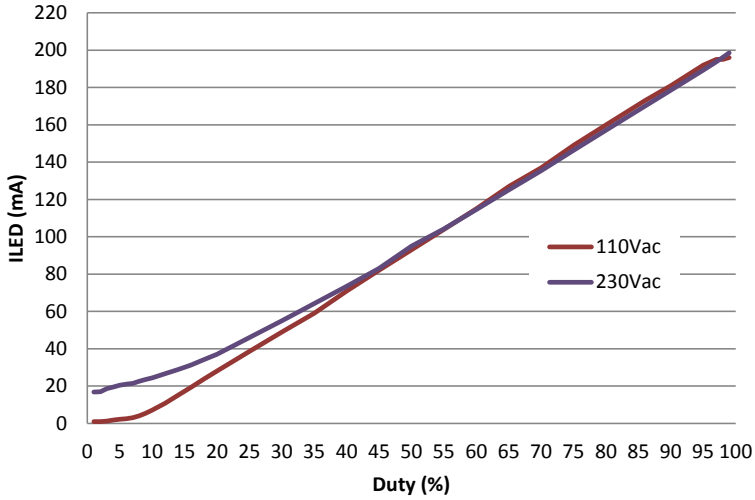
- Smart lighting
- Touch dimmable desk lamps
- Infrared remote control light
- Security infrared sensor LED light
- Out door infrared sensing LED light
- Motion sensing LED light

Typical Application Circuit

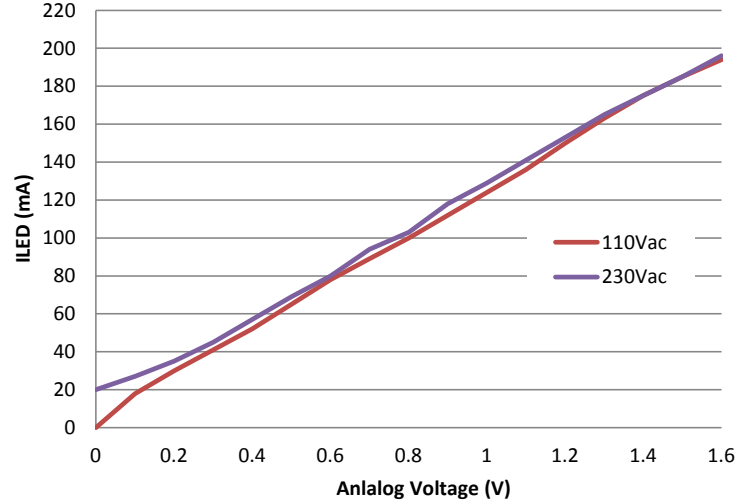


- Dimming curves based universal input voltage range
- At V_{ac} 198~264V single input voltage range can be optimize to lowest 7% of output current

PWM DIM



Analog DIM



Key Performance

V_{AC_V}	90	120	150	180	230	277
P_{IN_W}	13.818	13.808	13.691	13.893	13.914	14.051
V_{OUT_V}	59.687	59.728	59.634	59.592	59.332	59.232
I_{OUT_A}	205	203	206	206	207	208
P_{OUT_W}	12.235	12.124	12.284	12.275	12.281	12.32
Efficiency %	88.54	88.67	88.42	88.35	88.26	87.68
PFC	0.9732	0.9843	0.9683	0.9543	0.9321	0.9146
THD %	13.783	11.832	12.832	18.469	19.243	19.943

Ordering Code	Outline (Package)	Reel	Reel Size	Inner Box	Carton	Carton Size	Gross Weight
		(pcs)	(inch)	(pcs)	(pcs)	(mm)	(kg/ carton)
TS19820CS RLG	SOP-8	2,500	13	5,000	25,000	360*355*270	7.6

For pricing and more information, please contact TSC sales or authorized distributors.