

GENERAL DESCRIPTION

The PT4219 is a primary side constant current controller which can achieve high power factor in a single stage converter, targeted to applications in solid state lighting. It is designed for the flyback topology, and regulates output current accurately without the secondary feedback loop.

PT4219 works in quasi-resonant mode to reduce the MOSFET switching loss. The device uses extremely low startup and low quiescent current to achieve high efficiency.

A complete set of integrated protection functions allows the PT4219 to protect against all fault conditions such as VCC under-voltage, VCC over-voltage, cycle by cycle current limit, output open/short circuit, Rcs open circuit, transformer winding short circuit and over temperature shut down.

The PT4219 is available in SOP8 package.

FEATURES

- Constant Current Control Without Secondary Feed back
- Accurate Constant Current Output
- Quasi-Resonant Mode Operation
- Ultra-low (10uA) Start Up Current
- Low Quiescent Current (1mA)
- VCC Under Voltage Protection
- Over Voltage Protection by Voltage Holding
- Cycle by Cycle Current Limit
- Rcs Open Circuit Protection
- Transformer Winding Short Circuit Protection
- Output Open/Short Circuit Protection
- Over Temperature Protection

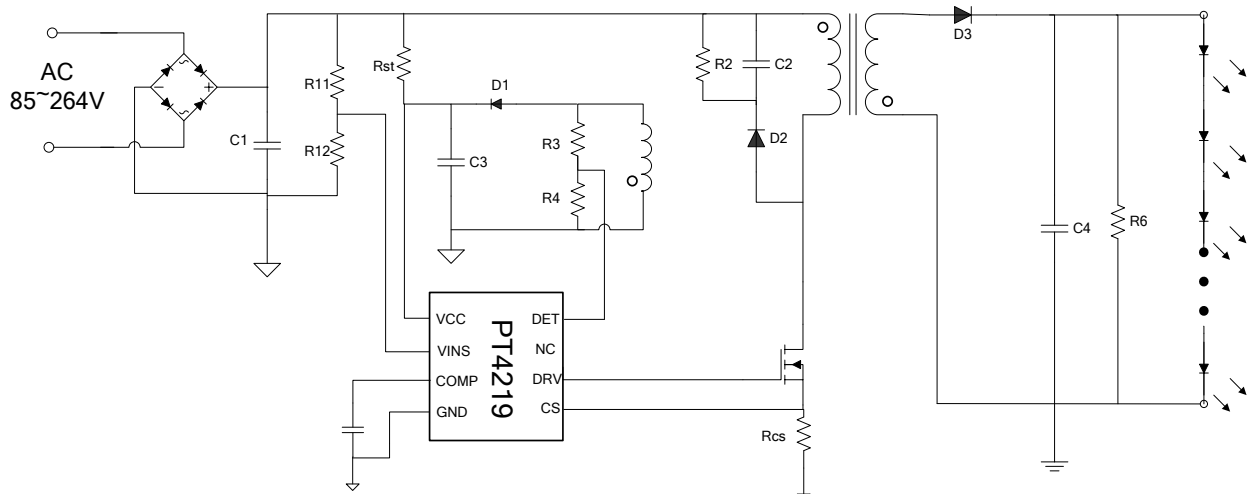
APPLICATIONS

- Solid State Lighting
- Industrial and Commercial Lighting
- Residential Lighting

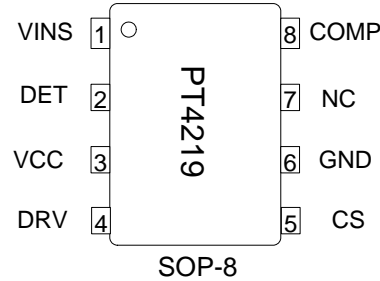
ORDERING INFORMATION

PACKAGE	TEMPERATURE RANGE	ORDERING PART NUMBER	TRANSPORT MEDIA	MARKING
SOP-8	-40°C to 85°C	PT4219ESOH	3000/Tape and Reel	PT4219 xxxxxX

TYPICAL APPLICATION CIRCUIT



PIN ASSIGNMENT



PIN DESCRIPTIONS

PIN No.	PIN NAMES	DESCRIPTION
1	VINS	One of the input pin of the internal multiplier.
2	DET	Auxiliary winding voltage sense pin to detect the moment of zero current of secondary winding, and over voltage.
3	VCC	Power supply pin for all internal circuit.
4	DRV	External MOSFET gate driver pin
5	CS	Primary winding current sensing pin
6	GND	Ground
7	NC	Not connected
8	COMP	Compensation pin for constant current control loop

ABSOLUTE MAXIMUM RATINGS (note1)

SYM	PARAMETER	VALUE	UNIT
V_{CC}	V_{CC} DC Supply Voltage	30	V
V_{VCC_Clamp}	V_{CC} Clamp Voltage	31	V
I_{VCC_Clamp}	V_{CC} DC Clamp Current	10	mA
I_{DET_MAX}	Max DET Pin Current	-50-10	mA
I_{DRV_MAX}	Max DRV Pin Current	1.2	A
V_{DRV}	DRV Pin Voltage Range	-0.3~31	V
V_{CS}	CS Pin Voltage Range	-0.3~31	V
V_{IO}	Other I/O PIN Input Voltage	-0.3~7	V
T_{OPT}	Operating Temp. Range	-40 to 125	°C
T_{STG}	Storage Temp. Range	-55 to 150	°C
$R_{\theta JA}$	SOP8	184	°C/W
HBM	ESD Capability, HBM (note2)	2000	V