

DESCRIPTION

PT1901/A is a special current regulator to drive HV LED. Compact, few external components design is very flexible in many applications. PT1901/A provides a programmable 5~150mA constant current. Maximum 400V input voltage provides high reliability for HV LED lighting. A multiplier is integrated in PT1901/A which greatly improve the system's PF and THD (meet the highest rule of IEC). As the Linear LED Driving way, the EMI issue and magnetic components will be avoided.

The PT1901/A has an analog dimming function. The dimming range is 5%~100%.

PT1901/A also provide temperature compensation. When internal junction temperature is higher than 138 °C, PT1901/A will decrease the output current linearly. The output current will be zero when junction temperature reaches 155°C. This protection effectively avoids the flicker problem during abnormal environment temperature.

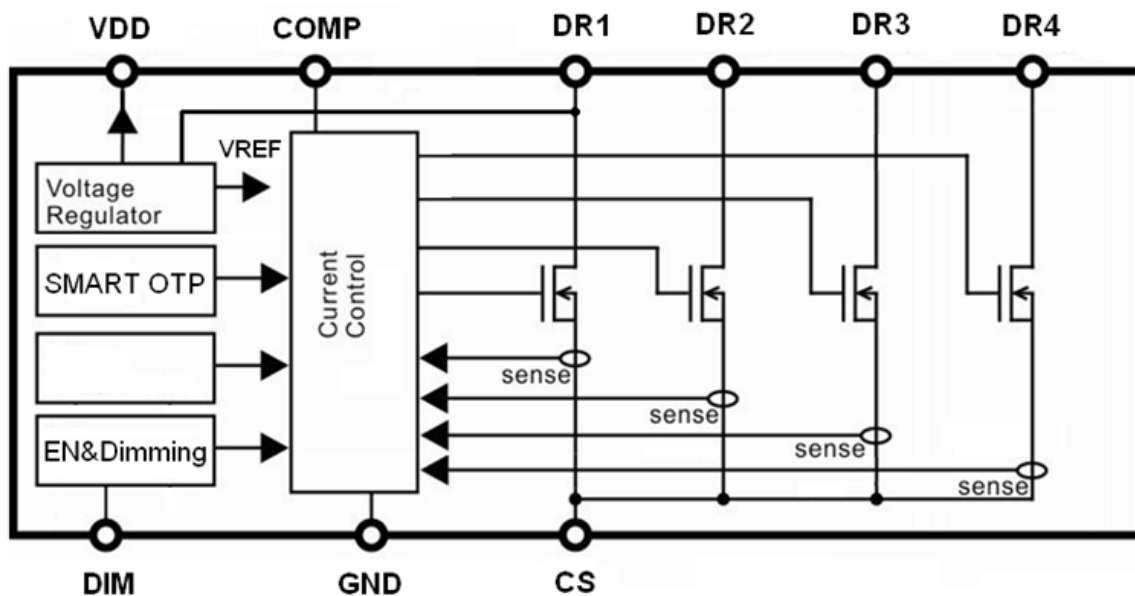
FEATURES

- 20V-400V Operating Voltage
- Proprietary Close Loop Operation
- Better Line Regulation
- $\pm 3\%$ Current Accuracy
- Can be used in Parallel to meet high Power application
- Proprietary 4-Segment Driving Technology
- High Power Factor
- Super Low THDI
- High Efficiency
- Maximum 150mA Peak Output Current
- 0~2.5V Analog Dimming
- Enable/Disable Control
- LED Open/Short Protection
- Smart Thermal Protection
When $T_j > 138^\circ\text{C}$, output current will decrease
When $T_j > 155^\circ\text{C}$, output current will decrease to zero
- ESOP-8 Package: PT1901A
- ESOP-16 Package: PT1901

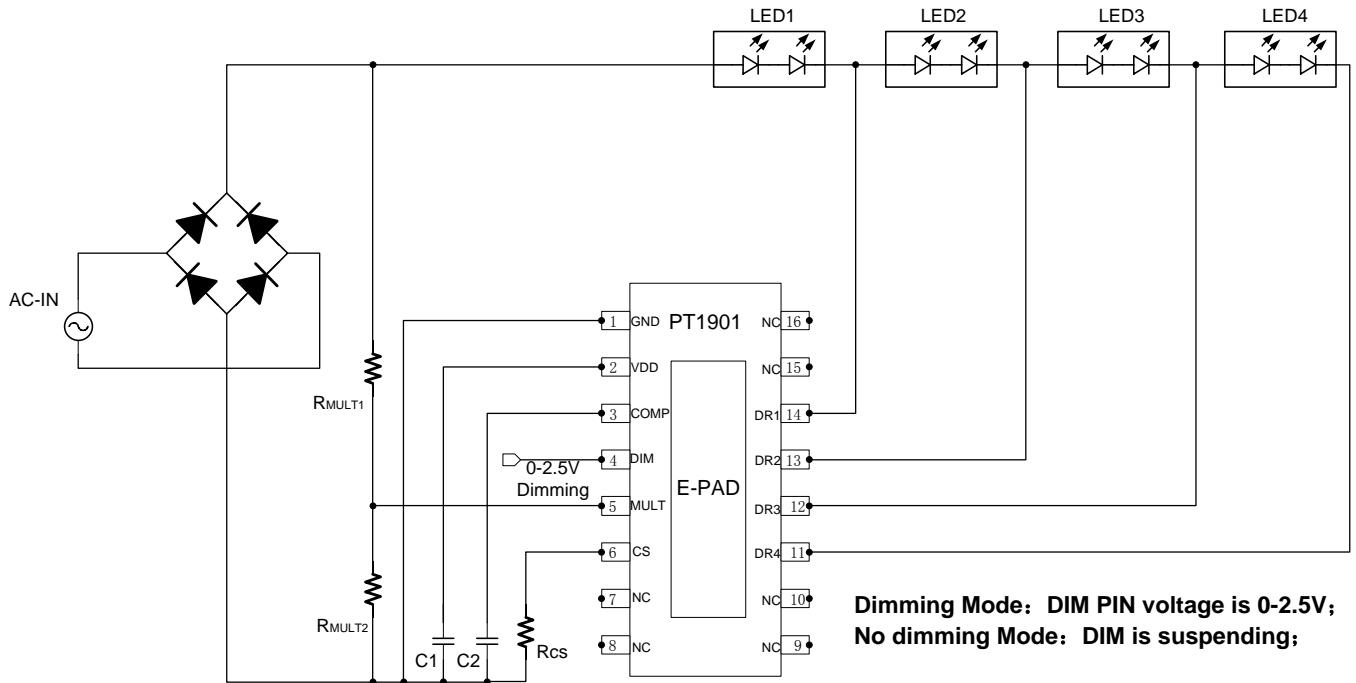
APPLICATIONS

- LED Bulb
- LED Ceiling Light
- Other LED Lighting

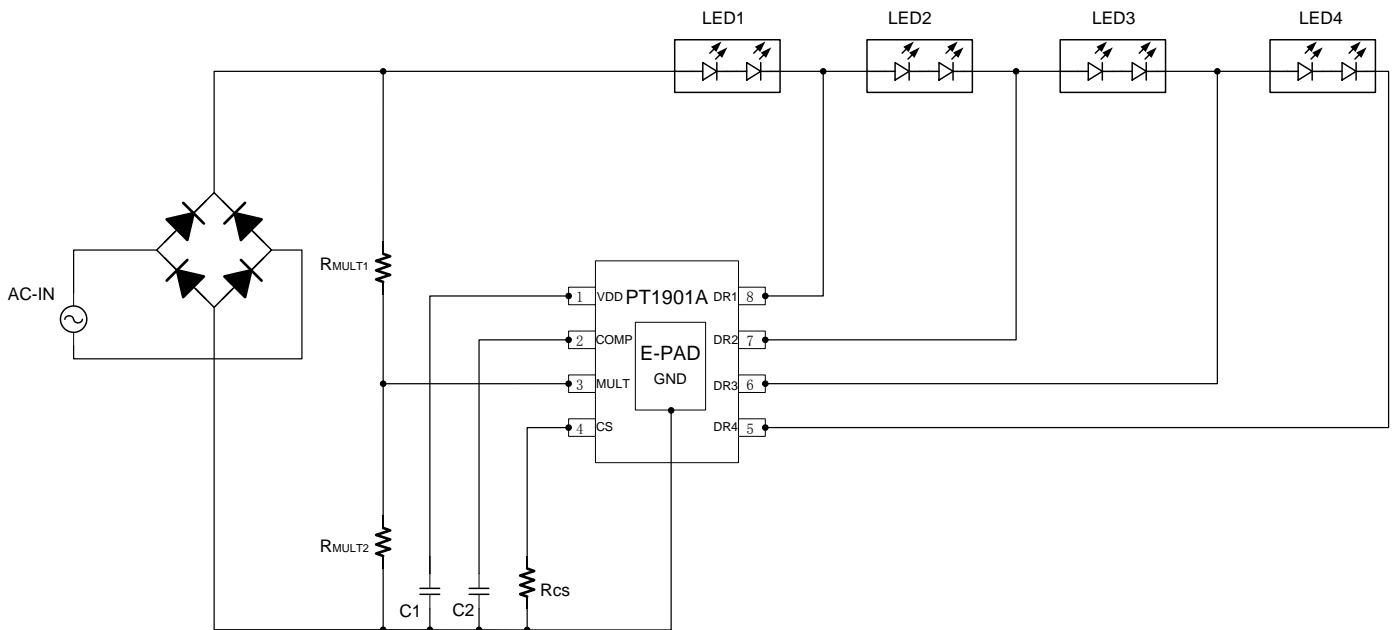
BLOCK DIAGRAM



TYPICAL APPLICATION



PT1901 High PF low THD analog Dimming for 4-Segment HV LED application

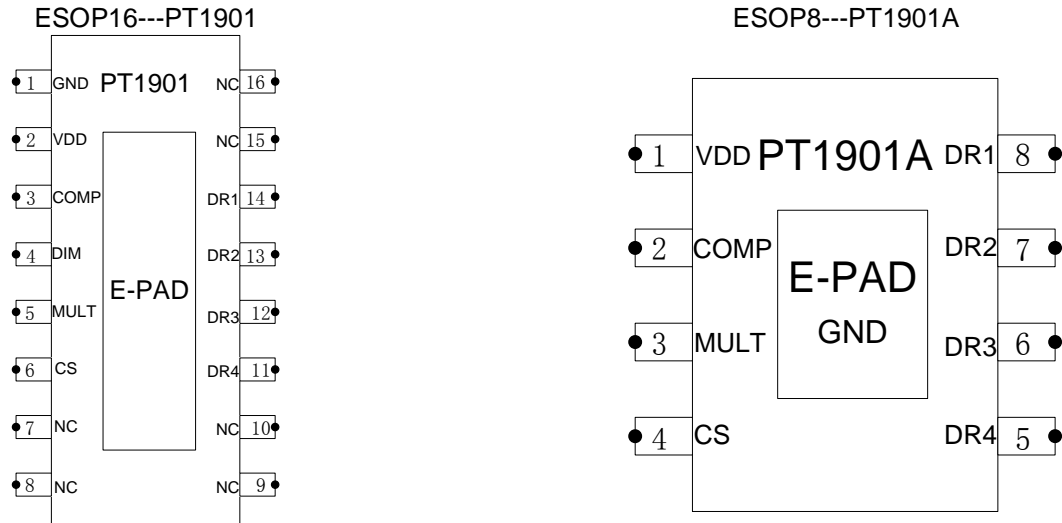


PT1901A High PF low THD for 4-segment HV LED application

ORDER INFORMATION

Valid Part Number	Dimming	Package Type	Top Code
PT1901-HS	Yes	ESOP-16	PT1901-HS
PT1901A-HS	No	ESOP-8	PT1901A-HS

PIN CONFIGURATION



PIN DESCRIPTION

PIN Name	Description	PIN No.	
		ESOP16	ESOP8
GND	IC Ground	1	E-PAD
VDD	Regulator output. A capacitor is connected between VDD pin and IC GND pin.	2	1
COMP	Loop Compensation. A capacitor is connected between COMP pin and IC GND pin.	3	2
DIM	Analog Dimming Control & Enable/Disable Control	4	-
MULT	The input of analog Multiplier integrated in IC	5	3
CS	Output Current Setting. The output current is programmable by a resistor across CS pin and IC GND pin	6	4
DR4	Drain of the fourth switch	11	5
DR3	Drain of the third switch	12	6
DR2	Drain of the second switch	13	7
DR1	IC HV Power Supply and Drain of the first switch	14	8
NC	No connection	7, 8, 9, 10, 15, 16, E-PAD	-

IMPORTANT NOTICE

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PTC cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a PTC product. No circuit patent licenses are implied.

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