

- ▶ Wide range SMPS with watchdog
- Wide range SMPS with reset
- PFM controller family
- Step down converter, fully integrated
- Step down converter, for external FET
- PWM controller for LED

## ▶ Wide range SMPS with watchdog

E910.22

### FEATURES

- ▶ Flyback converter with wide input range of 3V to 55V
- ▶ 5V first output voltage
- ▶ Additional output voltages possible with additional windings on transformer
- ▶ Softstart capability
- ▶ ON control-input with wide input voltage range
- ▶ Precise, programmable windowed watchdog
- ▶ Low standby current (50µA typical)
- ▶ Open load stable
- ▶ Snapback output current after short circuit on load
- ▶ K15D control-input
- ▶ Self-oscillating, multi-loop-regulation
- ▶ Non dissipating primary current simulation
- ▶ Degausing input and variable delayed switch on
- ▶ Push/pull driver for logic level Power-MOSFET
- ▶ No current shunt needed
- ▶ -40°C to +125 °C operating temperature
- ▶ Additional system-enable output for critical modules
- ▶ SO 20w package

### APPLICATION

- ▶ Automotive electronics
- ▶ Controller and sensor supply

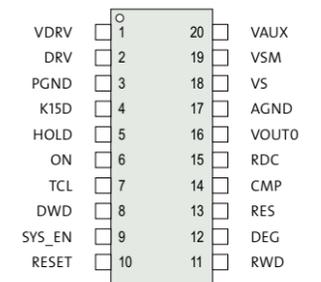
### DESCRIPTION

The IC is developed and optimized for automotive applications where it can generate different output voltages as a flyback converter. The input voltage may be higher or lower than the output voltage. The multi-loop-regulation concept ensures fast response to variation of input voltage and load. The reset circuit generates a reliable reset signal until the output is in tolerance and the integrated, programmable windowed watchdog guarantees a minimum and maximum software reset time. An additional system-enable output enables critical components after the controller has served the watchdog three times to guarantee a save controller wake up sequence. This successful wake up also enables the 'HOLD'-capability so that the controller can keep the converter running without 'ON' and 'K15D' active.

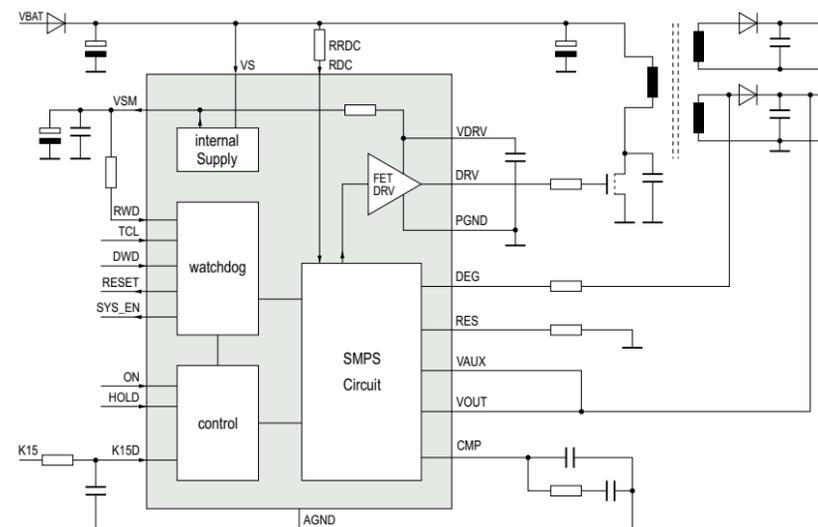
### PINNING

Pin	Name	Description
1	VDRV	Bypass capacitor input for driver stage power supply
2	DRV	Driver stage output signal
3	PGND	Driver stage power ground
4	K15D	K15 terminal signal level detection
5	HOLD	Hold signal input
6	ON	Unconditional SMPS power up, active high
7	TCL	Watchdog timer clear input signal; active low
8	DWD	Disable watchdog input, active low
9	SYS_EN	Watchdog system enable, open drain output, active low
10	RESET	Watchdog reset pulse open drain output, active low
11	RWD	Resistor input for watchdog oscillator timing
12	DEG	Resistor input for degaussing detection
13	RES	Resistor input for resonance delay adjustment
14	CMP	Error amplifier compensation output
15	RDC	Resistor input for drain current simulation
16	VOUT	Feedback input of SMPS outer regulation loop
17	AGND	Analog ground
18	VS	Supply voltage input
19	VSM	Bypass capacitor input for internal circuits power supply
20	VAUX	Auxiliary voltage input for internal circuits

### PACKAGE



### BLOCK DIAGRAM



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