DESCRIPTION

RS2320 is especially designed for non-isolated LED driver. The building in perfect current compensation function ensures the accurate output current. RS2320 has very less external components because of high integrated and simple topology. Thanks to novel power supply, RS2320 need not use transformer and it could simplify PCB design. RS2320 integrates frequency jittering, cycle-by-cycle current limit, inductor anti-saturation and thermal shutdown circuitry onto a monolithic IC.

The integrated auto-restart circuit and FB detection in the RS2320 safely limits output power during fault conditions such as LED short to circuit or open loop, reducing component count and system-level load protection cost.

PROTECTION FEATURES

- VDD 25V over-voltage protection
- Gate 18V clamped voltage
- Building in hysteresis OTP (150℃)
- Cycle-by-cycle current limiting
- Transformer anti-saturation
- FB pin short to GND
- FB pin open
- CS pin open
- LED open protection
- LED+ and LED- short protection

FEATURES

- High efficiency (Reach 90%)
- High precision output current regulation (-3%~+3%) when universal AC input voltage (85VAC~265VAC)
- Lowest cost and very less component count solution
- Non-Isolated Buck application
- Need not transformer to simplify design
- Operation in CCM
- Support no electrolytic capacitor
- Programmable output current setting
- 50KHz operation frequency allows low cost 1mH inductor for up to 30V & 300mA output current
- Tight tolerances and negligible temperature variation
- Frequency jittering dramatically reduces EMI, minimizes EMI filter cost
- Under voltage lockout (9.0V~15V)
- Low startup current (<20µA)
- Building in current compensation
- Building in 400nS LEB time for CS pin
- Audio noise free operation
- SOT-23-6L Pb free package

APPLICATIONS

- Cell Phone Charger
- Small Power Adaptor
- Non-isolated LED driver
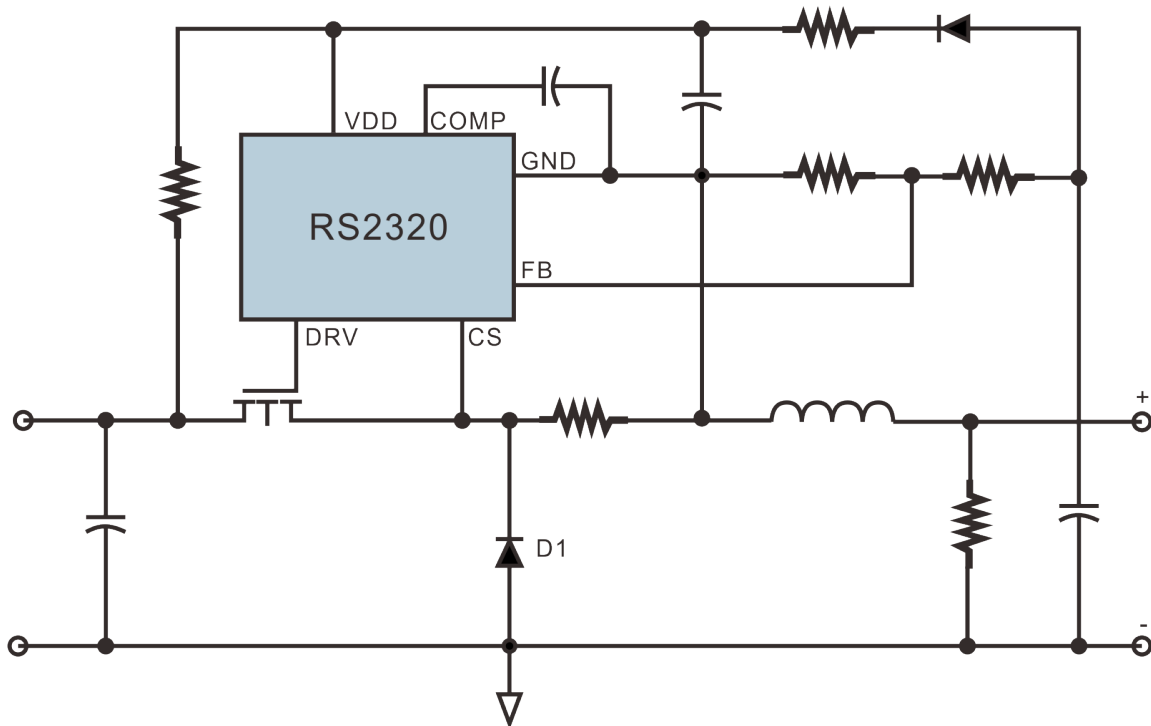- Industrial Controls

BLOCK DIAGRAM
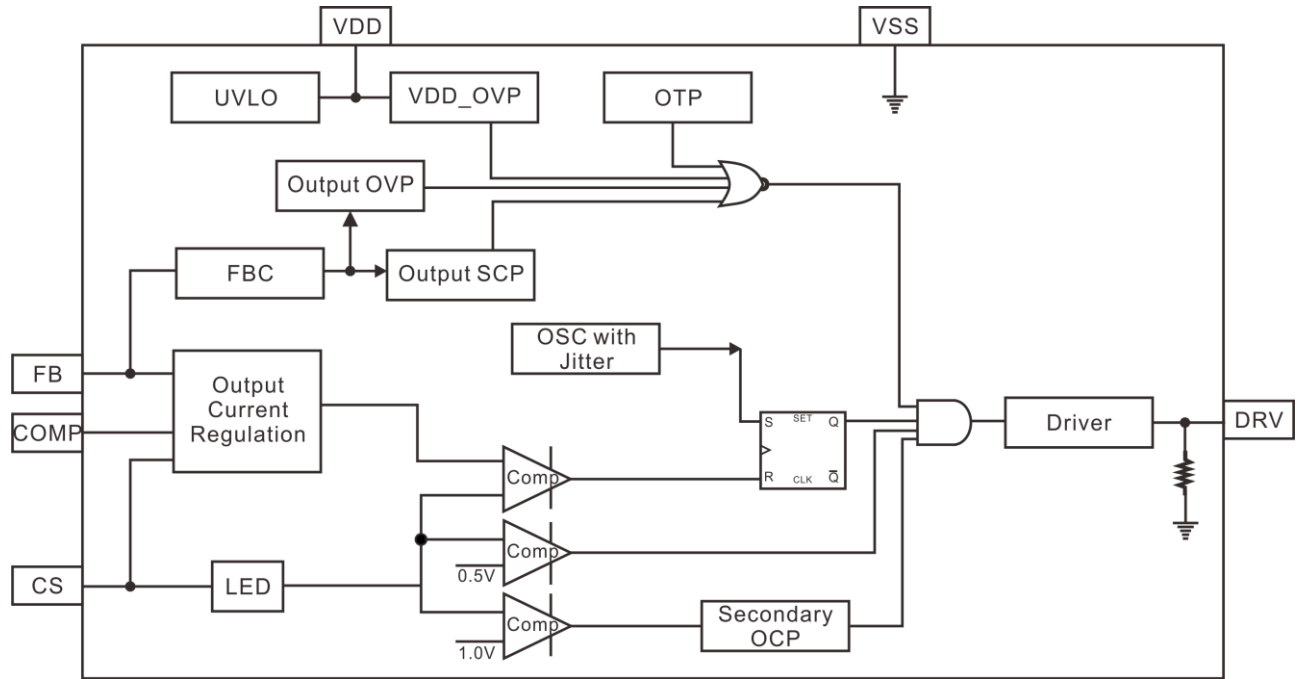
APPLICATION CIRCUITS

Fig. 1： RS2320 Typical application

Note: Diode D1 must be ultra-fast diode.

ORDER INFORMATION

Device	Device Code
RS2320 Y Z	**Y is package & Pin Assignments designator:** N : SOT-23-6 **Z is Lead Free designator:** P: Commercial Standard, Lead (Pb) Free and Phosphorous (P) Free Package G: Green (Halogen Free with Commercial Standard)

PIN CONFIGURATION
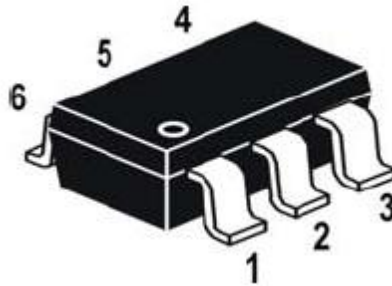
PIN DESCRIPTION

Pin Name	Description	Pin No.
DRV	Drive external power MOSFET	1
CS	Current sense pin, a resistor sense the MOSFET current	2
GND	Reference GND	3
FB	Voltage detect and protection	4
COMP	Compensation Capacitor	5
VDD	Power Supply	6

IMPORTANT NOTICE

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