

DESCRIPTION

The LX1570/71 series of controller ICs are designed to provide all control functions in a secondary-side regulator for isolated auxiliary or secondary power supplies. Auxiliary or secondary-side controllers are used in a variety of applications including multiple output off-line power supplies, commonly found in desktop computers, as well as telecommunications applications. Although they can be used in all secondary output applications requiring precision regulation, they are mainly optimized for outputs delivering more than 3A current where standard three-terminal regulators lack the desired efficiency. For these applications, the Mag Amp regulators have traditionally been used. However, Mag Amps have several disadvantages. First, because they have to withstand the maximum input voltage during a short-circuit condition, they are "over designed", typically by 2 times, increasing the cost and size of the power supply. Second, Mag Amps are inherently leading edge modulators, so they can only

approach a certain maximum duty cycle, limited by the minimum delay and the magnetic BH loop characteristic of the Mag Amp core. This forces an increase in the size of the main transformer as well as the output inductor, resulting in higher overall system cost. **The LX1570/71 eliminates all the disadvantages of the Mag Amp approach as well as improving system performance and reducing overall system cost.**

The LX1570/71 is a current mode controller IC that controls the duty cycle of a switch in series with the secondary AC output of the power transformer in buck-derived applications, such as forward or bridge topologies. It offers features such as 100% duty cycle operation for maximum energy transfer, pulse-by-pulse and hiccup current limiting with long off-time between the cycles for reduced power dissipation, high-frequency operation for smaller magnetics, soft-start, and current mode control for excellent dynamic response.

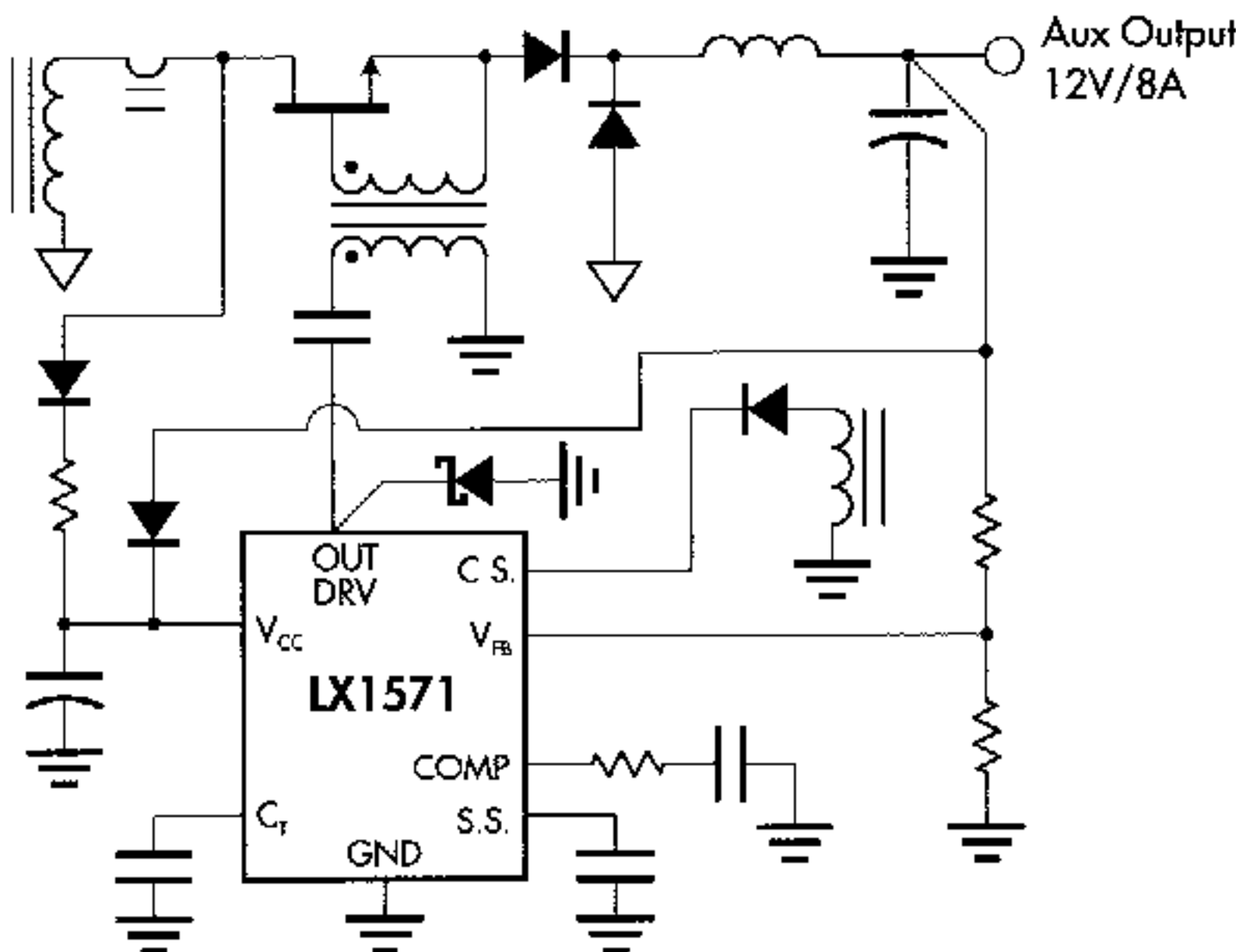
KEY FEATURES

- ❑ REPLACES COSTLY MAG-AMP CORES WITH A LOW ON-RESISTANCE MOSFET
- ❑ **LOOK-AHEAD SWITCHING™** ENSURES SWITCH TURN ON BEFORE THE AC INPUT TO ACHIEVE 100% ENERGY TRANSFER
- ❑ LOWER OVERALL SYSTEM COST
- ❑ LOWER PEAK CURRENT STRESS ON THE PRIMARY SWITCH
- ❑ ALLOWS HIGHER OPERATING FREQUENCY AND SMALLER OUTPUT INDUCTOR
- ❑ EASY SHORT-CIRCUIT PROTECTION
- ❑ CURRENT MODE APPROACH ACHIEVES EXCELLENT DYNAMIC RESPONSE

APPLICATIONS

- SECONDARY-SIDE REGULATOR IN OFF-LINE POWER SUPPLIES
- COMPUTER POWER SUPPLIES, 3.3V OUTPUT FOR NEW LOW-VOLTAGE PROCESSORS AND MEMORIES
- TELECOMMUNICATION AND MILITARY DC/DC CONVERTERS

PRODUCT HIGHLIGHT



AVAILABLE OPTIONS PER PART #

Part #	C.L. Threshold	C.S. Option	Application
LX1570	-0.2V	Resistive Sensing	Output Currents < 4A
LX1571	1V	Current Transformer Sensing	Output Currents > 4A

PACKAGE ORDER INFORMATION

T _A (°C)	M Plastic DIP 8-pin	DM Plastic SOIC 8-pin	Y Ceramic DIP 8-pin
0 to 70	LX157xCM	LX157xCDM	—
-40 to 85	LX157xIM	LX157xIDM	—
-55 to 125	—	—	LX157xMY

Note: All surface-mount packages are available in Tape & Reel. Append the letter "T" to part number. (i.e. LX157xCDMT)

FOR FURTHER INFORMATION CALL (714) 898-8121

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