HV9220



Objective

Two Switch High-Voltage BiCMOS Current-Mode PWM Controller

Ordering Information

Package Options						
20 Pin Plastic DIP	20 Pin Ceramic DIP	20 Pin Plastic PLCC	DICE			
HV9220P	HV9220C	HV9220PJ	HV9220X			

Standard temperature range for all parts is industrial (-40° to +85°C). For military temperature range parts (-55° to +125°C) contact factory.

Features

☐ Operation to 2MHz

	Self-starting	with 10V	to 450V	input
\Box	Easy synchr	onization	with PF	C ICs

Low	power	high	speed	BICM	108

\Box	Available	in	curfoca	mount	and	chin	form
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\Box	Oscillato	r accuracy	+1%

Ì	П	Customer-set	undervoltage	ON and	OFF

Applications

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- ☐ Very compact power converters
- ☐ High efficiency converters
- ☐ High frequency power converters

General Description

The Supertex HV9220 is a two-output, medium-speed BiCMOS, current-mode PWM IC. It is intended for use in next generation tow- and four-switch fixed frequency switchmode power converters. On-board functions include: a 1% accurate clock oscillator capable of operating to well beyond 2MHz, with synchronization port and deadtime control; a 1% accurate, loadable, trimmed bandgap reference; fully latched steering and modulation logic, with double pulse prevention; two 1.5A peak totem-pole outputs; an undervoltage circuit where tip point and hysteresis are both user-programmable; a fast current sensing circuit; a >2MHz bandwidth fully accessible error amplifier; a direct-from-high-voltage starting circuit; and a TTL-compatible remote shutdown circuit.

The use of separate ground pins for linear and switching sections of the IC, assisted by the use of bipolar transistors where needed, allows exceptionally precise low noise operation of the linear sections. The DMOS output structure, with fast body diodes, eliminates the need for protective clamping diodes on the outputs, accepts inductive kickbacks (up to peak output current) without damage, and allows the unit to drive either MOSFETs or gate transformers unassisted. The high voltage input MOSFET allows direct self-starting from any input from 10V to 450V without the need for a housekeeping power supply. The industry's first 1% accurate clock allows better control over magnetics sizes than has previously been the case, and aids in the production of medium-stability inverters. The circuit is built on an EPI layer to eliminate the possibility of latchup form inductive ringing or low-level radiation.

SUPERTEX INC

