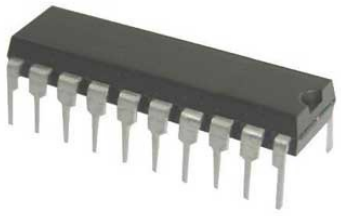
UC2875N

Resonant Controllers 500mA 1000kHz 20-Pin PDIP Tube

Manufacturer:	Texas Instruments, Inc
Package/Case:	DIP20
Product Type:	Power Management ICs
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active



Images are for reference only

Inquiry

General Description

The UC1875 family of integrated circuits implements control of a bridge power stage by phase-shifting the switching of one half-bridge with respect to the other, allowing constant frequency pulse-width modulation in combination with resonant, zero-voltage switching for high efficiency performance at high frequencies. This family of circuits may be configured to provide control in either voltage or current mode operation, with a separate over-current shutdown for fast fault protection.

A programmable time delay is provided to insert a dead-time at the turn-on of each output stage. This delay, providing time to allow the resonant switching action, is independently controllable for each output pair (A-B, C-D).

With the oscillator capable of operation at frequencies in excess of 2MHz, overall switching frequencies to 1MHz are practical. In addition to the standard free running mode, with the CLOCKSYNC pin, the user may configure these devices to accept an external clock synchronization signal, or may lock together up to 5 units with the operational frequency determined by the fastest device.

Protective features include an undervoltage lockout which maintains all outputs in an active-low state until the supply reaches a 10.75V threshold. 1.5V hysteresis is built in for reliable, boot-strapped chip supply. Over-current protection is provided, and will latch the outputs in the OFF state within 70nsec of a fault. The current-fault circuitry implements full-cycle restart operation.

Additional features include an error amplifier with band-width in excess of 7MHz, a 5V reference, provisions for soft-starting, and flexible ramp generation and slope compensation circuitry.

These devices are available in 20-pin DIP, 28-pin "bat-wing" SOIC and 28 lead power PLCC plastic packages for operation over both 0°C to 70°C and –25°C to +85°C temperature ranges; and in hermetically sealed cerdip, and surface mount packages for –55°C to +125°C operation.

Key Features

Zero to 100% Duty Cycle Control

Programmable Output Turn-On Delay

Compatible with Voltage or Current Mode Topologies

Practical Operation at Switching Frequencies to 1MHz

Four 2A Totem Pole Outputs

10MHz Error Amplifier

Undervoltage Lockout

Low Startup Current—150μA

Outputs Active Low During UVLO

Soft-Start Control

Latched Over-Current Comparator With Full Cycle Restart

Trimmed Reference

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Recommended For You

UCC28064ADR

Texas Instruments, Inc

SOP16

UC3637N

Texas Instruments, Inc

DIP-18

UCC27517DBVR

Texas Instruments, Inc

SOT23-5

UCC2946TPWRQ1

Texas Instruments, Inc

TSSOP8

UCC28730QDRQ1

Texas Instruments, Inc

SOP7

UCC21222QDRQ1

Texas Instruments, Inc

SOP16

UCD9090QRGZRQ1

Texas Instruments, Inc

VQFN-48

UCC27531QDBVRQ1

Texas Instruments, Inc

SOT23-6

UCC27511AQDBVRQ1

Texas Instruments, Inc

SOT23-6

UCC2803QDRQ1

Texas Instruments, Inc

SOP8

UCC28951QPWRQ1

Texas Instruments, Inc

TSSOP24

UCC21320QDWKRQ1

Texas Instruments, Inc

SOIC-14

UCC27322QDGNRQ1

Texas Instruments, Inc

HVSSOP-8

UCC28950QPWRQ1

Texas Instruments, Inc

TSSOP24

UCC2808AQDR-2Q1

Texas Instruments, Inc

SOP8