CDCE937PW

Clock Generator 8MHz to 160MHz-IN 230MHz-OUT 20-Pin TSSOP Tube

Manufacturer:	Texas Instruments, Inc
Package/Case:	TSSOP20
Product Type:	Clock & Timer ICs
RoHS:	RoHS Compliant/Lead free
Lifecycle:	Active

Images are for reference only

Inquiry

General Description

The TPS720-Q1 family of dual-rail, low-dropout linear regulators (LDOs) offers outstanding ac performance (PSRR, load and line transient response) and consume a very low quiescent current of 38 µA.

The V_{BIAS} rail that powers the control circuit of the LDO draws very low current (on the order of the LDO quiescent current) and can be connected to any power supply that is equal to or greater than 1.4 V above the output voltage. The main power path is through V_{IN} and can be a lower voltage than V_{BIAS}; this path can be as low as V_{OUT} + V_{DO}, increasing the efficiency of the solution in many power-sensitive applications. For example, V_{IN} can be an output of a high-efficiency, dc-dc, step-down regulator.

The TPS720-Q1 supports a novel feature where the output of the LDO regulates under light loads when the IN pin is left floating. The light-load drive current is sourced from V_{BIAS} under this condition. This feature is particularly useful in power-saving applications where the dc-dc converter connected to the IN pin is disabled but the LDO is still required to regulate the voltage to a light load.

The TPS720-Q1 is stable with ceramic capacitors and uses an advanced BICMOS fabrication process that yields a dropout of 110 mV at a 350-mA output load. The TPS720-Q1 provides a monotonic V_{OUT} rise (overshoot limited to 3%) with V_{IN} inrush current limited to 100 mA + I_{LOAD} with an output capacitor of 2.2 µF.

The TPS720-Q1 uses a precision voltage reference and feedback loop to achieve overall accuracy of 2% over load, line, process, and temperature extremes.

The TPS720-Q1 is available in a 6-pin WSON package. This family of devices is fully specified over the temperature range of T_J = –40°C to +125°C.

Key Features

Qualified for Automotive Applications

AEC-Q100 Qualified With the Following Results:
Device Temperature Grade 1: –40°C to +125°C Ambient Operating Temperature Range

Device HBM ESD Classification Level H2

Device CDM ESD Classification Level C6

Input Voltage Range: 1.1 V to 4.5 V

Output Voltage Range: 0.9 V to 3.6 V

High-Performance LDO: 350 mA

Low Quiescent Current: 38 µA

Excellent Load Transient Response: ±15 mV for I_{LOAD} = 0 mA to 350 mA in 1 µs

Low Noise: 48 μV_{RMS} (10 Hz to 100 kHz)

80-dB V_{IN} PSRR (10 Hz to 10 kHz)

70-dB V_{BIAS} PSRR (10 Hz to 10 kHz)

Fast Start-Up Time: 140 µs

Built-In Soft-Start With Monotonic V_{OUT} Rise and Start-Up Current Limited to 100 mA + I_{LOAD}

Overcurrent and Thermal Protection

Low Dropout: 110 mV at I_{LOAD} = 350 mA

Stable With a 2.2-µF Output Capacitor

Package: 2.00 mm × 2.00 mm, 6-Pin WSON

Recommended For You

CD4541BE

Texas Instruments, Inc

DIP14

CDCV304PW

Texas Instruments, Inc

TSSOP8

CDCV857ADGGR

Texas Instruments, Inc

TSSOP48

CDCV304PWR

Texas Instruments, Inc

TSSOP8

CDCVF2505PWR

Texas Instruments, Inc

TSSOP8

CDCVF2310PWR

Texas Instruments, Inc

TSSOP24

CDCE62002RHBT

Texas Instruments, Inc

VQFN-32

CDCLVP110VF

Texas Instruments, Inc

QFP32

CDCLVD110ARHBT

Texas Instruments, Inc

VQFN-32

CDCDB803RSLR

Texas Instruments, Inc

VQFN-48

CDCP1803RGET

Texas Instruments, Inc

VQFN-24

CDCEL925PW

Texas Instruments, Inc

TSSOP16

CDCLVC1102PW

Texas Instruments, Inc

TSSOP8

CDCLVD1212RHAR

Texas Instruments, Inc

VQFN40

CDCVF2310PW

Texas Instruments, Inc

TSSOP