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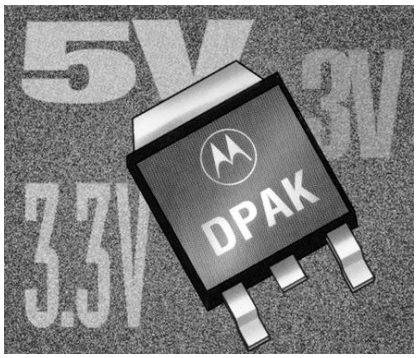
Information Brief



LP2950/2951 Series
Micropower Low Dropout Voltage Regulators
Fixed 3.0, 3.3, 5.0 V and Adjustable

Motorola's new **LP2950** series and **LP2951** micropower regulators are monolithic devices specifically designed to maintain proper regulation with an extremely low input-to-output voltage differential. These devices are ideal for hand-held and other portable electronics requiring precise voltage regulation and fast transient response.

The **LP2950** series is available in 3.0, 3.3 and 5.0 volt fixed output versions. All devices feature a very low input-to-output dropout voltage, and have a quiescent bias current of only 75 µA.

The ±0.5% tolerance on the output voltage (available with "A" suffix devices) makes these devices useful as a regulator or as a voltage reference. These devices require only a 1.0 µF output capacitance for stability. They also provide internal current and thermal limiting.

The **LP2951** features an adjustable output voltage and an error output signal in the event of an out-of-regulation condition, plus a logic level shutdown on the input. The adjustment feature allows the output voltage to be preset at 3.0, 3.3 or 5.0 volts, or programmed from 1.23 to 29 volts.

The **LP2950** Series devices are available now in the 3-lead TO-92 package and in the surface mount DPAK. The **LP2951** is available in the popular 8-lead surface-mount, the 8-lead dual-in-line package and the MICRO-8 miniature surface mount package.

LP2950 SERIES FEATURES

- Low quiescent bias current of 75 µA
- Low input-to-output voltage differential of 50 mV at 100 µA and 380 mV at 100 mA
- ±0.5% tolerance on output voltage (A suffix) allows use as a regulator or a reference
- Extremely tight line and load regulation
- Requires only a 1.0 µF output capacitor for stability
- Internal current and thermal limiting

LP2951 FEATURES

All of the above plus:

- Error output signal in the event of an out-of-regulation condition
- Logic level shutdown on input
- Output is programmable from 1.23 to 29 volts

TYPES OF APPLICATIONS

- Cellular and portable phones
- Two-way radios
- Notebook computers, laptops, PDAs
- Camcorders
- Other battery operated and portable electronics

BENEFITS TO YOU

- Reduced printed circuit board space with surface-mount packages.
- Lowers systems cost with a minimal number of external components required.
- Improves reliability with internal current and thermal limiting protection features.
- Minimizes the size and cost of the output capacitor due to internal compensation.
- Microprocessor controllable with Shutdown input for (LP2951 series only).
- Eliminates the need for battery monitor circuitry with internal control features (LP2951 series only).

A SOLUTION FOR THESE QUESTIONS

- Are you presently using precision low dropout regulators?
- Do you need to design an efficient, yet easy to implement, low dropout regulator?
- Do you need to conserve battery power?
- Do you need to minimize the number of external components?
- Are current limiting and/or thermal shutdown protection required functions in your regulator design?
- Would you like to eliminate battery monitor circuitry, large value capacitors and the power switch?
- Is reduced space a critical design requirement?
- Do you have a microprocessor interface?
- Are you interested in a higher current version of a low dropout regulator?

LITERATURE

Data Sheet: LP2950/D. This comprehensive data sheet includes the LP2951 and provides full specifications, characteristic curves, and extensive applications information.

ORDERING INFORMATION

All devices are rated for –40 to +125°C ambient temperature.

The LP2950 series of 3.0, 3.3 and 5.0 fixed regulators is available in the popular TO-92 and DPAK packages.

TO-92 Devices	DPAK Devices
LP2950CZ-3.0	LP2950CDT-3.0
LP2950ACZ-3.0	LP2950ACDT-3.0
LP2950CZ-3.3	LP2950CDT-3.3
LP2950ACZ-3.3	LP2950ACDT-3.3
LP2950CZ-5.0	LP2950CDT-5.0
LP2950ACZ-5.0	LP2950ACDT-5.0

The LP2951 series of adjustable and fixed 3.0, 3.3 and 5.0 V regulators is available in the convenient 8-lead surface-mount package, the 8-lead dual-in-line package, and the MICRO-8 miniature surface mount package.

SO-8 Devices	DIP-8 Devices	MICRO-8 Devices
LP2951CD-3.0	LP2951CN-3.0	LP2951CDM-3.0
LP2951ACD-3.0	LP2951ACN-3.0	LP2951ACDM-3.0
LP2951CD-3.3	LP2951CN-3.3	LP2951CDM-3.3
LP2951ACD-3.3	LP2951ACN-3.3	LP2951ACDM-3.3
LP2951CD	LP2951CN	LP2951CDM
LP2951ACD	LP2951ACN	LP2951ACDM

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