

Product Overview

LP2951: LDO Regulator, 100 mA, 30V, Micropower, with Shutdown

For complete documentation, see the data sheet.

The LP2950 and LP2951 are micropower low dropout (LDO) linear voltage regulators that are specifically designed to maintain proper regulation with an extremely low input-to-output voltage differential. These devices feature a very low quiescent bias current of 75 μ A and are capable of supplying output currents in excess of 100 mA. Internal current and thermal limiting protection is provided. The LP2951 LDO linear voltage regulator has three additional features. The first is the Errorbar Output that can be used to signal external circuitry of an out of regulation condition, or as a microprocessor power-on reset. The second feature allows the output voltage to be preset to 5.0 V, 3.3 V or 3.0 V output (depending on the version) or programmed from 1.25 V to 29 V. It consists of a pinned out resistor divider along with direct access to the Error Amplifier feedback input. The third feature is a Shutdown input that allows a logic level signal to turn-off or turn-on the regulator output. Due to the low input-to-output voltage differential and bias current specifications, these devices are ideally suited for battery powered computer, consumer, and industrial equipment where an extension of useful battery life is desirable. The LP2950 is available in the three pin case 29 and DPAK packages, and the LP2951 is available in the eight pin dual-in-line, SO-8 and Micro-8 surface mount packages. The 'A' suffix devices feature an initial output voltage tolerance \pm 0.5%.

Features

- Wide Input Range: Up to 30 V
- Rated Output Current of 100 mA
- Low Dropout 50 mV at 100 mA and 380 mV at 100 mA
- Low Quiescent Current: 75 μ A (Typ)
- Requires Only a 1.0 mF Output Capacitor for Stability
- Internal Current and Thermal Limiting
- LP2951 also has Error(bar) Output Signals an Out of Regulation Condition
- LP2951 also has Output Programmable from 1.25 V to 29 V
- LP2951 also has Logic Level Shutdown Input
- Extremely Tight Line and Load Regulation

For more features, see the data sheet

Benefits

- Enables use with 24V rail
- Sufficient power capability for MCU
- Lower thermal impact than Vreg
- Longer battery life
- Small size, low cost system
- Built-in protection features
- Enhanced protection capability
- Flexibility for various end product applications
- Enhanced protection capability
- Accurate system level design capability

Applications

- Automotive
- Avionics: RADAR

End Products

- AC Analog Input Module
- Logistics Robot CPU Board
- Optical Line Card

Part Electrical Specifications

| Product | Pricing (\$/Unit) | Compliance | Status | Output | Polarity | V _o (V) | I _o Typ (A) | V _i Min (V) | V _i Max (V) | V _{DO} Typ (V) | I _g Typ (mA) | PSR R (dB) | Noise (μV _{rms}) | Enable | PowerGood | Application | Package Type |
|------------------|-------------------|-------------------------------------------------|--------|--------|----------|--------------------|------------------------|------------------------|------------------------|-------------------------|-------------------------|------------|----------------------------|--------|-----------|-------------|--------------|
| LP2951ACD-3.0R2G | 0.1984 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | 3 | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | SOIC-8 |
| LP2951ACD-3.3R2G | 0.2207 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | 3.3 | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | SOIC-8 |
| LP2951ACDM-3.0RG | 0.2933 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | 3 | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | Micro 8 |
| LP2951ACDM-3.3RG | 0.2833 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | 3.3 | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | Micro 8 |
| LP2951ACDMR2G | 0.2691 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | Adj | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | Micro 8 |
| LP2951ACDR2G | 0.2005 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | Adj | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | SOIC-8 |
| LP2951CD-3.0R2G | 0.2304 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | 3 | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | SOIC-8 |
| LP2951CD-3.3R2G | 0.1731 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | 3.3 | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | SOIC-8 |
| LP2951CDMR2G | 0.29 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | Adj | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | Micro 8 |
| LP2951CDR2G | 0.1621 | Pb-free Halide free non AEC-Q and PPAP | Active | Single | Positive | Adj | 0.1 | 2.3 | 30 | 0.35 | 0.093 | 48 | 56 | Yes | Yes | Industrial | SOIC-8 |

For more information please contact your local sales support at www.onsemi.com.

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