



Product Overview

NCP1117: 1.0 A Positive LDO Linear Voltage Regulator (Fixed and Adjustable)

[For complete documentation, see the data sheet](#)

Product Description

The NCP1117 series are low dropout (LDO) positive linear voltage regulators that are capable of providing an output current that is in excess of 1.0 A with a maximum dropout voltage of 1.2 V at 800 mA over temperature. This series contains eight fixed output voltages of 1.5 V, 1.8 V, 2.0 V, 2.5 V, 2.85 V, 3.3 V, 5.0 V, and 12 V that have no minimum load requirement to maintain regulation. Also included is an adjustable output version that can be programmed from 1.25 V to 18.8 V with two external resistors. On chip trimming adjusts the reference/output voltage to within $\pm 1.0\%$ accuracy. Internal protection features consist of output current limiting, safe operating area compensation, and thermal shutdown. The NCP1117 series can operate with up to 20 V input. Devices are available in SOT223 and DPAK packages.

Features

- Output Current in Excess of 1.0 A
- 1.2 V Maximum Dropout Voltage at 800 mA Over Temperature
- Fixed Output Voltages of 1.5 V, 1.8 V, 2.0 V, 2.5 V, 2.85 V, 3.3 V, 5.0 V, and 12 V
- Adjustable Output Voltage Option
- No Minimum Load Requirement for Fixed Voltage Output Devices
- Reference/Output Voltage Trimmed to $\pm 1.0\%$
- Current Limit, Safe Operating and Thermal Shutdown Protection
- Operation to 20 V Input
- Pb-Free Packages are Available

Applications

- Consumer and Industrial Equipment Point of Regulation
- Active SCSI Termination for 2.85 V Version
- Switching Power Supply Post Regulation
- Hard Drive Controllers
- Battery Chargers

| Product | Compliance | Status | Output | Polarity | V _O (V) | I _O Typ (A) | V _I Max (V) | V _{DO} Typ (V) | I _a Typ (mA) | PSRR (dB) | Noise (μV _{rms}) | Package Type |
|-----------------|------------------------|--------|--------|----------|--------------------|------------------------|------------------------|-------------------------|-------------------------|-----------|----------------------------|----------------------|
| NCP1117DT12G | Pb-free Halide free | Active | Single | Positive | 12 | 1 | 20 | 1.2 | 6 | 54 | | DPAK-3 |
| NCP1117DT12RKG | Pb-free Halide free | Active | Single | Positive | 12 | 1 | 20 | 1.2 | 6 | 54 | | DPAK-3 |
| NCP1117DT15G | Pb-free Halide free | Active | Single | Positive | 1.5 | 1 | 20 | 1.2 | 4.3 | 72 | | DPAK-3 |
| NCP1117DT15RKG | Pb-free Halide free | Active | Single | Positive | 1.5 | 1 | 20 | 1.2 | 4.3 | 72 | | DPAK-3 |
| NCP1117DT18G | Pb-free Halide free | Active | Single | Positive | 1.8 | 1 | 20 | 1.2 | 4.3 | 72 | | DPAK-3 |
| NCP1117DT18RKG | Pb-free Halide free | Active | Single | Positive | 1.8 | 1 | 20 | 1.2 | 4.3 | 72 | | DPAK-3 |
| NCP1117DT18T5G | Pb-free Halide free | Active | Single | Positive | 1.8 | 1 | 20 | 1.2 | 4.3 | 72 | | DPAK-3 |
| NCP1117DT20G | Pb-free Halide free | Active | Single | Positive | 2 | 1 | 20 | 1.2 | 4.5 | 70 | | DPAK-3 |
| NCP1117DT20RKG | Pb-free Halide free | Active | Single | Positive | 2 | 1 | 20 | 1.2 | 4.5 | 70 | | DPAK-3 |
| NCP1117DT25G | Pb-free Halide free | Active | Single | Positive | 2.5 | 1 | 20 | 1.2 | 5.2 | 68 | | DPAK-3 |
| NCP1117DT25RKG | Pb-free Halide free | Active | Single | Positive | 2.5 | 1 | 20 | 1.2 | 5.2 | 68 | | DPAK-3 |
| NCP1117DT25T5G | Pb-free Halide free | Active | Single | Positive | 2.5 | 1 | 20 | 1.2 | 5.2 | 68 | | DPAK-3 |
| NCP1117DT285G | Pb-free Halide free | Active | Single | Positive | 2.85 | 1 | 20 | 1.2 | 5.5 | 68 | | DPAK-3 |
| NCP1117DT285RKG | Pb-free Halide free | Active | Single | Positive | 2.85 | 1 | 20 | 1.2 | 5.5 | 68 | | DPAK-3 |
| NCP1117DT33G | Pb-free Halide free | Active | Single | Positive | 3.3 | 1 | 20 | 1.2 | 6 | 64 | | DPAK-3 |
| NCP1117DT33RKG | Pb-free Halide free | Active | Single | Positive | 3.3 | 1 | 20 | 1.2 | 6 | 64 | | DPAK-3 |
| NCP1117DT33T5G | Pb-free Halide free | Active | Single | Positive | 3.3 | 1 | 20 | 1.2 | 6 | 64 | | DPAK-3 |
| NCP1117DT50G | Pb-free Halide free | Active | Single | Positive | 5 | 1 | 20 | 1.2 | 6 | 61 | | DPAK-3 |
| NCP1117DT50RKG | Pb-free Halide free | Active | Single | Positive | 5 | 1 | 20 | 1.2 | 6 | 61 | | DPAK-3 |
| NCP1117DTAG | Pb-free Halide free | Active | Single | Positive | Adjustabl e | 1 | 20 | 1.2 | 3.6 | 73 | | DPAK-3 |
| NCP1117DTARKG | Pb-free Halide free | Active | Single | Positive | Adjustabl e | 1 | 20 | 1.2 | 3.6 | 73 | | DPAK-3 |
| NCP1117DTAT5G | Pb-free Halide free | Active | Single | Positive | 3.3 | 1 | 20 | 1.2 | 3.6 | 73 | | DPAK-3 |
| NCP1117ST12T3G | Pb-free Halide free | Active | Single | Positive | 12 | 1 | 20 | 1.2 | 6 | 54 | | SOT-223-4 / TO-261-4 |
| NCP1117ST15T3G | Pb-free Halide free | Active | Single | Positive | 1.5 | 1 | 20 | 1.2 | 4.3 | 72 | | SOT-223-4 / TO-261-4 |
| NCP1117ST18T3G | Pb-free Halide free | Active | Single | Positive | 1.8 | 1 | 20 | 1.2 | 4.3 | 72 | | SOT-223-4 / TO-261-4 |
| NCP1117ST20T3G | Pb-free Halide free | Active | Single | Positive | 2 | 1 | 20 | 1.2 | 4.5 | 70 | | SOT-223-4 / TO-261-4 |

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|----------------|------------------------|--------|--------|----------|------------|---|----|-----|-----|----|--|----------------------|
| NCP1117ST25T3G | Pb-free Halide free | Active | Single | Positive | 2.5 | 1 | 20 | 1.2 | | 68 | | SOT-223-4 / TO-261-4 |
| NCP1117ST33T3G | Pb-free Halide free | Active | Single | Positive | 3.3 | 1 | 20 | 1.2 | 6 | 64 | | SOT-223-4 / TO-261-4 |
| NCP1117ST50T3G | Pb-free Halide free | Active | Single | Positive | 5 | 1 | 20 | 1.2 | 6 | 61 | | SOT-223-4 / TO-261-4 |
| NCP1117STAT3G | Pb-free Halide free | Active | Single | Positive | Adjustable | 1 | 20 | 1.2 | 3.6 | 73 | | SOT-223-4 / TO-261-4 |

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

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