



## Product Overview

### NCP691: Linear Voltage Regulator, CMOS VLDO, 1.0 A, with Enable

For complete documentation, see the data sheet

#### Product Description

The NCP690/ NCP691 /NCP692 devices are designed to be Very Low Dropout (LDO) 1 Amp Linear Voltage regulators. This new CMOS VLDO family provides 1A of output current in either fixed voltage options or an adjustable output voltage from 5.0V down to 1.25V. The devices are designed for space constrained and portable battery powered applications and offer many important features such as high PSRR, low Quiescent and Ground current consumption, low noise operation and short circuit and thermal protection. They offer enhanced ESD protection compared to standard CMOS LDOs and are designed to be used with low cost ceramic capacitors. The NCP691 includes an Enable low function, the NCP692 an enable high, and all three products are packaged in the 6-Lead DFN3x3 package.

#### Features

- Output Voltage Options: Adjustable, 1.5 V, 1.8 V, 2.5 V, 3.3 V, 5.0 V  
- Contact Factory for Other Voltage Options
- Current Limit Protection
- Thermal Shutdown Protection
- Typical Noise Voltage of 15 Vrms without a Bypass Capacitor
- Input Voltage down to 1.5V
- Typical Dropout Voltage of 190 mV at 1 A ( $V_{out} = 2.5\text{ V}$ ,  $T_J = 25^\circ\text{C}$ )
- Active Low Enable Pin (NCP691 device)  
Active High Enable Pin (NCP692 device)
- Enhanced ESD: 4 kV and 400 V
- Active Output Discharge
- Guaranteed 1 A Output Current

#### Benefits

- Available in the most popular voltage options. Others may be available on request.
- Leads to more robust products
- Suitable for use in harsh environments
- Suitable for audio and other electrical noise sensitive applications
- Suitable for lower voltage input rails
- Suitable for lower voltage input rails and battery powered applications
- Power saving modes
- Less inclined to damage during board assembly compared to standard CMOS devices.
- Faster response time to shutdown and less chance of damaging reverse current flows

#### Applications

- DSP, FPGA, Microprocessor Power Supplies
- SMPS Post-Regulator
- Modem Banks, Routers, Telecom Boards, Computer and game box accessories
- Car entertainment systems, Battery Powered Applications
- Cable boxes, Satellite receivers, Set Top Boxes

#### End Products

- Laptops and PCI Cards
- Hard Disk Drivers

#### Part Electrical Specifications

Product	Compliance	Status	Output	Polarity	$V_O$ (V)	$I_O$ Typ (A)	$V_I$ Max (V)	$V_{DO}$ Typ (V)	$I_q$ Typ (mA)	PSRR (dB)	Noise ( $\mu\text{V}_{rms}$ )	Package Type
NCP691MN15T2G	Pb-free Halide free	Active	Single	Positive	1.5	1	6	0.29	0.145	62	50	DFN-6
NCP691MN18T2G	Pb-free Halide free	Active	Single	Positive	1.8	1	6	0.24	0.145	62	50	DFN-6
NCP691MN25T2G	Pb-free Halide free	Active	Single	Positive	2.5	1	6	0.19	0.145	62	50	DFN-6
NCP691MN50T2G	Pb-free Halide free	Active	Single	Positive	5	1	6	0.12	0.145	62	50	DFN-6
NCP691MNADJT2G	Pb-free Halide free	Active	Single	Positive	1.25	1	6	0.12	0.145	62	50	DFN-6

